DIRECTORY OF MODULES OFFERED IN ENGLISH LANGUAGE

COURSES OFFERED IN ENGLISH AT THE UNIVERSITY OF GÖTTINGEN
ACADEMIC YEAR 2023/2024

GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN

A very warm welcome!

The University of Göttingen features an outstanding study environment for both exchange and full-degree students. All courses of study benefit from an excellent research-oriented environment formed by a broad network including five Max Planck Institutes, the German Primate Centre, the German Aerospace Centre and the Academy of Science and Humanities: the Göttingen Campus. An increasing number of lectures and courses are taught in the English language attracting more and more international students. This catalogue provides an impression of what is available.

This catalogue of courses taught in English varies from faculty to faculty and the courses available to you depend on whether you are an exchange student coming to Göttingen for a semester or an academic year, or whether you are a full degree student coming to Göttingen to complete an entire degree programme. You may take most courses in the programme you are enrolled in, however in a few cases restrictions may apply. Selecting courses from other subjects or other departments might require negotiations. If you have any questions, please contact the study advisor in charge of your subject.

Prior to their arrival in Göttingen exchange students have to set up a learning agreement. In some cases restrictions will apply, e.g. signing up for certain laboratory courses may not be possible. Generally exchange students are required to take at least half of the lectures and courses within their chosen subject.

Full degree students must first apply for a study place. Links to websites with application guidelines and deadlines are provided by some subjects/faculties. If not stated otherwise please visit:

http://www.uni-goettingen.de/en/3811.html

In any case, you are very welcome to browse through this catalogue to find/check out courses that suit your interests! For the complete course catalogue of the University of Göttingen see:

https://univz.uni-goettingen.de/qisserver/

We look forward to welcoming you in Göttingen!

Index by areas of study

I. Faculty of Agricultural Sciences

The Faculty of Agricultural Sciences offers two full master programs in English language:

- **Sustainable International Agriculture**: *http://www.uni-goettingen.de/en/96913.html*
- **Crop Protection**: *http://www.uni-goettingen.de/de/135654.html*

Since the Faculty offers almost no Bachelor courses in English language, the exchange students are invited to take part in the master courses independent of their level at the home university.

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II. Faculty of Biology and Psychology

1. Biology

a. Bachelor programmes

The courses/modules available varies depending whether you are degree or exchange student.

All B.Sc. programmes are taught in German.

aa. Degree students

German knowledge of level DSH2 is required.

Information and contact details about the different study programmes can be found here:

http://www.uni-goettingen.de/de/bachelor--2-fach-bachelor-biologie/122050.html

bb. Exchange students

German knowledge of level B2 is recommended.

Information and contact details about application procedure and courses available for exchange bachelor students can be found here:

http://biologie.uni-goettingen.de/incoming_en

For courses in German language German knowledge of CEFR level B2 is recommended.

Course admission restrictions may occur depending on your previous knowledge in biology and other natural sciences.

b. Master programmes

The courses/modules available varies depending whether you are degree or exchange student.

All M.Sc. programmes are taught in English.

aa. Degree students

Proof of proficiency in English (level C1 according to *Common European Framework* of Reference for Languages, CEFR) and German (CEFR level B1) is mandatory at the time point of application.

i. M.Sc. Microbiology and Biochemistry

Information and contact details about application procedure and study programme details can be found here:

http://www.uni-goettingen.de/en/35341.html

ii. M.Sc. Development, Neural and Behavioral Biology

Information and contact details about application procedure and study programme details can be found here:

http://www.uni-goettingen.de/en/38560.html

iii. M.Sc. Biodiversity, Ecology and Evolution

Information and contact details about application procedure and study programme details can be found here:

http://www.uni-goettingen.de/en/123968.html

bb. Exchange students

You can participate in the courses listed below from the different master programmes, however it requires

- previous knowledge in the field of study and
- a language proof (CEFR level C1) at the time point of application.

Information and contact details about application procedure and courses available for exchange master students can be found here:

http://biologie.uni-goettingen.de/incoming_en

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2. Psychology

No courses available, as all study programmes in Psychology are taught in German.

III. Faculty of Chemistry

In our Master´s programme we offer a various range of lectures in English. Please, feel free to contact us at the Dean´s office (*dekanat@chemie.uni-goettingen.de*). We are pleased to inform you about the lectures held in English in the semester you wish to come to Göttingen.

It is always possible to participate in the practical courses in our research groups (Modules *M.Che.1116, M.Che.1117, M.Che.1221, M.Che.1222, M.Che.1321, M.Che.1322*). All group leaders welcome English speaking guest students, though formally the modules are offered in German.

IV. Faculty of Forest Sciences and Forest Ecology

The Faculty of Forest Sciences and Forest Ecology offers two full degree programs in English language.

- **Molecular Ecosystem Sciences**: *http://www.uni-goettingen.de/en/221690.html*
- **Forest Sciences and Forest Ecology – Tropical and International Forestry**: *http://www.uni-goettingen.de/en/introduction/74615.html*

Since the Faculty offers no Bachelor courses directly related to the field of forest sciences and forest ecology exchange students are invited to take part in the Master courses independent of their level at the home university.

1. Bachelor: Molecular Ecosystem Sciences

Students who are planning to participate in practical, laboratory or computer courses (see course description) have to contact the named coordinator first.

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2. Master: Forest Sciences and Forest Ecology - Tropical and International Forestry

V. Faculty of Geoscience and Geography

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VI. Faculty of Mathematics and Computer Science

1. Department of Mathematics

Whether visiting for only a semester, planning a longer stay, or completing one of our degree programmes, the Department of Mathematics offers an excellent international study environment for students from abroad. In what follows we provide a very rough sketch of the structure of our degree programmes. For further details we refer to the respectice websites:

- Master's Degree programme: www.math.uni-goettingen.de/master
- Bachelor's Degree programme: www.math.uni-goettingen.de/bachelor

In the graduate degree programme all mathematics courses (course number M.Mat.****) are taught in English.

In the undergraduate degree programme the structure is as follows.

Course number B.Mat.3***

- recommended for: undergraduate students in semester 5 or higher
- teaching language: English
- Here you will find advanced courses intended to prepare students for independent research into topics of current mathematical interest.

Course number B.Mat.2***

- recommended for: undergraduate students in semester 4 or higher
- teaching language: German
- Here you will find courses such as complex analysis, functional analysis, modern geometry, number theory, numerical analysis, optimisation, stochastics, statistical data science.

Course number B.Mat.1***

- recommended for: undergraduate students in semester 3 or higher

- teaching language: German
- Here you will find courses such as analysis on manifolds, algebra, numerical linear algebra, measure and probability theory

Course number B.Mat.00**

- recommended for: undergraduate students in their first year
- teaching language: German
- Here you will find courses on real analysis and on analytic geometry and linear algebra.
- Note that we do not teach calculus classes. Instead students start with real analysis right from the start of their studies.

a. Bachelor modules

b. Master modules

2. Department of Computer Science

a. Bachelor modules

b. Master modules

VII. Faculty of Physics

1. Bachelor modules

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2. Master modules

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VIII. Faculty of Law

http://www.uni-goettingen.de/en/42867.html

IX. University Medical Center Göttingen

http://www.med.uni-goettingen.de/index_en.html

X. Faculty of Humanities

1. Bachelor modules

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2. Master modules

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3. Key competency modules

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XI. Faculty of Social Sciences

http://www.uni-goettingen.de/en/faculty-of-social-sciences/20495.html

1. Bachelor

2. Master

XII. Faculty of Theology

XIII. Faculty of Economic Sciences

The Faculty of Economic Sciences offers an excellent international study environment for students coming from outside of Germany including both those who plan to complete their entire degree in Göttingen, as well as those who plan to visit for a semester abroad.

Our faculty offers many English-language courses (*http://www.uni-goettingen.de/en/winter-semester-20142015/474472.html*) for short-term visitors and exchange students for both undergraduate and graduate students.

Every semester we offer at least 30 ECTS credits worth of courses in business administration and economics for BA students (11 courses offered in the 2014/15 winter semester). There are also many courses in English for MA students in both business administration and economics. In the 2014/15 winter semester, the faculty offered 29 courses for economic students and 14 courses business administration students.

For students interested in completing their entire degree in Göttingen, the faculty offers an entirely English-language MA degree indevelopment economics (*http://www.uni-goettingen.de/de/203661.html*). Our programme is the only university-level master's programme in development economics in Germany, and is based on research groups from various areas including agricultural economics and rural development, and economics. The programme duration is four semesters, and can even be coupled with a double degree programme with Stellenbosch University in South Africa.

In addition to the course offerings, our faculty offers a vibrant and internationally-oriented research community with research projects abroad, including visiting faculty and doctoral researchers from across the globe.

For further information about the Faculty, please visit:

http://www.uni-goettingen.de/en/international-students--researchers/427247.html

We look forward to your visit.

1. Bachelor modules

2. Master modules

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XIV. German as a foreign language

1. GER-Niveau A1

2. GER-Niveau A2

3. GER-Niveau B1

4. GER-Niveau B2

5. GER-Niveau C1

6. GER-Niveau C2

7. Modulkurse

8. Intensivkurse

Georg-August-Universität Göttingen **Module B.AS.101: Analysis and Interpretation**	6 C 4 WLH

Learning outcome, core skills: Studierende erhalten einen Überblick über grundlegende Konzepte und Methoden des Faches "American Studies", sowohl in seiner literatur- als auch in seiner kulturwissenschaftlichen Ausrichtung, mit einem besonderen Fokus auf literaturwissenschaftlichen und textanalytischen Grundlagen. Sie erschließen und verstehen die Einheit des Faches über die differenzierten Teilbereiche hinaus. Sie erwerben Grundlagenkenntnisse der Techniken wissenschaftlichen Arbeitens und wenden diese im Kontext eigener systematisch-formaler Textanalyse an.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Einführungsseminar "Introduction to the Study of American Literature and Culture"	2 WLH

Course: Seminar "Topics in American Studies" (Seminar)	2 WLH

Examination: Take Home Exam (max. 3000 words), not graded **Examination prerequisites:** regelmäßige aktive Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter) **Examination requirements:** Grundlegende Fähigkeit zur Text- und Literaturanalyse, sowie zur Recherche von und zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen selbstständig wissenschaftlich zu bearbeiten	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 20	

Additional notes and regulations: Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.102: Language and Academic Skills**	6 C 3 WLH

Learning outcome, core skills: Das Modul führt in die Grundlagen des akademischen Arbeitens ein und vermittelt dabei integrativ die Arbeitsansätze und Konzepte der amerikanistischen Literatur- und Kulturwissenschaft. Das Modul vermittelt eine Orientierung über grundlegende Arbeitsmethoden und -techniken des wissenschaftlichen Arbeitens, indem es insbesondere Gliederungsaspekte wissenschaftlicher Hausarbeiten und affiner Texte, Thesenfindung und -erstellung oder auch wissenschaftlichen Duktus anhand von Übungen erprobt und festigt. Des Weiteren werden in diesem Modul für universitäre Lehrveranstaltungen wesentliche mündliche Kompetenzen wie z.B. Präsentationstechniken oder Moderationsfähigkeiten eingeübt. Die Studierenden werden so vertraut gemacht mit den Grundprinzipien des akademischen Arbeitens in Wort und Schrift; sie entwickeln Fähigkeiten bei der Analyse und Produktion von wissenschaftlichen Texten und der mündlichen Kommunikation über diese Gegenstände. Das Modul gestattet eine Förderung des Textbewusstseins bei der Erstellung von Texten und hebt einen bewussten Schreibprozess sowie einen kritischen Umgang in der Analyse von Texten und Schreibprozessen hervor.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Academic Writing	1 WLH

Examination: Learning journal (max. 2000 words), not graded **Examination prerequisites:** regelmäßige aktive Teilnahme; kleinere mündliche und schriftliche Aufgaben und Übungen (z.B. Gruppenarbeiten, Erstellung eines Thesenpapiers und Exposés (max. 1500 Wörter) oder vergleichbare Leistungen **Examination requirements:** Fähigkeit zur sicheren und systematischen Textproduktion; Fähigkeit zur Recherche von und zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen wissenschaftlich zu bearbeiten. Das Portfolio wird in der Lehrveranstaltung 1 erbracht.	6 C

Course: Research and Professional Skills	2 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 20	

Additional notes and regulations:

Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.103: Film and Media Studies**	6 C 4 WLH

Learning outcome, core skills: Studierende erlernen Grundlagen des wissenschaftlichen Umgangs (Analyse, Interpretation) mit audiovisuellen Medien im Kontext der amerikanischen Kulturgeschichte (z.B. bildende Kunst, Film, Fotografie, Fernsehen und digitale Bilder). Sie erweitern und vertiefen kulturwissenschaftliche Kenntnisse und anwendungsbezogene Methoden zur Analyse audiovisueller Medien und visueller Kultur. Sie entwickeln ein Bewusstsein für die Spezifität und Materialität unterschiedlicher medialer Darstellungs- und Rezeptionsformen. Sie erwerben die Fähigkeit zum synergetischen Gebrauch von literatur-, kultur- und medienwissenschaftlichen Forschungstechniken.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Einführungsseminar "Introduction to Film and Media Analysis"	2 WLH

Course: Medienwissenschaftliche Analyse und Interpretation Voraussetzung für die Teilnahme ist der erfolgreiche Besuch des Einführungsseminars "Introduction to Film and Media Analysis"	2 WLH
Examination: Term Paper (max. 3000 words) **Examination prerequisites:** regelmäßige aktive Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen (Take Home Exam) **Examination requirements:** Überblickswissen zur Film- und Medienanalyse, mit besonderer Berücksichtigung amerikanischer Filme und visueller Kultur; Fähigkeit zur kultur- und medienwissenschaftlichen Analyse audiovisueller und digitaler Texte und Medien; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen selbstständig wissenschaftlich zu bearbeiten. Die Hausarbiet wird in Lehrveranstaltung 2 erbracht.	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Additional notes and regulations: Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen	6 C
Module B.AS.201a: Cultural History of American Literature I	2 WLH

Learning outcome, core skills:	Workload:
Studierende erwerben Kenntnisse der amerikanischen Literatur- und Kulturgeschichte der Epoche vom 16. bis zum frühen 19. Jahrhundert (historische Hintergründe, Schlüsselbegriffe und -konzepte, Inhalte und Strukturen kanonisierter Haupttexte und deren Bedeutung). In diesem ersten Modul des auf vier Module konzipierten Vorlesungszyklus werden insbesondere literatur- und kulturgeschichtliche Phänomene und Paradigmen im Kontext von *Exploration and Settlement*, der Revolutionszeit, der Aufklärung (*Enlightenment*), der frühen Republik und der *Jacksonian Era* in den Fokus gerückt. Studierende erlernen die Methodik historisch-hermeneutischen Textverständnisses sowie fachspezifischer methodologischer Ansätze, die die Auseinandersetzung mit diesen (Teil)Epochen prägt. Sie erwerben die Fähigkeit zur epochenspezifischen systematisch-formalen Textanalyse. Sie wenden grundlegende Techniken und Hilfsmittel literaturwissenschaftlicher Forschung in ihrer Annäherung an die Epoche an.	Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung (Lecture)	2 WLH
Course frequency: every 4th semester	

Examination: Written examination (90 minutes) **Examination requirements:** Überblickswissen und Transferaufgaben Fähigkeit zur Einordnung von Texten in kulturhistorische Kontexte, Fähigkeit zur Anwendung literaturwissenschaftlicher Methoden der Analyse und Interpretation, Fähigkeit zur Anwendung von epochenrelevanten Schlüsselkonzepten und -theorien	6 C

Admission requirements: keine	Recommended previous knowledge: keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: 4-semestriger Zyklus: jedes Semester wird eine von vier Epochen angeboten	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.AS.201b: Cultural History of American Literature II**	6 C 2 WLH

Learning outcome, core skills: In diesem zweiten Modul des auf vier Semester konzipierten Vorlesungszyklus erwerben Studierende Kenntnisse der amerikanischen Literatur- und Kulturgeschichte des 19. Jahrhunderts. Historische Hintergründe, Schlüsselbegriffe und -konzepte, Inhalte und Strukturen kanonisierter Haupttexte und deren Bedeutung insbesondere der folgenden literarischen Teilepochen und Bewegungen stehen im Vordergrund: amerikanische Romantik (*American Renaissance*), Transzendentalismus, amerikanischer Bürgerkrieg (*Civil War*) und *Reconstruction*; *Gilded Age*, *Regionalism*, Realismus und Naturalismus. Studierende erlernen die Methodik historisch-hermeneutischen Textverständnisses sowie fachspezifischer methodologischer Ansätze. Sie erwerben die Fähigkeit zur epochenspezifischen systematisch-formalen Textanalyse und wenden grundlegende Techniken und Hilfsmittel literaturwissenschaftlicher Forschung an	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung (Lecture) *Course frequency:* every 4th semester	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Überblickswissen und Transferaufgaben Fähigkeit zur Einordnung von Texten in kulturhistorische Kontexte, Fähigkeit zur Anwendung literaturwissenschaftlicher Methoden der Analyse und Interpretation, Fähigkeit zur Anwendung von epochenrelevanten Schlüsselkonzepten und -theorien	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: 4-semestriger Zyklus: jedes Semester wird eine von vier Epochen angeboten	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 100	

Georg-August-Universität Göttingen	6 C
Module B.AS.201c: Cultural History of American Literature III	2 WLH

Learning outcome, core skills:	Workload:
In diesem dritten Modul des auf vier Semester konzipierten Vorlesungszyklus erwerben Studierende Kenntnisse der amerikanischen Literatur- und Kulturgeschichte des 20. Jahrhunderts, wobei der Fokus auf der literarischen Moderne, der Zeit der Roaring Twenties, der Great Depression, des Zweiten Weltkriegs und seinen (literarischen und kulturgeschichtlichen) Nachprägungen liegt. Historische Hintergründe, Schlüsselbegriffe und -konzepte, Inhalte und Strukturen kanonisierter Haupttexte und deren Bedeutung dieser (Teil)Epochen und Phänomene stehen dabei im Zentrum der Vorlesung. Studierende erlernen die Methodik historisch-hermeneutischen Textverständnisses sowie fachspezifischer methodologischer Ansätze. Sie erwerben die Fähigkeit zur epochenspezifischen systematisch-formalen Textanalyse. Sie wenden grundlegende Techniken und Hilfsmittel literaturwissenschaftlicher Forschung an.	Attendance time: 28 h Self-study time: 152 h

Course: **Vorlesung** (Lecture)	2 WLH
Course frequency: every 4th semester	

Examination: Written examination (90 minutes)	6 C
Examination requirements: Überblickswissen und Transferaufgaben Fähigkeit zur Einordnung von Texten in kulturhistorische Kontexte, Fähigkeit zur Anwendung literaturwissenschaftlicher Methoden der Analyse und Interpretation, Fähigkeit zur Anwendung von epochenrelevanten Schlüsselkonzepten und -theorien	

Admission requirements: keine	Recommended previous knowledge: keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: 4-semestriger Zyklus: jedes Semester wird eine von vier Epochen angeboten	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.AS.201d: Cultural History of American Literature IV**	6 C 2 WLH

Learning outcome, core skills: Im vierten und letzten Modul des auf vier Semester konzipierten Vorlesungszyklus erwerben Studierende Kenntnisse der amerikanischen Literatur- und Kulturgeschichte des späten 20. und frühen 21. Jahrhunderts (historische Hintergründe, Schlüsseltexte und -begriffe). Sie erlernen die Methodik historisch-hermeneutischen Textverständnisses sowie fachspezifischer Ansätze insbesondere zu folgenden Schwerpunkten und Teilepochen: "Postmodernism, New Ethnic Literatures, Recent Developments: American Literature and Culture from the 1950s to the Present". Sie erwerben die Fähigkeit zur epochenspezifischen systematisch-formalen Textanalyse und wenden grundlegende Techniken und Hilfsmittel literaturwissenschaftlicher Forschung an.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung (Lecture) *Course frequency:* every 4th semester	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Überblickswissen und Transferaufgaben Fähigkeit zur Einordnung von Texten in kulturhistorische Kontexte, Fähigkeit zur Anwendung literaturwissenschaftlicher Methoden der Analyse und Interpretation, Fähigkeit zur Anwendung von epochenrelevanten Schlüsselkonzepten und -theorien	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: 4-semestriger Zyklus: jedes Semester wird eine von vier Epochen angeboten	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.AS.202: American Cultural History and Rhetoric**	12 C 4 WLH

Learning outcome, core skills: Studierende erlernen Grundlagen des wissenschaftlichen Umgangs (Analyse, Interpretation) mit literarischen wie nicht-literarischen Texten (z.B. politische Pamphlete, Reden, Essays, Predigten, Verfassungstexte). Sie wenden kulturwissenschaftliche Methodik unter besonderer Berücksichtigung des Umgangs mit primär nicht-fiktionalen Texten an. Sie erwerben die Fähigkeit zum synergetischen Gebrauch von literatur- und kulturwissenschaftlichen Forschungstechniken.	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Cultural History and Rhetoric	2 WLH

Examination: Take Home Exam (max. 3500 words) **Examination prerequisites:** Regelmäßige aktive Teilnahme; Präsentation (in Form von Expertengruppen bzw. Moderationsteams), ggf. Quizzes oder vergleichbare Leistungen nach Maßgabe der Course Description **Examination requirements:** Überblickswissen und Transferaufgaben zur amerikanischen Kulturgeschichte; Fähigkeit zur literatur- und kulturwissenschaftlichen Analyse literarischer und nichtliterarischer Texte.	4 C

Course: Advanced Cultural History and Rhetoric (intensive writing)	2 WLH

Examination: 6 Response Logs (max. 3800 words) **Examination prerequisites:** regelmäßige aktive Teilnahme; Präsentation (in Form von Expertengruppen bzw. Moderationsteams, ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl, Leistungen (Insg. max. 750 Wörter) **Examination requirements:** Vertieftes Wissen und analytische Transferaufgaben zur amerikanischen Kulturgeschichte; fortgeschrittene Fähigkeit zur literatur- und kulturwissenschaftlichen Analyse literarischer und nichtliterarischer Texte . Nachweis dieser Kompetenzen/ Prüfungsanforderungen in Form von argumentativen Response Logs.	8 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 20	

Additional notes and regulations:

Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.301: Critical Theory**	12 C 4 WLH

Learning outcome, core skills: Studierende sind in der Lage, grundlegende Fragestellungen und Positionen der Literatur-, Kultur- und Medientheorie zu identifizieren, zu diskutieren und anzuwenden. Durch erfolgreiche Teilnahme an diesem Modul erwerben sie damit die Fähigkeit zur theoretisch fundierten Analyse und Kritik literarischer und nichtliterarischer Texte sowie (audio)visueller und digitaler Medien wie bildende Kunst, Fotografie, Film, Fernsehen und Internet.	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Vorlesung "Introducing Critical Theory I: Approaches in Literary and Cultural Studies" (Lecture)	2 WLH
Examination: Klausur (90 Min.) oder mdl. Prüfung (ca. 30 Min.) **Examination requirements:** Allgemeines Verständnis grundlegender Fragestellungen und Positionen der Literatur- und Kulturtheorie; Fähigkeit zur Analyse theoretischer Texte und theoriegestützter Interpretation literarischer und kultureller Gegenstände und Phänomene.	6 C

Course: Vorlesung "Introducing Critical Theory II: Approaches and Methods in Media Studies" (Lecture)	2 WLH
Examination: Klausur (90 Min.) oder mdl. Prüfung (ca. 30 Min.) **Examination requirements:** Kritisches Verständnis grundlegender Fagestellungen und Positionen der für die American Studies relevanten Medientheorien; Fähigkeit zur Analyse theoretischer Texte und theoriegestützter Interpretation medialer Gegenstände und Inszenierungen.	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.AS.401: Theory and Practice of American Studies**	6 C 2 WLH

Learning outcome, core skills: Studierende vertiefen und erweitern ihre Kompetenzen zur theoriegeleiteten Textanalyse (anhand eines beispielhaften Forschungsproblems). Sie reflektieren die eigene Methodik vor dem Hintergrund fachspezifischer und interdisziplinärer Verfahrensweisen kritisch. Sie wenden diachrone und synchrone Methoden der American Studies in synergetischer Form an.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Vertiefungsseminar "Fortgeschrittene Literatur- und kulturhistorische Analyse und Interpretation"	
Course: Independent Study In mindestens drei über die Vorlesungszeit verteilten Treffen werden die Studierenden zum selbständigen Arbeiten befähigt. Beim ersten Treffen wird ein von den Studierenden selbst gewähltes Thema im Gespräch mit der Lehrperson präzisiert und relevante Primär- und Sekundärliteratur bestimmt. Beim zweiten Treffen soll ein vorläufiges Thesenpapier bzw. Exposé (inkl. Bibliografie) vorliegen. Es werden die Arbeitsfortschritte besprochen sowie aufkommende Fragen zu den Inhalten der Texte und der Form des Thesenpapiers oder Exposés (max. 1500 Wörter) geklärt. Es können, falls notwendig, weitere Anregungen gegeben werden. Beim letzten Treffen werden die Ergebnisse diskutiert und abschließend kritisch beleuchtet. Der Independent-Study-Anteil umfasst 60 Stunden des gesamten Selbststudiums.	
Examination: Hausarbeit oder Forschungsbericht (max. 5000 words) **Examination prerequisites:** regelmäßige aktive Teilnahme; mündl. Leistung (Präsentation, Diskussionsleitung ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter); **Examination requirements:** Fähigkeit zur extensiven Literaturrecherche; Fähigkeit zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, komplexe Forschungsthesen zu formulieren und selbstständig wissenschaftlich zu belegen	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5
Maximum number of students: 20	

Additional notes and regulations:

Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.402: Advanced American Studies**	6 C 2 WLH

Learning outcome, core skills: Studierende erschließen vertiefte fachwissenschaftliche Wissensbestände im Studienfach "American Studies" durch inhaltliche und methodologische Konzentration auf ausgewählte Themenbereiche des Fachs, die sich auf fortgeschrittener Ebene und auf Basis neuerer Paradigmen der Cultural und Literary Studies bewegen. Sie diskutieren aktuelle Forschungsansätze des Fachs kritisch und wenden diese im Zuge intensiver Forschung zu einem spezifischen Thema an.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Forschungsorientiertes Vertiefungsseminar	2 WLH
Course: Independent Study In mindestens drei über die Vorlesungszeit verteilten Treffen werden die Studierenden zum selbständigen Arbeiten befähigt. Beim ersten Treffen wird ein von den Studierenden selbst gewähltes Thema im Gespräch mit der Lehrperson präzisiert und relevante Primär- und Sekundärliteratur bestimmt. Beim zweiten Treffen soll ein vorläufiges Thesenpapier bzw. Exposé (inkl. Bibliografie) vorliegen. Es werden die Arbeitsfortschritte besprochen sowie aufkommende Fragen zu den Inhalten der Texte und der Form des Thesenpapiers oder Exposés (max. 1500 Wörter) geklärt. Es können, falls notwendig, weitere Anregungen gegeben werden. Beim letzten Treffen werden die Ergebnisse diskutiert und abschließend kritisch beleuchtet. Der Independent-Study-Anteil umfasst 60 Stunden des gesamten Selbststudiums.	
Examination: Hausarbeit oder Forschungsbericht (max. 5000 words) **Examination prerequisites:** regelmäßige aktive Teilnahme; mündl. Leistung (Präsentation, Diskussionsleitung ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter); **Examination requirements:** Fähigkeit zum kritischen Umgang mit amerikanischen Texten und Theorien; Fähigkeit zur extensiven Literaturrecherche; Fähigkeit, theoretische und praktische Ansätze der Literatur- und Kulturanalyse mündlich und schriftlich darzustellen und zu diskutieren, Fähigkeit, eigene Ansätze kritisch zu reflektieren, im wissenschaftlichen Dialog mit der Lehrperson anhand zu begründen und im fachlichen Kontext zu verorten	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students:	

20	

Additional notes and regulations:

Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.403: Topics in Literary and Media Studies**	9 C 4 WLH

Learning outcome, core skills: Studierende erweitern ihre Kenntnisse und Fähigkeiten zur Anwendung grundlegender Konzepte und Methoden des Faches "North American Studies", sowohl in seiner literatur-, kultur- als auch in seiner medienwissenschaftlichen Ausrichtung. Dabei erschließen sie themenbezogene Wissensgebiete des Fachs mit einem besonderen Fokus auf medien-, kultur- und literaturwissenschaftlichen sowie textanalytischen Grundlagen. Sie erweitern das Verständnis der Einheit des Faches über die differenzierten Teilbereiche hinaus. Sie erproben Grundlagenkenntnisse der Techniken wissenschaftlichen Arbeitens im Rahmen eigener Recherche und Analyse.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Literary Studies (Analysis & Interpretation)	2 WLH
Course: Media Studies (Analysis & Interpretation)	2 WLH

Examination: Term Paper (max. 5000 words) **Examination prerequisites:** regelmäßige aktive Teilnahme; mündliche Leistung (Präsentation, Diskussionsleitung ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftliche Leistungen (Insg. max. 750 Wörter) **Examination requirements:** Fähigkeit zur vertiefenden und vergleichenden Text-, Medien- und Literaturanalyse; Fähigkeit zur fortgeschrittenen Recherche von und zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen selbstständig wissenschaftlich zu bearbeiten	9 C

Admission requirements: B.AS.101 und B.AS.103	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1-2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Additional notes and regulations: Die Prüfungsvorleistung der regelmäßigen, aktiven Teilnahme impliziert nach § 14 Absatz 5 APO nicht mehr als zwei Fehlsitzungen je Veranstaltung im Semester.

Georg-August-Universität Göttingen **Module B.AS.501: Bachelor Degree Course North American Studies**	3 C 2 WLH

Learning outcome, core skills: Studierende reflektieren und verallgemeinern ihre Kenntnisse und Kompetenzen im Rahmen einer theorie- und methodengestützten Zusammenschau der diachronen und synchronen Parameter des Faches American Studies; sie synthetisieren das im Bachelor-Studium erworbene Wissen zur amerikanistischen Literatur- und Kulturwissenschaft und kommentieren gegenseitig ihre Abschlussprojekte (BA-Arbeiten) und Präsentationen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Kolloquium	2 WLH
Examination: Oral Presentation (approx. 35 minutes), not graded **Examination prerequisites:** regelmäßige aktive Teilnahme am Kolloquium **Examination requirements:** Fundiertes Wissen zum Profil und zur Entwicklung des Faches North American Studies sowie seiner theoretischen und methodologischen Ansätze und Fragestellungen; Fähigkeit, umfassendes Fachwissen strukturiert wiederzugeben und zu diskutieren	3 C

Admission requirements: zwei der Module B.AS.201a-d sowie B.AS.401	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Ara.23: Methods and Theories of Area Studies**	3 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluss dieses Moduls verfügen die Studierenden über Kenntnisse in Methoden und Theorien der Kulturwissenschaften sowohl mit Bezug auf die Arabistik/Islamwissenschaft als auch auf verwandte Disziplinen. Durch Lektüre, Analyse und Diskussion zentraler Theorietexte verfügen sie über Kenntnisse in den Bereichen der Diskursanalyse, der Orientalismusdebatte, der Theorien der Geschlechterforschung sowie der postkolonialen und postmodernen und weiteren Theorien.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Einführung in Methoden und Theorien (Seminar)	2 WLH
Examination: Learning journal (max. 16 pages) **Examination prerequisites:** Regelmäßige Teilnahme	3 C

Examination requirements: Kenntnisse und Darstellung der Methoden und Theorien der Kultur- und Islamwissenschaft in den Bereichen Diskursanalyse, Orientalismusdebatte, Theorien der Geschlechterforschung, postkoloniale, postmoderne Theorien und weitere Theorien.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Prof. Dr. Irene Schneider
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Additional notes and regulations: Das Portfolio muss ein Umfang von mindestens 14 maximal 16 Seiten vorweisen.

Georg-August-Universität Göttingen **Module B.EP.01: Basic Skills: Linguistics, Literature and Culture**	6 C 4 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluß des Moduls	**Workload:** Attendance time: 56 h Self-study time: 124 h

- verfügen Studierende über grundlegende Methoden der Literatur- und Kulturwissenschaft sowie der Sprachwissenschaft insbesondere im Hinblick auf die Strukturierung von Informationen und zum Aufbau von Analogien sowie zur Herstellung grundlegender Vernetzungen;
- verfügen Studierende über zentrale literatur- und kulturwissenschaftliche sowie sprachwissenschaftliche Arbeitsabläufe;
- kennen Studierende verschiedene Lösungsstrategien für literatur- und kulturwissenschaftliche sowie sprachwissenschaftliche Fragestellungen, können sie begründet auswählen und erfolgreich anwenden;
- verfügen Studierende über grundlegende Kenntnisse im Bereich des wissenschaftlichen Arbeitens sowohl im Bereich der Literatur- und Kulturwissenschaft als auch in der Sprachwissenschaft.

Course: Teilmodul 1: Grundlagen der Literatur- und Kulturwissenschaft (A)	2 WLH

Contents:

Einführungs-Proseminar "Introduction to the Study of British Literature and Culture"

Einführung in die grundlegende Terminologie, in Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner literatur- und kulturwissenschaftlichen Ausrichtung (z.B. Gattungstheorien, Strukturmerkmale, Stilistik, Erzähltechnik, Literaturtheorie, Figurencharakterisierung). Einübung von Techniken des wissenschaftlichen Arbeitens (z.B. Aufbau und Abfassung von wissenschaftlichen Texten; Kritikfähigkeit gegenüber Texten). Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus.

Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen

Hinweis: Teilmodul 1 (A) ist zu wählen, wenn das Fach English: Language, Literatures and Cultures mit dem Fach North American Studies kombiniert wird. Vgl. auch oben den Hinweis zur Kombinierbarkeit von Fächern.

Course: Teilmodul 1: Grundlagen der Literatur- und Kulturwissenschaft (B)	2 WLH

Contents:

Einführungs-Proseminar "Introduction to the Study of American Literature and Culture"

Einführung in die grundlegende Terminologie, in Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner literatur- und kulturwissenschaftlichen Ausrichtung (z.B. Gattungstheorien, Strukturmerkmale, Stilistik, Erzähltechnik, Literaturtheorie, Figurencharakterisierung). Einübung von Techniken des wissenschaftlichen Arbeitens (z.B. Aufbau und Abfassung von wissenschaftlichen Texten; Kritikfähigkeit gegenüber Texten). Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus.

Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter)	
Examination: Written examination (90 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Grundlagen der Textanalyse; Grundbegriffe und Grundlagentechniken der Literaturwissenschaft	3 C

Course: Teilmodul 2: Grundlagen der Sprachwissenschaft *Contents*: Einführungs-Proseminar "Introduction to English Linguistics": Einführung in die Grundfragestellungen des Faches Linguistik als empirische, deskriptive und theoretische Wissenschaft. Die wissenschaftliche Erforschung der gegenwärtigen und historischen Erscheinungsformen des Englischen wird exemplarisch auf der Ebene der Phonologie, der Morphologie, der Lexikologie, der Syntax und der Semantik vorgestellt und eingeübt. Um den Gebrauch der Sprache adäquat erfassen zu können, wird in die interdisziplinären Ansätze und Methoden der Sozio-, Pragma- und Psycholinguistik eingeführt. Ziel dieses Teilmoduls ist die Vorbereitung auf Lehrveranstaltungen sowohl im Bereich der modernen Linguistik als auch im Bereich der historischen Linguistik/ Mediävistik.	2 WLH
Examination: Klausur (90 Min) oder klausurähnliche Hausarbeit (max 2000 Wörter), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen in der Teilmodulprüfung nach, dass sie die Grundbegriffe der linguistischen Kerndisziplinen kennen und die zentralen Methoden sprachwissenschaftlicher Analyse anwenden können. Sie weisen des weiteren Überblickskenntnisse zur Sprachgeschichte nach und können diese anhand von geeigneten Beispielen illustrieren. Sie weisen außerdem nach, dass sie in der Lage sind, sprachliche Datensätze zu beschreiben, Muster bezüglich sprachlich relevanter Kategorien und Prozesse zu erkennen und erste Generalisierungen zu formulieren.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students:	

30	

Georg-August-Universität Göttingen **Module B.EP.03a: Foundations of English: English Grammar and Academic Writing Practice**	5 C 3 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grammatikalische Eigenheiten des Englischen zu erkennen und diese Erkenntnisse regelgeleitet und kontextsensitiv auf neue Situationen zu transferieren; • Grundlagen des akademischen Schreibens zu verstehen und bei der Erstellung von Texten anzuwenden	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: English Grammar *Contents*: Kernbereiche praktischer englischer Grammatik (z.B. Technical Terminology, Tense/Aspect, Determiners, Prepositions, Collocations)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Academic Writing Practice *Contents*: Grundlegende Methoden und Techniken des effektiven wissenschaftlichen Schreibens (z.B. Aspects of Linguistic Accuracy, Register, Style)	1 WLH
Examination: Learning journal (max. 2000 words), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: Die Studierenden: • Sind mit den grammatikalischen Kerneigenschaften des Englischen vertraut und können ihr Wissen auf neue Situationen anwenden • Sind mit den wesentlichen Aspekten und Anforderungen schriftlicher Arbeiten im universitären Kontext vertraut, insbesondere mit den Anforderungen des Seminars für Englische Philologie	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations:

Max. Anzahl Studierender: Grammar: 65; Academic Writing: 15.

Georg-August-Universität Göttingen **Module B.EP.03b: Foundations of English: Oral Competence**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • In kommunikativen Standardsituationen mit einer möglichst natürlichen Aussprache frei, korrekt und pragmatisch angemessen zu sprechen; • Ausspracheprobleme mithilfe phonetischer Kenntnisse kontrastiv zu analysieren, darzustellen und zu begründen.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Phonetics *Contents*: Theoretische Fundierung der korrekten Aussprache des Englischen	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Oral Practice and Pronunciation *Contents*: • Konsistent korrekte Aussprache des Englischen • Fortgeschrittene Gesprächskompetenz (z.B. talk, vocabulary, conversation)	2 WLH
Examination: Oral examination (approx. 20 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: Die Studierenden: • Kennen phonetische Unterschiede zwischen Ausgangs- und Zielsprache und können diese Kenntnisse und Fertigkeiten aktiv anwenden und in eine korrekte Aussprache umsetzen	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Dr. S. Canpolat
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations: Max. Anzahl Studierender: Oral Practice and Pronunciation: 15; Phonetics: 80

Georg-August-Universität Göttingen **Module B.EP.07-1-W: Introduction to English Language Teaching (at Vocational Schools)**	4 C 3 WLH

Learning outcome, core skills: Die Studierenden • kennen fachdidaktische Grundlagen der schulischen Vermittlung sprachpraktischer Kenntnisse und Fähigkeiten (Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen); • kennen fremdsprachendidaktische Ansätze aus den Bereichen der Literatur-, Kultur- und Mediendidaktik; • kennen Lernziele des Fremdsprachenunterrichts sowie verschiedene Methoden und Medien zu ihrer Erreichung; • sind in der Lage, fremdsprachliche Lehr-Lern-Prozesse zu planen, anzuleiten und zu beurteilen; • kennen verschiedene Persönlichkeits- und Rollentheorien des Fremdsprachenlehrers bzw. der -lehrerin; • sind in der Lage, ihre professionsorientierte persönliche Entwicklung zu reflektieren; • kennen landeskundliche und interkulturelle Ansätze und Theorien und sind sich ihrer Bedeutung für das Lehren und Lernen einer fremden Sprache bewusst; • sind in der Lage, ihr Interaktionsverhalten hinsichtlich (inter)kultureller Faktoren zu planen, zu beobachten und zu reflektieren; • sind in der Lage, Mittlerfunktionen zwischen Personen unterschiedlicher Kulturen und Sprachen zu übernehmen; • entwickeln ein Bewusstsein für kulturelle Vielfalt als Ressource für Bildungsprozesse.	**Workload:** Attendance time: 42 h Self-study time: 78 h

Course: Lehrveranstaltung Introduction to English Language Teaching *Contents*: • theoretische Grundlagen der Fachdidaktik Englisch, • LehrerInnenrollen, LehrerInnenbilder, • Konzeption von fremdsprachlichen Unterrichtsprozessen, • Einsatzmöglichkeiten verschiedener Methoden und Medien und deren Reflexion, • schulische Vermittlung von Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen, • Grundlagen der Literatur-, Kultur- und Mediendidaktik, • Leistungsbeurteilung	2 WLH
Course: Tutorium *Contents*: • Nachbereitung und Vertiefung der Themen aus dem Seminar Introduction to English Language Teaching, • inhaltliche und methodische Planung und Durchführung einer	1 WLH

Unterrichtsstunde (Micro Teaching Unit) zu einem der Themen aus dem Seminar, • Reflexion der unterrichtspraktischen Erfahrung Anmerkung: Proseminar und Tutorium müssen in einem Semester belegt werden.	
Examination: Portfolio (max. 6000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Planung und Durchführung einer Micro Teaching Unit (MTU) **Examination requirements:** Das Portfolio dient zur Reflexion des eigenen Lernprozesses. Die Studierenden weisen in der Modulprüfung nach, dass sie die fachdidaktischen Grundlagen der schulischen Vermittlung fremdsprachlicher Unterrichtsinhalte kennen sowie deren Relevanz für die Konzeption von fremdsprachlichen Unterrichtsprozessen reflektieren können; dass sie Grundkenntnisse über den Einsatz verschiedener Methoden und Medien im Fremdsprachenunterricht erworben haben; dass sie die Grundlagen der Fremdsprachendidaktik aus verschiedenen Perspektiven reflektieren können: aus der der Lernenden im Seminar, aus der Sicht von Lehrenden und aus der Sicht von SchülerInnen. Die Studierenden weisen außerdem nach, dass sie in der Lage sind, ihren eigenen Lernprozess zu reflektieren und Konsequenzen für ihre eigene Unterrichtspraxis und Lehrpersönlichkeit abzuleiten. Sie zeigen, dass sie Kenntnisse von verschiedenen Persönlichkeits- und Rollentheorien als Fachlehrerin oder Fachlehrer erworben haben und diese reflektieren können.	4 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.EP.07-2-M: Writing for Professional Purposes**	3 C 2 WLH

Learning outcome, core skills: Studierende sind in der Lage schriftliche Texte, wie z.B. Lebensläufe, Bewerbungsscheiben und Geschäftsbriefe, in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	**Workload:** Attendance time: 28 h Self-study time: 62 h
Course: Lehrveranstaltung Writing for Professional Purposes *Contents*: Einführung in das Verfassen professioneller Korrespondenz wie z. B. Lebensläufen, Bewerbungsschreiben und Geschäftsbriefen.	2 WLH
Examination: Learning journal (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C
Examination requirements: Die Studierenden haben die notwendigen sprachlichen Fertigkeiten und kulturellen Kenntnisse, um englischsprachige Korrespondenz normengerecht zu verfassen.	

Admission requirements: B.EP.03a	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Seda Canpolat
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 25	

Georg-August-Universität Göttingen	6 C
Module B.EP.073-L: Introduction to English Language Teaching and Cultural Learning	4 WLH

Learning outcome, core skills:	**Workload:**
Die Studierenden	Attendance time: 56 h
• kennen fachdidaktische Grundlagen der schulischen Vermittlung sprachpraktischer Kenntnisse und Fähigkeiten (Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen);	Self-study time: 124 h
• kennen fremdsprachendidaktische Ansätze aus den Bereichen der Literatur-, Kultur- und Mediendidaktik;	
• kennen Lernziele des Fremdsprachenunterrichts sowie verschiedene Methoden und Medien zu ihrer Erreichung;	
• sind in der Lage, fremdsprachliche Lehr-Lern-Prozesse zu planen, anzuleiten und zu beurteilen;	
• kennen verschiedene Persönlichkeits- und Rollentheorien des Fremdsprachenlehrers bzw. der -lehrerin;	
• sind in der Lage, ihre professionsorientierte persönliche Entwicklung zu reflektieren;	
• kennen landeskundliche und interkulturelle Ansätze und Theorien und sind sich ihrer Bedeutung für das Lehren und Lernen einer fremden Sprache bewusst;	
• sind in der Lage, ihr Interaktionsverhalten hinsichtlich (inter)kultureller Faktoren zu planen, zu beobachten und zu reflektieren;	
• sind in der Lage, Mittlerfunktionen zwischen Personen unterschiedlicher Kulturen und Sprachen zu übernehmen;	
• entwickeln ein Bewusstsein für kulturelle Vielfalt als Ressource für Bildungsprozesse.	

Course: Introduction to English Language Teaching	2 WLH
Contents:	
• theoretische Grundlagen der Fachdidaktik Englisch,	
• LehrerInnenrollen, LehrerInnenbilder,	
• Konzeption von fremdsprachlichen Unterrichtsprozessen,	
• Einsatzmöglichkeiten verschiedener Methoden und Medien und deren Reflexion,	
• schulische Vermittlung von Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen,	
• Grundlagen der Literatur-, Kultur- und Mediendidaktik,	
• Leistungsbeurteilung	

Course: Tutorium	1 WLH
Contents:	
• Nachbereitung und Vertiefung der Themen aus dem Seminar *Introduction to English Language Teaching*,	

- inhaltliche und methodische Planung und Durchführung einer Unterrichtsstunde *(Micro Teaching Unit)*zu einem der Themen aus dem Seminar,

- Reflexion der unterrichtspraktischen Erfahrung

Anmerkung: Proseminar und Tutorium müssen in einem Semester belegt werden.

Course: Introduction to Cultural Learning *Contents*: • Ansätze und Theorien von kulturellem Lernen, • Reflexion von interkulturellen Begegnungs- und Kommunikationssituationen Anmerkung: Es wird empfohlen, die Übung Introduction to Cultural Learning parallel zum Seminar Introduction to English Language Teaching zu belegen. Sie kann aber auch nach dem Besuch des Seminars und des Tutoriums erfolgen. Eine kurze schriftliche Reflexion (700-900 Wörter; 1,5-2 Seiten) ist Teil des Portfolios und geht mit einer Teilnote in die Bewertung des Portfolios ein.	1 WLH
Examination: Learning journal (max. 6000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Planung und Durchführung einer Micro Teaching Unit (MTU) **Examination requirements:** Die Studierenden weisen in der Modulprüfung nach, dass sie die fachdidaktischen Grundlagen der schulischen Vermittlung fremdsprachlicher Unterrichtsinhalte kennen sowie deren Relevanz für die Konzeption von fremdsprachlichen Unterrichtsprozessen reflektieren können; dass sie Grundkenntnisse über den Einsatz verschiedener Methoden und Medien im Fremdsprachenunterricht erworben haben; dass sie die Grundlagen der Fremdsprachendidaktik aus verschiedenen Perspektiven reflektieren können: aus der der Lernenden im Seminar, aus der Sicht von Lehrenden und aus der Sicht von SchülerInnen. Die Studierenden weisen außerdem nach, dass sie in der Lage sind, ihren eigenen Lernprozess auch im Hinblick auf interkulturelle Begegnungssituationen zu reflektieren und Konsequenzen für ihre eigene Unterrichtspraxis und Lehrpersönlichkeit abzuleiten. Sie zeigen, dass sie Kenntnisse von verschiedenen Persönlichkeits- und Rollentheorien als Fachlehrerin oder Fachlehrer erworben haben und diese reflektieren können.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 43	

Additional notes and regulations:

Das Tutorium ist parallel zur Veranstaltung Introduction to English Language Teaching zu belegen. Die Veranstaltung Introduction to Intercultural Learning sollte ebenfalls parallel belegt werden, kann aber auch später absolviert werden.

Die Teilnahme an der Veranstaltung Introduction to Intercultural Learning ist separat in FlexNow nachzuweisen.

Georg-August-Universität Göttingen **Module B.EP.073Eras: Teaching English as a Foreign Language (for Students from Abroad)**	4 C 2 WLH

Learning outcome, core skills: Die Studierenden erwerben vertiefte fremdsprachendidaktische Kenntnisse. Sie zeigen, dass sie in der Lage sind, eine Verbindung von fachdidaktischen Theorien, Methoden und Fragestellungen mit fachwissenschaftlichen Inhalten und Theorien herzustellen. Sie zeigen, dass sie Theorien, Methoden und Erträge fachdidaktischer Forschung (historische und aktuelle Modelle der Sprach-, Literatur- und Kulturvermittlung, Medien- und Methodenkonzepte, Kompetenzmodelle, Steuerung von Lernprozessen, Leistungsfeststellung und -bewertung) kennen und in der Lage sind, diese kritisch zu reflektieren. Sie kennen Einsatzmöglichkeiten und Anpassungsnotwendigkeiten fachwissenschaftlichen Materials für Lehr-/Lernkontexte und sind in der Lage diese kritisch zu reflektieren.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur Fachdidaktik des Englischen (Vertiefung)	2 WLH

Examination: Präsentation (ca. 30 Min.) mit Diskussionsleitung und schriftlicher Ausarbeitung (max. 2000 Wörter) **Examination prerequisites:** regelmäßige Teilnahme **Examination requirements:** - Präsentation und schriftliche Ausarbeitung dieser: Kenntnis der theoretischen Grundlagen; Fähigkeit zur Planung einer Unterrichtsstunde (inhaltlich, methodisch); Fähigkeit eine Unterrichtstunde durchzuführen; Fähigkeit diese in einen größeren Kontext (Unterrichtseinheit/-sequenz) einzubinden; Unterrichtsstunde auf der Basis fachdidaktischer theoretischer Grundlagen reflektieren; Verbindung zu fachwissenschaftlichem Inhalt herstellen und reflektieren; Nachweis der selbständigen wissenschaftlichen Bearbeitung eines Themas unter einer bestimmten Fragestellung - Diskussionsleitung: Moderation von Gesprächssituationen (Vergleich zu späteren "Schulsituationen", Fähigkeit zur kritischen inhaltlichen und methodischen Reflexion)	4 C

Admission requirements: none	**Recommended previous knowledge:** Grundlegende Kenntnisse zur Fremdsprachendidaktik
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen	5 C
Module B.EP.076a: Advanced English Language Skills	4 WLH

Learning outcome, core skills:	**Workload:**
Nach erfolgreicher Teilnahme sind die Studierenden in der Lage,	Attendance time: 56 h
• zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren; • schriftliche Texte wie z.B. Lebensläufe, Bewerbungsschreiben und Geschäftsbriefe in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	Self-study time: 94 h

Course: Writing for Professional Purposes	2 WLH
Die benotete Prüfungsleistung wird im Kurs Writing for Professional Purposes abgelegt. Das Portfolio (max. 2500 Wörter) besteht aus einer Reihe von schriftlichen Aufgaben und Übungen, die während des Semesters in den Kurssitzungen oder zu Hause angefertigt werden.	

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course)	2 WLH
Für den Kurs ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Kurs ist keine Prüfungsvorleistung für Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher zu besuchen.	

Examination: Learning journal (max. 2500 words) **Examination prerequisites:**	5 C
In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements:	
• Die Studierenden sind mit den Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen. • Die Studierenden haben die sprachlichen Fertigkeiten und kulturellen Kenntnisse erworben, um englischsprachige Korrespondenz normengerecht zu verfassen.	

Admission requirements:	**Recommended previous knowledge:**
B.EP.03a	none
Language:	**Person responsible for module:**
English	Dr. Seda Canpolat
Course frequency:	**Duration:**
each semester	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	3 - 6
Maximum number of students: not limited	

Additional notes and regulations:
Max. Studierendenzahl: American/British Institutions Course: unbegrenzt; Introduction to Irish Institutions: 30; Writing for Professional Purposes: 25

Georg-August-Universität Göttingen **Module B.EP.076b: Advanced English Language Skills**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren • Texte unterschiedlicher landeskundlicher Thematik, Register und Stilebenen angemessen vom Deutschen ins Englische zu übersetzen	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für den Culture and Institutions-Kurs ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Kurs ist keine Prüfungsvorleistung für den Translation Course. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	5 C

Examination requirements: • Die Studierenden sind mit den landeskundlichen Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können diese Kenntnisse in eine kulturell adäquate Übersetzung einfließen lassen • Die Studierenden verfügen über die notwendigen Fertigkeiten, auch anspruchsvollere deutsche Texte grammatikalisch, lexikalisch und stilistisch korrekt ins Englische zu übersetzen	

Admission requirements: B.EP.03a	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students:	

not limited	

Additional notes and regulations:

Max. Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; Translation: 25

Georg-August-Universität Göttingen **Module B.EP.076c: Advanced English Language Skills**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch erfolgreich, stilistisch angemessen und landeskundlich kompetent zu meistern • Texte unterschiedlicher Thematik, Register und Stilebenen angemessen vom Englischen ins Deutsche zu übersetzen • Eigenschaften und Besonderheiten von Kultur und Institutionen im englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: Vocabulary Training Für den Kurs Vocabulary Training ist in FlexNow eine „qualifizierte Teilnahme" nachzuweisen. Studierende nehmen teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Das Vocabulary Training ist keine Prüfungsvorleistung für den Translation Course. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher oder parallel zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	5 C

Examination requirements: Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, Texte unterschiedlicher Provenienz, lexikalisch adäquat zu erfassen. Sie verfügen über die notwendigen Fertigkeiten, auch anspruchsvollere deutsche Texte grammatikalisch, lexikalisch und stilistisch korrekt ins Englische zu übersetzen.	

Admission requirements: B.EP.03a	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:
Max. Studierendenzahl: Vocabulary Training: 35; Translation: 25

Georg-August-Universität Göttingen **Module B.EP.077a: Advanced English Language Skills**	8 C 6 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • sich mittels unterschiedlicher Lernstrategien ein neues Vokabular aus verschiedenen thematischen Bereichen anzueignen und dies aktiv schriftlich und mündlich anzuwenden; • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren; • schriftliche Texte wie z.B. Lebensläufe, Bewerbungsschreiben und Geschäftsbriefe in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	**Workload:** Attendance time: 84 h Self-study time: 156 h

Course: Writing for Professional Purposes Die benotete Prüfungsleistung wird im Kurs Writing for Professional Purposes abgelegt. Das Portfolio (max. 2500 Wörter) besteht aus einer Reihe von schriftlichen Aufgaben und Übungen, die während des Semesters in den Kurssitzungen oder zu Hause angefertigt werden.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für diesen Kurs sowie den Vocabulary Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Dieser Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Course: Vocabulary Training Für den Institutions-Kurs sowie den Vocabulary Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Examination: Learning journal (max. 2500 words) **Examination prerequisites:** In allen LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	8 C
Examination requirements:	

- Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, alltägliche und anspruchsvollere Texte normengerecht zu lexikalisieren.
- Die Studierenden haben die sprachlichen Fertigkeiten und kulturellen Kenntnisse erworben, um schriftliche Korrespondenz normengerecht zu verfassen.
- Die Studierenden sind mit den Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen.

Admission requirements: B.EP.03a	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Seda Canpolat
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Maximale Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; Writing for Professional Purposes: 25; Vocabulary Training: 25

Georg-August-Universität Göttingen **Module B.EP.077b: Advanced English Language Skills**	8 C 6 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch korrekt, stilistisch angemessen und landeskundlich kompetent zu meistern • Schriftliche und mündliche Texte unterschiedlicher Thematik, Register und Stilebenen unter Zuhilfenahme zielführender Techniken zu verstehen • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren • Texte unterschiedlicher landeskundlicher Thematik, Register und Stilebenen angemessen vom Deutschen ins Englische zu übersetzen	**Workload:** Attendance time: 84 h Self-study time: 156 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für den Culture and Institutions-Kurs sowie den Vocabulary Course bzw. Listening/ Reading Comprehension Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Translation Course. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Course: Vocabulary Training Course Für den Culture and Institutions-Kurs sowie den Vocabulary Course bzw. Listening/ Reading Comprehension Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Translation Course. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In allen LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	8 C

Examination requirements: • Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, alltägliche und landeskundlich anspruchsvollere Texte normengerecht zu lexikalisieren	

- Die Studierenden können erlernte Techniken einsetzen, um unbekannte schriftliche und mündliche Texte zu verstehen
- Die Studierenden haben die sprachlichen Fertigkeiten und landeskundlichen Kenntnisse erworben, um einen deutschen Text normengerecht ins Englische zu übersetzen

Admission requirements:	Recommended previous knowledge:
B.EP.03a	none
Language:	**Person responsible for module:**
English	Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
not limited	

Additional notes and regulations:

Maximale Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; German-English Translation: 25; Vocabulary Training/LRC: 25

Georg-August-Universität Göttingen **Module B.EP.11a: Advanced English Linguistics**	6 C 2 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden alternative grammatische Theorien, • Kriterien zur Charakterisierung und Bewertung grammatischer Theorien, • Methoden der Literaturrecherche, • relevante Forschungsliteratur zu linguistisch wichtigen Gebieten, • können die Studierenden grammatische Theorien bewerten, • linguistische Argumentationen erstellen, • aktuelle sprachwissenschaftliche Forschungsergebnisse rezipieren und reflektieren, • einen eigenständigen forschungsorientierten Beitrag auf dem aktuellen Stand der Forschung erarbeiten.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Forschungsorientiertes linguistisches Hauptseminar	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: Nachweis der Fähigkeit, relevante Forschungsliteratur zu einem sprachwissenschaftlich relevanten Thema zu recherchieren und zu rezipieren, Forschungsfragen zu extrahieren, den sprachlichen Gegenstand differenziert zu analysieren und eine angemessene Theorie auszuwählen und zu evaluieren	

Admission requirements: B.EP.42-x	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Regine Eckardt
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module B.EP.11b: Advanced Medieval English Studies	2 WLH

Learning outcome, core skills:	Workload:
Kompetenzen:	Attendance time:
Studierende vertiefen v.a. ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit der Sprachgeschichte des Englischen sowie mit Texten in ihren literatur- und kulturhistorischen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen).	56 h Self-study time: 124 h
Zentrale Inhalte:	
Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Mediävistik".	

Course: Forschungsorientiertes Hauptseminar Mediävistik	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements:	
sicherer Umgang mit Textformen und -gattungen, mit Methoden und Problemen der Analyse mittelalterlicher englischer Texte, historischer und gegenwärtiger Sprachformen des Englischen sowie mit relevanter Forschungsliteratur	

Admission requirements: B.EP.401	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.EP.201: Anglophone Literature and Culture I**	8 C 4 WLH

Learning outcome, core skills:	**Workload:**
· Studierende erwerben in der "Introduction" grundlegende Methodenkompetenzen im Umgang mit theoretischen Texten aus der Kulturwissenschaft und erproben ihre Analysekompetenz durch den Vergleich von Herangehensweisen an kulturwissenschaftliche Textarten.	Attendance time: 56 h Self-study time: 184 h
· In der Lehrveranstaltung zu ausgewählten Themen und Epochen der anglophonen Kultur vertiefen Studierende die grundlegende Methoden- und Lernkompetenzen im Umgang mit kulturwissenschaftlichen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere kulturwissenschaftliche Phänomene, Ziehen von Analogieschlüssen).	
· Sie vertiefen ebenso Methodenkompetenzen in der Analyse und Bewertung von einzelnen Texten, Medien und kulturellen Phänomenen.	
· Sie vertiefen darüber hinaus grundlegende Fachkompetenzen im Umgang mit kulturwissenschaftlichen Texten sowie Methoden- und Lernkompetenzen im Vergleich verschiedener kulturwissenschaftlicher Zusammenhänge.	

Course: Literatur- und kulturwissenschaftliche Lehrveranstaltung *Contents*:	2 WLH
• Exemplarische Anwendung der Theorien in den Bereichen der anglophonen Literatur und Kultur • Erweiterung der in der "Introduction" erworbenen Kenntnisse durch intensives Studium ausgewählter Texte einer Epoche der anglophonen Literatur- und Kulturgeschichte.	

Course: Introduction to British Cultural Studies *Contents*:	2 WLH
• Vermittlung grundlegender Theorien der englischen Kulturwissenschaft • Auseinandersetzung mit den sowie Vergleich der unterschiedlichen Techniken kulturwissenschaftlicher Forschung	

Examination: Term Paper (max. 3500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen an beiden LVV; erfolgreicher Abschluß der LV Introduction to British Cultural Studies, nachzuweisen durch Bestehen einer unbenoteten Klausur (90 Min.) **Examination requirements:**	8 C
• Grundlegende Kenntnisse zu ausgewählten Theorien aus dem Gebiet der Cultural Studies; • Grundkenntnisse zur Literaturgeschichte und Literaturwissenschaft sowie zur Kulturgeschichte und Kulturwissenschaft des gewählten Themenkomplexes;	

- Grundkenntnisse in der Methodik literatur- und kulturwissenschaftlicher Recherche;
- Grundkenntnisse in der Bewertung nichtliterarischer Quellen und Sekundärliteratur

Admission requirements:	Recommended previous knowledge:
none	B.EP.01
Language:	**Person responsible for module:**
English	Prof. Dr. Barbara Schaff
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 5
Maximum number of students:	
not limited	

Additional notes and regulations:

Das Bestehen der LV Introduction to British Cultural Studies ist separat in FlexNow nachzuweisen. Es ist jedoch keine Anmeldevoraussetzung für die Prüfungsleistung.

Es wird empfohlen, die LV Introduction to Cultural Studies vor der literatur-/kulturwissenschaftlichen Lehrveranstaltung zu belegen.

Georg-August-Universität Göttingen **Module B.EP.202: Anglophone Literature and Culture II**	6 C 2 WLH

Learning outcome, core skills: • Studierende vertiefen erworbene Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Texten und Epochen (z.B. komplexe Zusammenhänge epochenübergreifend erkennen und darstellen, epochenübergreifende Systematiken erkennen und beschreiben, Bewertungsmaßstäbe epochengerecht einsetzen) • Vertiefung der Fachkompetenzen im Hinblick auf die Analyse von und den Umgang mit literarischen Texten, kulturgeschichtlichen Zusammenhängen und Theoriekomplexen • Grundlegender Umgang mit literatur- und kulturwissenschaftlichen Forschungspositionen	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung zur anglophonen Literatur- und Kulturgeschichte, zu einem Theorie- bzw. Themenkomplex (Lecture)	2 WLH
Course: Vertiefendes Selbststudium *Contents*: Der Selbststudienanteil dient dazu, Kernbereiche der gewählten Vorlesung vertieft zu bearbeiten. Dies können Primärtexte sein, zentrale Texte der Sekundärliteratur oder sonstige Materialien (z.B. Kunstgegenstände, außerliterarische Texte).	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** • vertiefte Überblickskenntnisse zu einer literaturhistorischen Epoche, zu einem Theorie- bzw. Themenkomplex • sichere Beherrschung von Textanalyse- und Kontextualisierungsmethoden • Einordnung von Texten in literarische und kulturelle Zusammenhänge und Epochen	6 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen	7 C
Module B.EP.203: Anglophone Literature and Culture III	4 WLH

Learning outcome, core skills:	**Workload:**
· Studierende vertiefen erworbene Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Texten und Epochen (z.B. komplexe Zusammenhänge epochenübergreifend erkennen und darstellen, epochenübergreifende Systematiken erkennen und beschreiben, Bewertungsmaßstäbe epochengerecht einsetzen) · Anwendung von Theorien und verschiedenen Forschungsansetzen auf die Analyse von literarischen Texten und/oder kulturellen Phänomenen	Attendance time: 56 h Self-study time: 154 h

Course: Vorlesung zur anglophonen Literatur- und Kulturgeschichte, zu einem Theorie- bzw. Themenkomplex (Lecture)	2 WLH
Course: Lehrveranstaltung	2 WLH

Examination: Term Paper (max. 4000 words)	7 C
Examination prerequisites: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** · vertiefte Überblickskenntnisse zu einer literatur- und kulturhistorischen Epoche · sichere Beherrschung und Anwendung der Methoden der literarischen Textanalyse bzw. kulturwissenschaftlicher Methodik · sichere Kontextualisierung sowie kultur- und literaturhistorische Vernetzung von Texten und Autoren	

Admission requirements: B.EP.201, B.EP.21	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.EP.203a: Anglophone Literature and Culture IV**	7 C 1 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluß des Moduls • beherrschen Studierende zwei Epochen aus der anglophonen Literatur- und Kulturgeschichte in ihren zentralen Entwicklungslinien; • kennen Studierende die wichtigsten kanonischen Autoren zweier Epochen aus der anglophonen Literatur- und Kulturgeschichte, können sie zeitlich einordnen und zentrale Werke benennen; • kennen Studierende die wesentlichen kanonischen Texte der drei Großgattungen (Roman, Drama, Gedicht) aus der anglophonen Literatur- und Kulturgeschichte, können sie zeitlich einordnen und ihren Autoren zuordnen; • kennen Studierende die in zwei Epochen aus der anglophonen Literatur- und Kulturgeschichte wesentlichen gesellschaftlichen Entwicklungen in ihren Grundzügen und ungefähren zeitlichen Verortungen; • können Studierende Epochen aus der anglophonen Literatur- und Kulturgeschichte grob gegeneinander abgrenzen und diese Abgrenzung sachlich begründen.	**Workload:** Attendance time: 14 h Self-study time: 196 h

Course: Workshop zum Lesen und Verwenden von Literaturgeschichten *Contents*: Die Teilnahme am Workshop ist optional.	1 WLH
Examination: computerbasierte semesterbegleitend abgelegte Teilklausuren (90 minutes), not graded **Examination requirements:** Die Prüfung betrifft zwei Epochen der anglophonen Literatur- und Kulturwissenschaft im Überblick auf der Basis des eigenverantwortlichen Studiums von zwei bis drei einschlägigen Literaturgeschichten. Studierende zeigen: Beherrschen von Epochengrenzen und Gründen für Epochisierungen; Benennung zentraler Autoren und Werke der Epochen (Kanonkenntnisse); zeitliche Einordnung (relativ zueinander) von Texten und Autoren; Kenntnisse zentraler gesellschaftlicher und literaturhistorischer Entwicklungslinien. Angebotene Epochen: Early Modern Period; The 'Long' Eighteenth Century; Victorian Period; Twentieth-Century Literature; Contemporary Literature. Die im Modul B.EP.202 abgedeckte Epoche kann hier nicht noch einmal abgeprüft werden.	7 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.202
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff Dr. Frauke Reitemeier
Course frequency:	**Duration:**

once a year	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6

Additional notes and regulations:
Dieses Modul richtet sich an Studierende, die sich einen Überblick über zentrale Entwicklungslinien der anglophonen Literatur- und Kulturgeschichte erarbeiten wollen. Es ist auch für die Anrechnung im Optionalbereich durch Studierende anderer Fächer geeignet.   Für Studierende im BA-Teilstudiengang "English: Language, Literature and Cultures/Englisch" ist das erfolgreiche Bestehen von Modul B.EP.202 eine empfohlene Zugangsvoraussetzung. Die dort abgedeckte Epoche kann hier nicht eingebracht werden.

| Georg-August-Universität Göttingen | 8 C |
| Module B.EP.204: Medieval English Literature and Culture | 4 WLH |

Learning outcome, core skills:	Workload:
Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grundlegende Überblickskenntnisse im Bereich der englischen Literatur des Mittelalters, ihrer Gattungen und Formen, und ihrer historischen Kontexte anhand wichtiger Hauptwerke zu reproduzieren • Kompetenzen im detaillierten Verständnis der historischen Sprachstufen des Englischen durch selbstständige Übersetzung mit Hilfsmitteln einzuüben und durch Wiederholung zu verfeinern und zu differenzieren • Ausgewählte Hauptwerke der mittelalterlich englischen Literatur im *close reading* kritisch zu kommentieren und erste schriftliche Ausdrucksformen für Form-Inhalt-Beziehungen in den Texten zu entwickeln • und haben erste Begegnung mit der handschriftlichen Überlieferungsform gemacht	Attendance time: 56 h Self-study time: 184 h

Course: Vorlesung Mediävistik (Lecture)	2 WLH
Contents: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, Literaturtheorie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	

Examination: Written examination (30 minutes)	2 C
Examination requirements: Je nach thematischer Ausrichtung der Vorlesung Nachweis sprach- und literaturwissenschaftlicher Kompetenzen im Bezug auf die älteren Sprachstufen des Englischen und deren Beschreibung, auf wichtige Hauptwerke des englischen Mittelalters und ihre historischen, kulturellen und materiellen Kontexte.	

Course: "Introduction to Medieval English Literature and Culture"	2 WLH
Contents: Die LV soll die Sprach- und Textkenntnis durch regelmäßige Übersetzungsübungen der älteren Sprachstufen vertiefen sowie erste Ansätze zur kritischen Interpretation von Form-Inhalt Beziehungen durch den *close commentary* einüben	

Examination: Written examination (90 minutes)	6 C
Examination prerequisites: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; 1 close commentary **Examination requirements:** Sprachkenntnisse und Übersetzungstechniken; Methoden des *close commentary* zu Form-Inhalt-Beziehungen	

Admission requirements:	Recommended previous knowledge:
none	B.EP.01
Language:	**Person responsible for module:**

English	Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

English   Prof. Dr. Winfried Rudolf

Georg-August-Universität Göttingen **Module B.EP.21: North American Literature and Culture I**	8 C 4 WLH

Learning outcome, core skills: Die Studierenden: - erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Erfassen komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte). - vertiefen erworbene Methodenkompetenzen in der Analyse und Bewertung einzelner Texte. - vertiefen grundlegende Fachkompetenzen im Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen und entwickeln dadurch interkulturelle Kompetenz. - erwerben literatur- und kulturhistorische Kenntnisse zu einer Epoche der amerikanischen Literaturgeschichte durch intensives Studium ausgewählter Texte. - wenden die Methoden historisch-hermeneutischen Textverständnisses und systematisch-formaler Textanalyse an konkreten Beispielen an. - erlernen und nutzen Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH

Examination: Take Home Exam (max. 3000 words) **Examination prerequisites:** regelmäßige Teilnahme; LV 2 zusätzlich: mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen **Examination requirements:** Grundlegende Kenntnisse zur gewählten literatur- und kulturhistorischen Epoche (Textkenntnis, Begrifflichkeit, Epochengrenzen, Zusammenhänge). Sicherer Umgang mit dem gewählten Primärtext; Grundkenntnisse im Umgang mit Sekundärliteratur; Grundkenntnisse hinsichtlich Stil und Strukturierung wissenschaftlicher Arbeiten	8 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.EP.21 (EuCu): North American Literature and Culture (for Euroculture Students)**	4 C 2 WLH

Learning outcome, core skills: Studierende erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte, Ziehen von Analogieschlüssen). Sie vertiefen erworbene Methodenkompetenzen in der Analyse und Bewertung von einzelnen Texten. Sie vertiefen darüber hinaus grundlegende Fachkompetenzen im Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen. Sie entwickeln damit interkulturelle Kompetenz. Zentrale Inhalte: Erwerb literatur- und kulturhistorischer Kenntnisse einer Epoche der amerikanischen Literatur durch intensives Studium ausgewählter Texte. Beispielhafte Einübung der Methodik historisch hermeneutischen Textverständnisses. Beispielhafte Einübung der Methodik systematisch-formaler Textanalyse. Einführung in Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH
Examination: Take Home Exam (max. 3000 words) **Examination prerequisites:** regelmäßige Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen	4 C

Examination requirements: - Studierende erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen - Vertiefung von Methodenkompetenzen in der Analyse und Bewertung von einzelnen Texten	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 6	

Georg-August-Universität Göttingen	8 C
Module B.EP.22: English Syntax	4 WLH

Learning outcome, core skills:	Workload:
Nach erfolgreicher Teilnahme • kennen die Studierenden den Zusammenhang zwischen traditioneller, beschreibender Grammatik und einer formalen syntaktischen Theorie, • die Methoden synchroner syntaktischer Analyse, • die Struktureinheiten, Strukturbeziehungen sowie die zentralen Konstruktionen der englischen Syntax, • können die Studierenden die Methoden der modernen Syntax bei der Analyse sprachlicher Daten anwenden, • grammatische Regeln explizieren und formalisieren, • Generalisierungen und Hypothesen formulieren, • alternative syntaktische Analysen bewerten.	Attendance time: 56 h Self-study time: 184 h

Course: Introduction to Syntactic Theory	2 WLH
Course frequency: each summer semester	

Course: Syntax - Lab Class	2 WLH

Examination: Klausur (90 Min.) oder klausurähnliche Hausarbeit (max. 2000 Wörter)	8 C
Examination prerequisites: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements:	
Die Studierenden weisen nach, dass sie die Methoden der syntaktischen Analyse sicher beherrschen, dass sie die zentralen Konstruktionen des Englischen im Rahmen einer syntaktischen Theorie und nach Vorgabe der Lehrveranstaltung analysieren können, und dass sie alternative Analysen bewerten können.	

Admission requirements:	Recommended previous knowledge:
none	B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 30	

Additional notes and regulations:
Wird eine klausurähnliche Hausarbeit angeboten, stammen die Anteile aus beiden Lehrveranstaltungen dieses Moduls (Theoriekurs und Übung).

Theoriekurs und Übung sollten im selben Semester belegt werden; das vollständige Modul wird jeweils nur im Sommersemester angeboten.

Georg-August-Universität Göttingen **Module B.EP.23: Semantics and Pragmatics of English**	8 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden Notationssysteme zur adäquaten Beschreibung semantischer und pragmatischer Phänomene des Englischen, • kennen die Zielsetzung semantischer und pragmatischer Theoriebildung, • kennen den Unterschied zwischen Einzelfallbeschreibung, Generalisierung und theoretischer Vorhersage, • kennen Datenquellen und Methoden der Überprüfung von Generalisierungen, • können selbständig im Rahmen einer semantischen bzw. pragmatischen Theorie eine adäquate Beschreibung grammatischer Phänomene des Englischen durchführen, • können selbständig Generalisierungen formulieren und diese überprüfen, • können einfache Regelsysteme validieren.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Introduction to Formal Semantics and Pragmatics *Course frequency:* each winter semester	2 WLH
Course: Lab Class Semantics and Pragmatics	2 WLH
Examination: Hausarbeit oder klausurähnliche Hausarbeit (max. 2000 words)	8 C

Examination requirements: Die Studierenden weisen nach, dass sie elementare Phänomene der Semantik und Pragmatik kennen und angemessen beschreiben können und dass sie Transferaufgaben nach der Vorgabe der Lehrveranstaltungen lösen können.	

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Additional notes and regulations: Theoriekurs und Übung sollten im selben Semester belegt werden; das vollständige Modul wird jeweils nur im Wintersemester angeboten.

Georg-August-Universität Göttingen **Module B.EP.301: Topics of Medieval English Studies**	6 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • spezifische Kenntnisse zu ausgewählten Themen im Bereich der englischen Literatur des Mittelalters, oder der englischen Sprache oder der Kulturwissenschaft zu reproduzieren • Sprachkenntnisse im Alt- und Mittelenglischen mit Bezug auf spezifische sprach-, literatur- oder kulturgeschichtliche Themen kreativ anzuwenden • Die Analyse mittelalterlich englischer Texte und historischer und gegenwärtiger Sprachphänomene mithilfe wichtiger Arbeitstechniken und Forschungsinstrumente zu vertiefen	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung Mediävistik (Lecture) *Contents*: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	2 WLH
Examination: Written examination (30 minutes) **Examination requirements:** Je nach thematischer Ausrichtung der Vorlesung Nachweis sprach- und literaturwissenschaftlicher Kompetenzen im Bezug auf die älteren Sprachstufen des Englischen und deren Beschreibung, auf wichtige Hauptwerke des englischen Mittelalters und ihre historischen, kulturellen und materiellen Kontexte.	2 C

Course: Lehrveranstaltung *Contents*: In den Lehrveranstaltungen werden semesterabhängig Themen zur Sprach-, Literatur- oder Kulturgeschichte des englischen Mittelalters vorlesungsbezogen behandelt: • Sprache: vertiefende Kenntnisse zu einzelnen Sprachperioden und Phänomenen; Einübung der Arbeit mit historischen Wörterbüchern und linguistischen Korpora; • Literatur und Kultur: je nach Vorlesungszyklus die Behandlung von Themen und Hauptwerken spezifischer Jahrhunderte; Beleuchtung wichtiger historischer Rahmenbedingungen, Arbeit am materiellen Text	2 WLH
Examination: Written examination (60 minutes) **Examination prerequisites:** DRINGEND EMPFOHLEN ABER NICHT VERPFLICHTEND VORAUSGESETZT wird die regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Semesterabhängig Sprachkenntnisse in unterschiedlichen Sprachstufen des Englischen; essayistische Auseinandersetzung mit spezifischen Fragen der Textinterpretation; Beherrschung grundlegender Methoden der literarischen und	4 C

materiellen Textanalyse und des historischen Sprachvergleichs; Grundkenntnisse zum kulturhistorischen Kontext spezifischer Sprachdenkmäler

Admission requirements:	Recommended previous knowledge:
B.EP.204	none
Language:	**Person responsible for module:**
English	Prof. Dr. Winfried Rudolf
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.EP.31: North American Literature and Culture II**	7 C 4 WLH

Learning outcome, core skills: Die Studierenden - vertiefen grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte). - vertiefen Methodenkompetenzen in der Analyse und Bewertung einzelner Texte. - erwerben grundlegende Fachkompetenzen im Umgang mit kulturhistorischen Texten sowie Methoden-, Lern- und interkulturelle Kompetenzen im Vergleich verschiedener literaturhistorischer sowie kulturhistorischer Zusammenhänge. - erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch intensives Studium ausgewählter Texte einer Epoche der amerikanischen Literatur. - erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch extensives Studium von beispielhaften literarischen wie nicht-literarischen Texten (z.B. politische Pamphlete, Reden, Essays, Predigten, Verfassungstexte) der amerikanischen Kulturgeschichte. - wenden Methoden systematisch-formaler Textanalyse unter besonderer Berücksichtigung verschiedener Textgattungen an. - vergleichen und verknüpfen die Techniken literaturwissenschaftlicher und kulturwissenschaftlicher Forschung.	**Workload:** Attendance time: 56 h Self-study time: 154 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung "Cultural History and Rhetoric"	2 WLH

Examination: Take Home Exam (max. 3500 words) **Examination prerequisites:** regelmäßige Teilnahme; Präsentation (in Form von Expertengruppen bzw. Moderationsteams, ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter) (LV 2) **Examination requirements:** Grundlegende Kenntnisse zur gewählten literatur- und kulturhistorischen Epoche (Textkenntnis, Begrifflichkeit, Epochengrenzen, Zusammenhänge). Grundkenntnisse zur amerikanischen Kulturgeschichte (grundlegende Daten und historische Ereignisse, Entwicklungslinien); Grundkenntnisse in der Methodik kulturhistorischer Recherche; Grundkenntnisse in der Analyse nicht-literarischer Quellen und der Auswertung von Sekundärliteratur	7 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder

Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 3 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.EP.401: Peer Assisted Medieval English Studies**	7 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Individuelle Arbeit an vorlesungsbezogenen Forschungsthemen auszuführen und damit vorhandene Kenntnisse nachzuweisen und zu vertiefen • Feedback zum Forschungsprozess mithilfe regelmäßig geführter *Tutorials* anzunehmen und in die eigene Arbeit zu integrieren • den kritischen Dialog über Themen, Forschungsliteratur und Arbeitsschritte in kleinen Gruppen zu trainieren • Stilkompetenz im wissenschaftlichen Diskurs zu erwerben und eigene Standpunkte fundiert zu vertreten • Selbstkritisch mit den eigenen Forschungsresultaten umzugehen und Problemlösungstrategien im Team zu erarbeiten • eigenständig längere schriftliche Arbeiten zu Forschungsthemen unter Verwendung aller vorhandenen Ressourcen schrittweise zu entwickeln	**Workload:** Attendance time: 56 h Self-study time: 154 h

Course: Tutorial *Contents*: • Das *Tutorial* bietet die Möglichkeit, in kleinen Gruppen die eigenen schriftlichen Entwürfe unter Aufsicht kritisch zu diskutieren • Durch dezidierte Rückmeldung werden die Studierenden dazu befähigt, ihre schriftliche Ausarbeitung besser zu strukturieren und Strategien des wissenschaftlichen Arbeitens zu vertiefen	2 WLH
Course: Vorlesung (Lecture) *Contents*: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	2 WLH
Examination: Term Paper (max. 5000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Essay (max. 2000 Wörter) **Examination requirements:** Verfassen eines ersten Essays in Vorbereitung auf die Behandlung eines weiteren Forschungsthemas in der Hausarbeit, Kritische Reflektion; Anwendung erworbener Arbeitstechniken	7 C

Admission requirements: B.EP.301	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf

Course frequency:	Duration:
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	4 - 5
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.EP.41: North American Literature and Culture III**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden - vertiefen erworbene Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Texten und Epochen (z.B. komplexe Zusammenhänge epochenübergreifend erkennen und darstellen, epochenübergreifende Systematiken erkennen und beschreiben, Bewertungsmaßstäbe epochengerecht einsetzen). - vertiefen ihre Fachkompetenzen im Hinblick auf die Analyse von und den kulturwissenschaftlichen Umgang mit verschiedenen Texten sowie unter Berücksichtigung von forschungsorientierten Ansätzen. - vertiefen die kultur- und literaturgeschichtlichen Kenntnisse in der Amerikanistik durch intensives Epochenstudium. - beschreiben, analysieren und interpretieren ein kulturgeschichtliches Problem in forschungsorientierter Form (ggf. zur Vorbereitung einer Bachelorarbeit). - nutzen und verknüpfen dabei die bereits erworbenen Techniken literatur- und kulturwissenschaftlichen Arbeitens.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH

Examination: Hausarbeit (max. 3500 Wörter) oder Klausur (90 Minuten) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen, LV 2 außerdem: mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) **Examination requirements:** sichere Beherrschung von Textanalyse- und Kontextualisierungsmethoden; Kenntnisse in der literaturhistorischen/kulturhistorischen Vernetzung von Texten und Autoren. Vertiefte Überblickskenntnisse zu einer literatur-/kulturhistorischen Epoch. Die Prüfungsleistung bezieht sich inhaltlich auf die Lehrveranstaltung. Studierenden, die eine BA-Arbeit im Bereich Nordamerikastudien planen, wird geraten, in diesem Modul die Hausarbeit zu wählen.	6 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.31
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5

Maximum number of students: not limited	

Additional notes and regulations:
Die Prüfungsleistungen sind alternativ zu verstehen.
Studierende können zwischen einer Klausur in der Vorlesung und einer Hausarbeit in der Lehrveranstaltung wählen. Studierenden, die eine BA-Arbeit im Bereich Nordamerikastudien planen, wird geraten, in diesem Modul die Hausarbeit zu wählen.

Georg-August-Universität Göttingen **Module B.EP.42a: Advanced Linguistics: Focus on Syntax or Semantics**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden den Unterschied und den Zusammenhang zwischen strukturbezogenen und gebrauchsbedingten Phänomenen der Sprache, • kennen einen Bereich der strukturbezogenen Sprachwissenschaft in vertiefter Weise, • kennen verschiedene empirische Methoden der Psycho-, Sozio- oder Korpuslinguistik, • kennen Theorien der Psycho-, Sozio- oder Korpuslinguistik, • können die Studierenden Schlussfolgerungen aus Resultaten der empirischen Forschung für Theorien und Modelle der Sprachwissenschaft ziehen.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Lehrveranstaltung: Advanced English Syntax/Advanced English Semantics *Contents*: Die Kursinhalte stammen aus den Bereichen Syntax oder Semantik des Englischen.	2 WLH
Examination: Examination-like term paper (max. 3500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen nach, dass sie ein sprachliches Phänomen im Bereich der Syntax oder Semantik des Englischen vertieft analysieren und auf der Grundlage grammatischer Theorien und Modell erklären können.	3 C

Course: Lehrveranstaltung: General Linguistics *Contents*: Die Kursinhalte stammen aus den Bereichen Psycholinguistik, Soziolinguistik, Korpuslinguistik, Phonologie, Morphologie oder Pragmatik des Englischen.	2 WLH
Examination: Examination-like term paper (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen nach, dass sie auf der Basis von mit empirischen Methoden gewonnenen Daten zur Sprachverwendung Einsicht in die Struktur und Funktionsweise der Sprache gewinnen können.	2 C

Admission requirements: B.EP.22, B.EP.23	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	**Duration:**

each semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.EP.42b: Advanced Linguistics: Focus on General Linguistics**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden den Unterschied und den Zusammenhang zwischen strukturbezogenen und gebrauchsbedingten Phänomenen der Sprache, • kennen einen Bereich der strukturbezogenen Sprachwissenschaft in vertiefter Weise, • kennen verschiedene empirische Methoden der Psycho-, Sozio- oder Korpuslinguistik, • kennen Theorien der Psycho-, Sozio- oder Korpuslinguistik, • können die Studierenden Schlussfolgerungen aus Resultaten der empirischen Forschung für Theorien und Modelle der Sprachwissenschaft ziehen.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Lehrveranstaltung: Advanced English Syntax/Advanced English Semantics *Contents*: Die Kursinhalte stammen aus den Bereichen Syntax oder Semantik des Englischen.	2 WLH
Examination: Examination-like term paper (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen nach, dass sie ein sprachliches Phänomen im Bereich der Syntax oder Semantik des Englischen vertieft analysieren und auf der Grundlage grammatischer Theorien und Modell erklären können.	2 C

Course: Lehrveranstaltung: General Linguistics *Contents*: Die Kursinhalte stammen aus den Bereichen Psycholinguistik, Soziolinguistik, Korpuslinguistik, Phonologie, Morphologie oder Pragmatik des Englischen.	2 WLH
Examination: Examination-like term paper (max. 3500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen nach, dass sie auf der Basis von mit empirischen Methoden gewonnenen Daten zur Sprachverwendung Einsicht in die Struktur und Funktionsweise der Sprache gewinnen können.	3 C

Admission requirements: B.EP.22, B.EP.23	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	**Duration:**

each semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.EP.44: Advanced Module: North American Media and Visual Culture**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden - analysieren und interpretieren diverse Medien und künstlerische Ausdrucksformen der nordamerikanischen Kulturgeschichte (z.B. Film, Fernsehen, Fotografie, bildende Kunst,Musik, neue Medien) gemäß fachwissenschaftlich angemessener Verfahren. - erwerben und verwenden kulturwissenschaftliche Methoden und Analysetechniken unter besonderer Berücksichtigung audiovisueller und digitaler Medienformate. - beschreiben, differenzieren und bewerten unterschiedliche Gestaltungs- und Darstellungsformen hinsichtlich ihrer medialen Spezifität und Materialität. - verwenden und verknüpfen narratologische, kultur- und medienwissenschaftliche Forschungstechniken.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Einführungsseminar Introduction to Film and Media Analysis	2 WLH

Course: Medienwissenschaftliche Analyse und Interpretation	2 WLH

Examination: Term Paper (max. 3000 words) **Examination prerequisites:** in beiden LV regelmäßige Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen (Take Home Exam) **Examination requirements:** Überblickswissen zur Film- und Medienanalyse, mit besonderer Berücksichtigung des amerikanischen Kinos, Fernsehens und visueller Kultur; Fähigkeit zur kultur- und medienwissenschaftlichen Analyse audiovisueller und digitaler Texte und Medien; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen selbstständig wissenschaftlich zu bearbeiten.	6 C

Admission requirements: B.EP.201, B.EP.21	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Die erfolgreiche Teilnahme an der Veranstaltung "Introduction to Film and Media Analysis" ist Voraussetzung für die Belegung der Veranstaltung "Medienwissenschaftliche Analyse und Interpretation". Die Prüfungsvoraussetzung ist auch in diesem Fall die regelmäßige Teilnahme.

Georg-August-Universität Göttingen **Module B.EP.50a: Advanced Studies in Anglophone Literature: Focus on Literature**	6 C 2 WLH

Learning outcome, core skills: Studierende vertiefen v.a. ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten und literaturwissenschaftlichen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen). Zentrale Inhalte: Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Anglistische Literatur- und Kulturwissenschaft" mit Schwerpunktsetzung im Bereich anglophone Literaturwissenschaft.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forschungsorientiertes anglophones Hauptseminar mit literaturwissenschaftlichem Schwerpunkt	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit Textformen und -gattungen, mit Methoden und Problemen der Textanalyse sowie mit relevanter Forschungsliteratur	

Admission requirements: B.EP.203	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.EP.50b: Advanced Studies in British Culture**	6 C 2 WLH

Learning outcome, core skills: Studierende vertiefen v.a. ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten und kulturwissenschaftlichen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen). Zentrale Inhalte: Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Anglistische Literatur- und Kulturwissenschaft" mit Schwerpunktsetzung im Bereich Cultural Studies/ Kulturwissenschaft	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forschungsorientiertes anglistisches Hauptseminar mit kulturwissenschaftlichem Schwerpunkt	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit Textformen, mit Methoden und Problemen der Kulturwissenschaft sowie mit relevanter Forschungsliteratur	

Admission requirements: B.EP.203	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.EP.51: Advanced Studies in American Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: Die Studierenden - vertiefen ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen - vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fachfremden Ansätzen). - vertiefen und erweitern ihre Kompetenzen zur theoriegeleiteten Textanalyse (anhand eines exemplarischen Forschungsproblems). - reflektieren kritisch das eigene methodische Vorgehen vor dem Hintergrund fachspezifischer und interdisziplinärer Verfahrensweisen	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Forschungsorientiertes Seminar zur nordamerikanischen Literatur und Kultur (Seminar)	2 WLH
Course: Independent Study zum Forschungsseminar *Contents*: Für den Selbststudiumsanteil, welcher 60 Stunden des gesamten Selbststudiums umfasst, wird ein zuvor mit einer Lehrperson vereinbartes Thema im Bereich der American Studies eigenständig erarbeitet. Ziel ist ein thematisch fokussiertes, theorie- und methodengestütztes Selbststudium, für das relevante Primär- und Sekundärtexte in fachlich einschlägigen wissenschaftlichen Datenbanken und Publikationen recherchiert und Forschungsthesen entworfen werden. Die Studierenden entwickeln die Fähigkeit, eigene Ansätze kritisch zu reflektieren, im wissenschaftlichen Dialog mit der Lehrperson anhand von Thesenpapieren zu begründen und im fachlichen Kontext zu verorten. Über die Independent Study-Anteile der amerikanistischen Module vertiefen Studierende ihre Methodenkompetenz und ihr Theoriebewusstsein. Sie stärken ihre Fähigkeit, selbstständig und forschungsorientiert wissenschaftlich zu arbeiten. Anleitung, Rückmeldung und Überprüfung der Fortschritte erfolgen in mindestens drei über die Vorlesungszeit verteilten Treffen.	
Examination: Hausarbeit oder Forschungsbericht (max. 5000 words) **Examination prerequisites:** regelmäßige Teilnahme; mündl. Leistung (Präsentation, Diskussionsleitung ca. 20 Min.), 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (insg. max. 750 Wörter); Independent Study: Thesenpapier/Exposé (max. 1500 Wörter)	6 C

Examination requirements: Fähigkeit zur extensiven Literaturrecherche; Fähigkeit zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, komplexere Forschungsthesen zu formulieren, selbstständig wissenschaftlich darzulegen und überzeugend zu argumentieren	

Admission requirements:	Recommended previous knowledge:
none	B.EP.21, B.EP.41
Language:	**Person responsible for module:**
English	Prof. Dr. Babette B. Tischleder
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	5 - 6
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.EP.T1L: Additional Module - Introduction to English Linguistics**	3 C 2 WLH

Learning outcome, core skills: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem Basismodul "Linguistics, Literature and Culture" (Pflichtmodul) durch eine zusätzliche Einführungsveranstaltung in dem im Pflichtmodul nicht gewählten sprachwissenschaftlichen Teilbereich. Einführung in die grundlegenden Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner linguistischen Ausrichtung. Einübung der Techniken wissenschaftlichen Arbeitens. Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Einführungs-Proseminar "Introduction to Linguistics"	2 WLH

Examination: Written examination (90 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: Grundlagen der Sprachwissenschaft; Grundbegriffe und Grundlagentechniken der Sprachwissenschaft	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Regine Eckardt
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 5
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module B.EP.T1M: Additional Module: Introduction to English Historical Linguistics**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem Basismodul "Linguistics, Literature and Culture" (Pflichtmodul) durch eine zusätzliche Einführungsveranstaltung in dem im Pflichtmodul nicht gewählten sprachwissenschaftlichen Teilbereich. Studierende erwerben schwerpunktmäßig grundlegende Methoden- und Lernkompetenzen in zentralen Bereichen der historischen Sprachwissenschaft (Strukturieren von Informationen, Herstellen grundlegender Vernetzungen, Aufbau von Analogien). Sie erwerben zudem grundlegende Fachkompetenzen (Erlernen und zielgerichtete Anwendung von zentralen Arbeitsabläufen, begründete Auswahl von Lösungsstrategien für typische Probleme in sprachwissenschaftlichen Fragestellungen). Zentrale Inhalte: Einführung in die grundlegende Terminologie, in Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner sprachwissenschaftlichen Ausrichtung (repräsentative Erscheinungen in Phonologie, Morphologie, Syntax, Semantik und Lexikologie in deskriptiver und historischer Betrachtung; Methodik des Sprachvergleichs) und Einblick in die mittelalterliche englische Literatur und Kultur. Einübung von Techniken des wissenschaftlichen Arbeitens; Kritikfähigkeit im Umgang mit sprachwissenschaftlicher Literatur. Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus.	Attendance time: 28 h Self-study time: 62 h

Course: Einführungs-Proseminar "Einführung in die historische Sprachwissenschaft"	2 WLH

Examination: Written examination (90 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: Grundlagen der Sprachwissenschaft; Grundbegriffe und Grundlagentechniken der Sprachwissenschaft	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 5

Maximum number of students: 15	

Georg-August-Universität Göttingen **Module B.EP.T2Ling: Additional Module: Aspects of English Linguistics**	4 C 2 WLH

Learning outcome, core skills: • Erweiterung und Vertiefung der grundlegenden Kenntnisse und Techniken im Bereich der Sprachwissenschaft durch eine zusätzliche Lehrveranstaltung in dem für das Wahlmodul nicht gewählten sprachwissenschaftlichen Teilbereich oder in einem noch nicht abgedeckten Bereich innerhalb des Wahlmoduls. • Erweiterung und Vertiefung der Kompetenz in der Anwendung der Methoden der modernen (synchronen) Sprachwissenschaft bei der Analyse sprachlicher Daten. • Erweiterung und Vertiefung der empirischen und theoretischen Erfassung sprachlicher Phänomene.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur englischen Linguistik *Contents*: z.B. zur englischen Phonologie, Morphologie, Morphosyntax, einer syntaktischen Theorie, zur Dialektologie des Englischen	2 WLH
Examination: Klausur (90 Min.) oder klausurähnliche Hausarbeit (max. 2000 Wörter) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Abhängig von der Themenstellung der gewählten LV weisen die Studierenden nach, dass sie: - ein sprachliches Phänomen vertieft analysieren und auf der Grundlage grammatischer Theorien und Modelle erklären können; - auf der mit empirischen Methoden gewonnen Daten zur Sprachverwendung Einsicht in die Struktur der Sprache gewinnen können; - Methoden der syntaktischen Analyse sicher beherrschen, dass sie die zentralen Konstruktionen des Englischen im Rahmen einer syntaktischen Theorie und nach Vorgabe der Lehrveranstaltung analysieren können, und dass sie alternative Analysen bewerten können.	4 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Regine Eckardt
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 5
Maximum number of students: not limited	

Additional notes and regulations:

Dieses Modul dient dazu, interessierten Studierenden den Besuch eines Zweigs der englischen Linguistik zu ermöglichen, der nicht durch das Kerncurriculum abgedeckt wird (z.B. einer LV zur phonologischen Sprachstruktur, wenn in das Modul B.EP.42 eine LV zur Morphologie eingebracht wurde).

Georg-August-Universität Göttingen	4 C
Module B.EP.T31: Additional Module: American Cultural History	2 WLH

Learning outcome, core skills:	**Workload:**
Die Studierenden	Attendance time: 28 h
- vertiefen grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte).	Self-study time: 92 h
- vertiefen Methodenkompetenzen in der Analyse und Bewertung einzelner Texte.	
- erwerben grundlegende Fachkompetenzen im Umgang mit kulturhistorischen Texten sowie Methoden-, Lern- und interkulturelle Kompetenzen im Vergleich verschiedener literaturhistorischer sowie kulturhistorischer Zusammenhänge.	
- erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch extensives Studium von beispielhaften nicht-literarischen Texten der amerikanischen Kulturgeschichte.	
- wenden die Methoden systematisch-formaler Textanalyse unter besonderer Berücksichtigung der Anforderungen verschiedener Textgattungen an.	
- vergleichen und verknüpfen die Techniken literaturwissenschaftlicher und kulturwissenschaftlicher Forschung.	

Course: Cultural History and Rhetoric	2 WLH
Examination: Take Home Exam (max. 3500 words) **Examination prerequisites:** s. Bemerkungsfeld extern **Examination requirements:** Grundkenntnisse zur amerikanischen Kulturgeschichte (grundlegende Daten und historische Ereignisse, Entwicklungslinien); Grundkenntnisse in der Methodik kulturhistorischer Recherche; Grundkenntnisse in der Analyse literarischer und nicht-literarischer Quellen und der Beurteilung von Sekundärliteratur	4 C

Admission requirements: none	**Recommended previous knowledge:** B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 35	

Additional notes and regulations:

Dieses Modul richtet sich zum einen an Studierende, die das Modul B.EP.31 bereits abgeschlossen haben und einen weiteren, daran anschließenden Kurs zur amerikanischen Kulturgeschichte belegen möchten, zum anderen an Studierende, die einen entsprechenden Kurs zur Verbreiterung ihres Wissens zur anglophonen Literatur- und Kulturwissenschaft nutzen wollen. Soll das Modul ergänzend zu Modul B.EP.31 belegt werden, ist eine andere thematische Ausrichtung zu wählen.

Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Präsentation (in Form von Expertengruppen bzw. Moderationsteams, ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter)

Georg-August-Universität Göttingen **Module B.EP.T3Ang: Additional Module: Anglophone Literature and Culture**	4 C 2 WLH

Learning outcome, core skills:	Workload:
Kompetenzen: Verbreiterung der grundlegenden literaturwissenschaftlichen Kenntnisse und Kompetenzen durch eine zusätzliche Lehrveranstaltung aus dem Angebot der Abt. für Anglistische Literatur- und Kulturwissenschaft. Studierende erwerben grundlegende Methodenkompetenzen im Umgang mit theoretischen Texten aus der Literaturwissenschaft. Sie vertiefen ihre Analysekompetenz durch den Vergleich von Herangehensweisen an verschiedene Textarten. Sie vertiefen darüber hinaus grundlegende Fachkompetenzen im Umgang mit Texten sowie literaturwissenschaftlichen Zusammenhängen. Zentrale Inhalte: Beispielhafte Einübung der Methodik historisch-hermeneutischen Textverständnisses. Beispielhafte Einübung der Methodik systematisch-formaler Textanalyse. Einführung in Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	Attendance time: 28 h Self-study time: 92 h

Course: **Lehrveranstaltung zur anglophonen Literatur- und Kulturgeschichte**	2 WLH
Examination: Term Paper (max. 4000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	4 C

Examination requirements: Sicherer Umgang mit dem gewählten Primärtext; Grundkenntnisse im Umgang mit Sekundärliteratur; Grundkenntnisse zu Aufbau und Stil wissenschaftlicher Arbeiten	

Admission requirements: none	Recommended previous knowledge: B.EP.01
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.EP.T7CW: Additional Module: Advanced English Language Skills (Creative Writing)**	3 C 2 WLH

Learning outcome, core skills: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit der Schwerpunktausrichtung auf schriftliche Sprachkompetenzen und kreatives Schreiben. Studierende erwerben schriftliche Kompetenzen durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Textanalyse, Sprachbeherrschung, Wortschatz, Texterstellung, ...	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Written Skills	2 WLH
Examination: Learning journal (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (kreatives Schreiben, Textabfassung, Wortschatz, Grammatik)	

Admission requirements: B.EP.03a	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre schriftliche Sprachkompetenz im Englischen zusätzlich verbessern möchten. Die Lehrveranstaltung "Preparation for TOEFL.iTP" kann in dieses Modul nicht eingebracht werden.

Georg-August-Universität Göttingen **Module B.EP.T7Eras: Comprehensive Language, Culture and Institutions Module for Students from Abroad**	6 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluß sind Studierende in der Lage, zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im englischsprachigen Raum zu benennen und zu beschreiben, auf ihre kulturellen Unterschiede zum Heimatland hin zu untersuchen und zu interpretieren; Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch korrekt, stilistisch angemessen und landeskundlich lompetent zu meistern. Sie haben darüber hinaus ihre grammatischen Kompetenzen und ihre translatorischen Fertigkeiten Deutsch-Englisch im Hinblick auf landeskundliche Themen und Alltagssituationen vertieft.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Comprehensive Language / Culture and Institutions Course for ERASMUS Students	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Präsentation (20 Min) oder Portfolio (2000 Wö)	6 C

Examination requirements: - Die Studierenden sind mit den landeskundlichen Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen. - Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular und eine Übersetzungskompetenz erworben, die sie in die Lage versetzen, landeskundliche Texte zu verstehen, angemessen vom Deutschen ins Englische zu übersetzen und kritisch zu diskutieren.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Dieses Modul richtet sich an alle Studierenden, die über das Erasmus-Programm bzw. über ein anderes Austauschprogramm nach Göttingen kommen und ihre sprachpraktischen und landeskundlichen Kompetenzen im Hinblick auf den englischsprachigen Bereich vertiefen wollen.

Georg-August-Universität Göttingen **Module B.EP.T7ErasELP: Additional Module: English Language Practice**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grammatikalische, phonetische/phonologische Eigenheiten des Englischen zu erkennen und diese Erkenntnisse regelgeleitet und kontextsensitiv auf neue Situationen zu transferieren; • Grundlagen des akademischen Schreibens zu verstehen und bei der Erstellung von Texten anzuwenden Nach Rücksprache mit dem ERASMUS-Beauftragten müssen ZWEI der folgenden Lehrveranstaltungen besucht werden.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Comprehensive Language Course Grammar *Contents*: Kernbereiche praktischer englischer Grammatik (z.B. Technical Terminology, Tense/ Aspect, Determiners, Prepositions, Collocations)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Academic Writing *Contents*: Grundlegende Methoden und Techniken des effektiven wissenschaftlichen Schreibens (z.B. Aspects of Linguistic Accuracy, Register, Style)	1 WLH
Examination: Learning journal (max. 2000 words), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Oral Practice and Pronunciation	2 WLH
Examination: Oral examination (approx. 30 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Introduction to British or American Phonetics	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Listening/Reading Comprehension (LRC)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: (Abhängig von den gewählten Kursen) Die Studierenden: • sind mit den grammatikalischen Kerneigenschaften des Englischen vertraut und können ihr Wissen auf neue Situationen anwenden • sind mit den wesentlichen Aspekten und Anforderungen schriftlicher Arbeiten im universitären Kontext vertraut, insbesondere mit den Anforderungen des Seminars für Englische Philologie • kennen phonetische Unterschiede zwischen Ausgangs- und Zielsprache und können diese Kenntnisse und Fertigkeiten aktiv anwenden und in eine korrekte Aussprache umsetzen • können erlernte Techniken einsetzen, um unbekannte schriftliche und mündliche Texte zu verstehen	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Pfändner, Johannes
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5

Additional notes and regulations:

Dieses Modul richtet sich an Erasmusstudierende, die ihre Sprachkompetenz im Englischen verbessern möchten. Alle in diesem Modul angebotenen Kurse sind Teil des Kerncurriculums des Bachelorstudiengangs. Ist die Nachfrage nach Plätzen höher als das Angebot, werden Bachelorstudierende bevorzugt behandelt.

Nach Rücksprache mit dem ERASMUS-Beauftragten müssen ZWEI der folgenden Lehrveranstaltungen besucht werden.

Georg-August-Universität Göttingen **Module B.EP.T7ErasOral: Additional Module: Advanced English Language Skills (Oral/Listening Competences)**	3 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit einer Schwerpunktausrichtung auf mündliche und Hörverstehenskompetenzen Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz u.a.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Oral Skills	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Übung: Vocabulary Training	2 WLH
Examination: Learning journalbesteht aus vier angebotenen "quizzes" **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Hörverstehen, Leseverstehen, Wortschatz, …)	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Pfändner, Johannes
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre mündliche Sprachkompetenz im Englischen zusätzlich verbessern möchten.

Georg-August-Universität Göttingen **Module B.EP.T7LK: Additional Module: Aspects of British, Irish or American Culture and Institutions**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem sprachpraktischen Vertiefungsmodul durch eine zusätzliche Übung mit einem landeskundlichem Schwerpunkt aus dem nicht gewählten Teilbereich. Studierende erwerben grundlegende Fachkompetenzen zum Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Sie erwerben Mittlerkompetenzen im Hinblick auf kulturelle, gesellschaftliche und politische Grundlagen auch für spätere nicht-schulische Tätigkeiten. Das Modul vermittelt dabei soziokulturelles Orientierungswissen. Zentrale Inhalte: Grundlegende Kenntnisse zu Geschichte, Kultur und Gesellschaft der wichtigsten Zielsprachenländer. Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Vermittlung von kulturellen, gesellschaftlichen und politischen Grundlagenkenntnissen	Attendance time: 28 h Self-study time: 62 h

Course: Übung zu britischen Culture and Institutions, Übung zu irischen Culture and Institutions oder Übung zu amerikanischen Culture and Institutions (Exercise)	2 WLH
Examination: Präsentation (ca. 30 Min.) mit schriftlicher Ausarbeitung (max. 1800 Wörter), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: Grundkenntnisse zu Geschichte, Gesellschaft und Aufbau des behandelten fremdsprachlichen Staats; grundlegendes Verständnis von Stellung und Rezeption in der Gesellschaft	

Admission requirements: B.EP.03	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.EP.T7Oral: Additional Module: Advanced English Language Skills (Oral/Listening Competences)**	3 C 2 WLH

Learning outcome, core skills:	Workload:
Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit einer Schwerpunktausrichtung auf mündliche und Hörverstehenskompetenzen. Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz u.a.	Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Oral Skills	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Hörverstehen,Leseverstehen, Wortschatz, ...)	

Admission requirements: B.EP.02, B.EP.03b	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre mündliche Sprachkompetenz im Englischen zusätzlich verbessern möchten.

Georg-August-Universität Göttingen **Module B.EP.T7TOEFL: TOEFL: Test of English as a Foreign Language**	3 C 1 WLH

Learning outcome, core skills: Kompetenzen: sicherer Umgang mit Bereichen der englischen Grammatik, des Lese- und Hörverstehens Zentrale Inhalte: grundlegende grammatische Phänomene (tense/aspect, Zeitenfolge, Interpunktion, Relativsätze u.ä.), Schulung des Hörverstehens; Erarbeitung von Leseverständnis-Strategien	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Preparation for TOEFL.ITP	1 WLH

Examination: TOEFL.ITP-Test (120 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: grundlegende grammatische Phänomene (tense/aspect, Zeitenfolge, Interpunktion, Relativsätze u.ä.), grundlegende Hörverstehenskompetenz; grundlegendes Leseverständnis bei verschiedenen Textgattungen und -inhalten	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 40	

Additional notes and regulations: Studierende, die dieses Modul zum Nachweis ausreichender Englischkenntnisse gem. der Ordnung über die Zugangsvoraussetzungen für die Studienfächer Englisch, English: Language, Literatures and Cultures und für das Studienfach North American Studies (alle Studiengänge) nutzen wollen, benötigen zum Bestehen mind. 87 von 120 (543 von 677) Punkten; das Modul wird in diesem Fall extracurricular absolviert und geht nicht in das Ergebnis der Bachelorprüfung ein. Studierende, die dieses Modul zur Erhöhung ihrer sprachlichen Kompetenzen nutzen möchten, müssen zum Bestehen mind. 92 von 120 (550 von 600) Punkten erreichen und weisen damit ein erhöhtes Kompetenzniveau nach.

Georg-August-Universität Göttingen **Module B.EP.T7Written: Additional Module: Advanced English Language Skills (Written English)**	3 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit der Schwerpunktausrichtung auf schriftliche Sprachkompetenzen Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz, Texterstellung, ...	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Written Skills	2 WLH

Examination: Klausur (90 Min.) oder Portfolio (max. 2500 Wörter) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Textabfassung, Wortschatz, Grammatik, Übersetzung, …)	

Admission requirements: B.EP.02, B.EP.03a	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Fatima Baig
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre schriftliche Sprachkompetenz im Englischen zusätzlich verbessern möchten. Die Lehrveranstaltung "Preparation for TOEFL.iTP" kann in dieses Modul nicht eingebracht werden.

Georg-August-Universität Göttingen **Module B.EP.T8: Additional Module: Paradigmatic Studies in Literature and Culture**	3 C 1 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • spezifische kanonische Texte nach ihrer Bedeutung einzuordnen; • verschiedene Epochen in ihren Eigenarten untereinander abzugrenzen; • die epochenübergreifende Relevanz literarhistorischer Entwicklungen abzuschätzen; • zentrale Elemente von Kerntexten schnell aufzufassen und mit anderen Kerntexten zu vergleichen.	**Workload:** Attendance time: 14 h Self-study time: 76 h

Course: Blockseminar, begleitend zu einer entsprechend ausgewiesenen Lehrveranstaltung	1 WLH

Examination: Portfolio (max. 10 Seiten) (unbenotet) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Das Portfolio dient zur Dokumentierung der Lektüre sowie zur Reflexion von paradigmatischen Analyseergebnissen.	3 C

Examination requirements: Die Studierenden weisen nach, • daß sie ausgewählte Kerntexte in ihren zentralen Elementen inhaltlich und strukturell erfaßt haben; • daß sie Texte auf das Vorhandensein und die Bedeutung spezifischer Elemente (z.B. Themen, Figurenkonstellationen, gesellschaftliche Entwicklungen) analyseiren können; • daß sie die Analyseergebnisse kritisch vergleichen können; • daß sie auf dieser Basis begründete Aussagen zur Qualität und epochenspezifischen Bedeutung literarischer Texte treffen können	

Admission requirements: Studierende sollten mindestens eines der Aufbaumodule in der Abteilung für Anglistische Literatur- und Kulturwissenschaft erfolgreich abgeschlossen haben (Module B.EP.201, B.EP.202, B.EP.203).	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	3 - 5
Maximum number of students: 15	

| Georg-August-Universität Göttingen | 6 C |
| Module B.ES-SK.105: Data analysis and statistics | 4 WLH |

Learning outcome, core skills:	Workload:
The students will be trained	Attendance time:
	56 h
• to solve problems arising during the handling of scientific data and its analysis	Self-study time:
• how to avoid common pitfalls already during the design of a study	124 h
• in various statistical approaches useful for the analysis of different types of data	
The students will acquire knowledge in the fields of:	
• data types, attributes, scales and definitions	
• descriptive, exploratory and confirmatory statistics	
• statistical analysis and tests of hypotheses	

Course: Data analysis basics (Lecture)	2 WLH
Contents:	
The module will provide the students with a basic understanding of descriptive, exploratory and confirmatory statistics to enable them to understand statistical details in scientific publications, apply statistical methods to their own data and to interpret results from statistical analyses. Furthermore, it will briefly discuss the concepts of statistical predictions and model choice. In addition to the methodological concepts, the lecture will also comprise an introduction to the R language for statistical computing or similar software.	

Course: Applied statistics in ecosystem science (Practical course)	2 WLH
Contents:	
In this applied part the students are confronted with real world examples and have to understand, apply and interpret statistical methodology that finds the encountered problem. Examples are provided by various research groups of the faculty.	

Examination: Term Paper (10 minutes)	6 C
Examination requirements:	
The students demonstrate their ability to understand, apply and interpret statistical methodology in a statistical analysis. In the exercises, they will solve applied problems while for the term paper they will independently conduct their own statistical analysis and document the corresponding results.	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. rer. nat. Dominik Seidel
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	1
Maximum number of students:	

40	

Georg-August-Universität Göttingen **Module B.ES-SK.110: Computer science and mathematics**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Understanding of basic notions and methods of mathematics and computer science, including notations from logic and set theory, relations, graphs, functions, vectors, linear transformations, matrices, eigenvalues, limits, derivatives, extreme values, integration, calculation of areas and volumes, number systems, representation of information, databases, the World Wide Web, foundations of programming, simulation, visualization.	Attendance time: 56 h Self-study time: 124 h

Course: Computer science and mathematics (Lecture) *Contents*: Lecture and Exercise	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Understanding of basic notions and methods of mathematics and computer science as listed above, ability to solve small tasks using these notions and methods.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Kurth
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.101: Forest botany and tree physiology**	6 C 4 WLH

Learning outcome, core skills: This module provides an overview of functional anatomy and physiology of woody plants. The lectures include the introduction to the molecular construction and physiological functions of the cell, the importance of storage substances, the structure of the root as the major organ of water and nutrient uptake, the stem with emphasis on the transport system, the anatomy of leaves with particularities of adaptation to different habitats, as well as the structure and function of the phloem and of terminal tissues. In the exercises, the content of the lectures will be applied to practical examples. The students will be trained in modern microscopic and histochemical techniques. The students learn to describe their observations objectively.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest botany and tree physiology (Lecture)	2 WLH
Course: Exercises in forest botany (Exercise)	2 WLH

Examination: Written examination (120 minutes) **Examination requirements:** Students demonstrate that they have acquired knowledge of the functional anatomy of the plant body and important biological processes in trees and can reproduce this knowledge.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in biology
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 1
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.103: Ecological genetics**	6 C 4 WLH

Learning outcome, core skills: Understanding of the importance of intraspecific (genetic) variation for ecosystem processes and functions, in particular • knowledge of modern methods to assess genetic diversity in diverse groups of organisms • understanding of the role of the evolutionary factors to shape genetic diversity with emphasis on selection • understanding of evolutionary processes including adaptation under natural conditions and in managed ecosystems • understanding of the impact of global change on genetic resources	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Ecological genetics (Lecture)	2 WLH
Course: Assessment of genetic variation (Practical course) *Contents*: Laboratory course, Workshops	2 WLH
Examination: Oral examination (approx. 20 minutes) **Examination requirements:** Use of modern methods to assess genetic variation in diverse groups of organisms, evolutionary factors and how they shape genetic diversity, the role of adaptation under natural or managed conditions, impact of global change	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Gailing
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 1
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.104: Chemistry/ Physics**	6 C 4 WLH

Learning outcome, core skills: Knowledge of the chemical and physical basics and measurement methods for studying and understanding ecosytems processes.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Chemistry/Physics	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Basic understanding for fundamental chemical and physical concepts, ability to use basic chemical and physical equaations in calculations.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Jens Dyckmans
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 1
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.106: Microbiology and molecular biology**	6 C 4 WLH

Learning outcome, core skills: Students will be introduced to molecular, biochemical and physiological aspects in microbiology and molecular biology that are important to Ecosystem Sciences. The acquired knowledge allows the students to address questions and problems in Ecology and Systems Biology on molecular levels and understand the background of modern molecular methods that can be applied to solve such topics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Microbiology and biotechnology (Lecture) *Contents*: Microbial organisms in structure, growth, physiology and function, their diversity and roles in ecosystems, diseases and environmental applications are presented	2 WLH
Course: Molecular biology (Lecture) *Contents*: Prokaryotic and eukaryotic genomes and gene structures, encoded function and regulation on all levels, proteins and enzymes, molecular techniques and applications, transgenes are presented.	2 WLH
Examination: Oral examination (approx. 20 minutes) **Examination requirements:** Basic knowledge on genetics, cytology, physiology, and ecology of microorganisms (especially bacteria and fungi), applications of microorganism in biotechnology generally and with specific focus on ecological tasks, structure and functions of DNA, RNA, proteins and exemplified metabolites, basic concepts and techniques in molecular biology, recombinant DNA technology, DNA transfer techniques, handling of GMOs.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ursula Kües
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.107: Plant diversity**	6 C 4 WLH

Learning outcome, core skills: Students acquire basic knowledge of plant morphology and plant systematics, are able to identify plants with confidence in the field and the lab, and know a basic set of native woody and herbaceous plant species.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Plant Diversity (Lecture) *Contents*: Lecture and practical	4 WLH
Examination: Written exam (60 min.; 60%) and Herbarium (max. 100 pages; 40%) **Examination requirements:** Herbarium: Includes 100 species, specimens correctly mounted and identified, with description of important morphological character. Written exam: The topics covered in the lecture and in the exercises (morphological description of the species, systematic groups, family characteristics, flower, seed and fruit structure, vegetative characteristics, etc.) will be examined	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Holger Kreft
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.108: Plant and animal ecology**	6 C 4 WLH

Learning outcome, core skills: Students are familiar with basic aut-, population- and synecological concepts in plant and animal ecology from the level of the individuals to entire communities. They have acquired knowledge on succession of plant communities after disturbance, the role of plants in carbon, water and nutrient cycling and on key plant interactions. Students know the animal tree of life and understand the functional differentiation among animal taxa. Students are familiar with the functional roles of animals in multitrophic communities as well as with the underlying environmental factors, population-based processes and biotic interactions that structure these communities. Students are able to apply ecological field methods and to perform basic analyses of diversity, ecological functions and community structure.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Plant ecology (Lecture)	2 WLH
Course: Animal ecology (Lecture) *Contents*: Lecture and exercises	2 WLH

Examination: Written examination (90 minutes) **Examination requirements:** • Understanding concepts and methods in plant and animal aut-, population-, and synecology • Knowledge of role of plants in carbon, water and nutrient cycling and interactions • Knowledge of major animal taxa, their biodiversity and their functional role in ecosystems	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Andreas Schuldt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.109: Terrestrial biogeochemistry**	6 C 4 WLH

Learning outcome, core skills: • Understanding the role of the pedosphere as the interface of biosphere, lithosphere, hydrosphere, and atmosphere on these major element cycles • Advancing knowledge on the major biogeochemical processes of C, N and P cycles • Understanding the anthropogenic changes on these biogeochemical cycles and the mitigation practices • Learning how to assess anthropogenic influences by comparative biogeochemistry of natural and managed ecosystems • Understanding the principles and calculations of indices of soil fertility and nutrient cycling rates	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Terrestrial biogeochemistry *Contents*: Lecture, Calculation exercises	4 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** Submission of calculation exercises (max. 5 pages) **Examination requirements:** Participation in all calculation exercises, and interactive discussions on interpretation of measured properties and processes. Examination: C, N and P cycles of terrestrial ecosystems, tools for quantifying biogeochemical cycling, soil biochemical reactions, calculations of process rates and turnover time; and scientific writing of a topic within terrestrial biogeochemistry.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Marife Corre
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.111: Forest pathology**	6 C 4 WLH

Learning outcome, core skills: Recognition of forest damages and choosing the right control method are the basic skills of a forester. This course provides the student with an understanding of the most important bacterial and fungal diseases and how they are controlled in forest ecosystem. The student will know the most important abiotic environmental factors affecting forest systems, recognize the most important fungal diseases and understands their impact to forest trees, as well as understands the epidemiology of these diseases. The student also understands other than pathogenic interactions between microbes and forest trees.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest pathology (Lecture) *Contents*: Students are introduced into pathogenic bacteria and fungi, obligate and opportunistic organisms, changes in lifestyles, effects on hosts, effects of diseases onto the forest ecosystem, classical and modern approaches to defeat, how to approach novel diseases and develop possible measures for protection.	2 WLH
Course: Exercises in forest pathology (Lecture) *Contents*: Students will learn in excursions into nature the diversity of disease symptoms on leaves, bark, stems, roots, wood, shall collect material of interest for own analysis in the lab (microscopy, isolation, definition of disease) and report to the other students their findings. Short lectures combined with practical experiences in nature and within the laboratory.	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of the most important abiotic environmental factors affecting forest Systems; recognition of the most important fungal and possibly bacterial diseases; control methods; understanding how different damages affect individual tree and at the forest level, the epidemiology of different diseases, interactions with other calamities and between microbes other than pathogenic, and forest trees.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ursula Kües
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.113: Ecosystem management and conservation**	6 C 4 WLH

Learning outcome, core skills: The course imparts knowledge about the sustainable management of forest ecosystems and about nature conservation. Based on some fundamentals of forest ecology such as the impact of competitive interactions between trees, options of stand management are presented. Mixed stands and their management are of special importance. The course will provide information on how to analyze forest stands and how to derive appropriate silvicultural treatments in order to achieve the goals set by a given forest owner. The nature conservation part will introduce priority goals of conservation biology, the major threats to natural ecosystems and how they can be managed. The use of molecular methods is commonplace in conservation at various levels of biological organization from genes to ecosystems. Students will examine the results of molecular approaches in biodiversity conservation based on selected projects and recent literature. Students will be able to critically evaluate benefits and limitations of molecular studies in a conservation context. Examples will be taken from different geographic and climatic regions.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest ecosystem management (Lecture)	2 WLH
Course: Conservation of biodiversity based on molecular tools (Lecture) *Contents*: Lecture and practical exercises	2 WLH
Examination: Written examination (120 minutes) **Examination requirements:** Competition in plant communities, plant – environment interactions, mixed stands, principles of stand management, silvicultural systems, human land-use, climate change, biodiversity, ecosystem functioning. Effective comprehension of scientific literature with regard to conservation of biodiversity, different methods used for conservation of biodiversity and their specific applications, critical evaluation of molecular studies in a conservation context.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Gailing
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 40	

Georg-August-Universität Göttingen	6 C
Module B.ES.114: Ecological climatology	4 WLH

Learning outcome, core skills:	**Workload:**
In this course students will gain insights in the main atmospheric characteristics and how they influence ecosystem processes and fluxes between ecosystem compounds (e.g. air, plants, soil). They will also learn how ecosystems feed back to the atmosphere at local and global scale. This will form the basis for understanding the impact of climate change on ecosystem functions and services. The lecture course will give an overview on atmospheric variables such as radiation, humidity, temperature, and wind and their interactions with terrestrial ecosystems. In the seminar/exercise class, the understanding will be deepened by quantitative exercises. The students will be trained in quantitative and qualitative scientific methods to describe climate-dependent physical, chemical and biological processes in terrestrial ecosystems enabling them to understand and evaluate the current discussion on climate change and its impact on terrestrial ecosystems.	Attendance time: 56 h Self-study time: 124 h

Course: Ecological climatology (Lecture)	4 WLH
Contents: Lecture, Seminar and Exercise	

Examination: Oral examination (approx. 20) **Examination requirements:** Qualitative and quantitative description of radiation, humidity, temperature, wind, their interactions with terrestrial ecosystems, carbon and water cycle, atmospheric chemistry, climate change, climate modelling.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Alexander Knohl
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.115: Ecological modelling**	6 C 4 WLH

Learning outcome, core skills: Comprehensive knowledge of ecological models, theories and concepts. Development of interdisciplinary analytical thinking. Critical analysis and evaluation of the chances and limitations of different modelling approaches.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Ecological modelling (Lecture) *Contents*: Theoretical foundations and classical and modern models of terrestrial ecology. Application and analysis of classical and modern ecological models and concepts. Lecture and tutorial.	4 WLH
Examination: Oral Presentation (approx. 10 minutes) **Examination prerequisites:** Written examination (30 minutes); ungraded **Examination requirements:** Comprehensive knowledge of ecological models, theories and concepts. Interdisciplinary analytical thinking skills. Ability to critically analyze and evaluate the chances and limitations of different modelling approaches.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Katrin Mareike Meyer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.116: Chemical and microbiological methods**	6 C 4 WLH

Learning outcome, core skills: In order to understand the biotic and abiotic interactions, roles and the growth of living organisms in the ecosystem, their various physical/chemical structures will be examined with various analytical methods in lab. Various analytical methods for the understanding will be used, e.g. the formation of compounds within the tree trunk, the biosynthesis of extractives, isolation of microorganisms and of DNA, protein techniques, microscopy, and so on. Objective of the course: The purpose of the course is to learn and get hand-on experience with analytical methods and handling of biological material in details.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Chemical and mechanical analysis (Practical course) *Contents*: Introduction to various analytical methods, e.g. gravimetric, spectroscopic, thermal and mechanical, and other analytical methods for practical experiment on selected relevant samples.	2 WLH
Course: Microbiological and molecular methods (Practical course) *Contents*: Introduction to microbial isolation and cultivation techniques, DNA isolation, PCR, protein tests, gel-electrophoresis, microscopy on selected relevant samples.	2 WLH
Examination: Protocol (max. 20 pages; 50%) and term paper (max. 20 pages; 50%) **Examination requirements:** Principles of diverse analytical methods, hand-on application	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. rer. nat. Kai Zhang
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.117: Physiological and genetic methods**	6 C 4 WLH

Learning outcome, core skills: Genetic methods: Students will learn to investigate the dynamics of intraspecific diversity in different types of ecosystems. This involves field sampling of important plants, DNA extraction from different tissues, laboratory analyses with various types of molecular markers, data analyses and interpretation. Students will learn practical steps to assess genetic diversity, and will be able to evaluate the use of DNA-based methods for applications in breeding, conservation, and ecosystem management. Physiological methods: Students will learn how to determine the physiological aspects of nutrient allocation and wood formation of different tree species using quantitative methods to evaluate metabolites and enzyme activities. This involves handling and preparation of samples, calibration and use of standards, performance and documentation of biochemical assays, assessment of results and teamwork to resolve experimental problems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: DNA based methods to study biodiversity (Practical course) *Contents*: Workshops, laboratory exercise	2 WLH
Course: Quantitative methods to study tree physiology (Practical course) *Contents*: Workshops, laboratory exercise	2 WLH
Examination: Minutes / Lab report (max. 15 pages) **Examination requirements:** DNA markers and techniques, estimation of intraspecific diversity in different types of ecosystems, methods used for experimental sampling, DNA extraction from different tissues, quantitative photometry, biochemical assays, laboratory techniques, data analyses and interpretation and application of results.	6 C

Admission requirements: none	**Recommended previous knowledge:** Forest Botany and Tree Physiology; Ecosystem management and Conservation; Ecological Genetics
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students:	

40	

Georg-August-Universität Göttingen **Module B.ES.119: Field methods in forest ecology, silviculture and vegetation science**	6 C 4 WLH

Learning outcome, core skills:	Workload:
• Understanding the design of field trials in forest ecology, silviculture and vegetation science • Understanding how to investigate links between vegetation, site conditions and management • Learning how to measure, analyze and interpret basic forest structural attributes • Learning how to conduct, analyze and interpret vegetation relevés • From this field practical, students will learn how to design field studies, collect relevant data, analyze it statistically and report on it in a scientific report	Attendance time: 56 h Self-study time: 124 h

Course: Field methods in forest ecology, silviculture (Exercise) *Contents*: Exercises and lectures	2 WLH

Course: Field methods in vegetation science (Exercise) *Contents*: Exercises and lectures	2 WLH

Examination: Term Paper (max. 15 pages) **Examination requirements:** Knowledge about the design and implementation of a field study and the statistical analysis, interpretation, and discussion of data. The term paper follows the structure of a scientific report.	6 C

Admission requirements: none	Recommended previous knowledge: Plant Diversity Plant & Animal Ecology Ecosystem Management & Conservation
Language: English	Person responsible for module: Prof. Dr. Holger Kreft
Course frequency: each summer semester	Duration: 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	Recommended semester: 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.120: Scientific writing**	6 C 4 WLH

Learning outcome, core skills: • Writing well-structured scientific texts • Using appropriate language for scientific texts • Knowing the production process of scientific papers including good scientific practice	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Scientific Writing (Course) *Contents*: • How to structure scientific texts into commonly used sections (Title, Abstract, Introduction, Methods, Results, Discussion, References, Acknowledgements) • How to improve readability via structure at the sentence and paragraph levels as well as effective wording • How to report results in text, tables and figures • How to write scientific texts in practice: General advice and best practice examples for writing scientific texts, which will be directly applied to developing and improving the texts of the participants • Scientific writing as a collaborative and iterative process: Giving and receiving feedback, proof reading and editing • Addressing language issues in own scientific writing • How to efficiently read scientific texts and assess the quality of scientific outlets • When, what and how to cite in scientific texts • How to write research proposals • How to design scientific posters • Good scientific practice: Dos and Don'ts in scientific cooperation, publication and peer review This module should be done in parallel to or after the modules of the fourth semester.	4 WLH
Examination: Presentation (approx. 5 minutes) with written outline (max. 1 page) **Examination prerequisites:** Term paper (max. 15 pages); ungraded **Examination requirements:** Demonstration of the ability to structure and write clear scientific texts in the English language. Examination: Presentation (approx. 5 minutes) with handout in form of a scientific poster (1 page). Examination prerequisites: will be a written term paper in the form of a research proposal (max. 15 pages) completed in class and outside class.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kerstin Wiegand

Course frequency:	Duration:
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	4
Maximum number of students:	
40	

Georg-August-Universität Göttingen **Module B.ES.122: Global change**	6 C 4 WLH

Learning outcome, core skills: At the end of this course the students are expected to • have insight in the major components of the earth system and how they are connected, • understand how environmental processes and biogeochemical cycles are regulated by biosphere-hydrosphere-atmosphere feedbacks and how they are affected by global change through natural and anthropogenic processes, • be able to understand and evaluate simple biogeochmical models.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Global change (Lecture) *Contents*: Lecture, Modelling exercises, Seminar	4 WLH
Examination: Presentation (approx. 15 minutes; 50%) with written outline (max. 8 pages; 50%) **Examination requirements:** Knowledge about major global biogeochemical cycles, their components, fluxes and their interconnection; calculation/modelling exercises, statistical analysis, interactive discussions on interpretation of global biogeochemical cycles, being able to demonstrate scientific presentation and writing.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Edzo Veldkamp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 6
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.701: Resource assessment in ecosystems**	6 C 4 WLH
Learning outcome, core skills: **The students will be trained** • to identify different types of resources in terrestrial ecosystems and forests in particular, • how to assess those resources (abundance, quality, etc.), • and how to design and conduct a scientifically sound study that aims at assessing an exemplary resource. **The students will acquire knowledge in the fields of:** • ecosystem assessment, resource identification • sampling approaches and measurement techniques • statistical analysis and scientific reporting of results • systemic approaches to ecosystems, incl. cybernetics and thermodynamics in biology	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Resource assessment in ecosystems (Lecture) *Contents*: The lecture will introduce various types of resources and present differences in their provision by different terrestrial ecosystems. Examples from several spatial scales will be used to create an understanding of possible challenges and scientific methods during resource assessment. Sampling techniques and instruments will be presented, quality and consistency of datasets will be addressed and statistical analysis techniques we be introduced. Basic principles of scientific reporting will be presented based on the datasets obtained from the laboratory course. System theory, cybernetics and holistic ecosystem approaches and thermodynamics in ecosystems will be introduced.	2 WLH
Course: Resource assessment in ecosystems (Practical course) *Contents*: During the lab course the students will plan, conduct and evaluate the assessment of exemplary resources. They will learn how to perform a scientifically sound study, beginning at an initial idea and ending with the evaluation of the results. During this process the students will learn to design a study under consideration of its feasibility, potential outcome, financial and technical restrictions, legal issues, statistical limitations, as well as ethics and practical knowledge when it comes to publishing the results.	2 WLH
Examination: Written examination (120 minutes) **Examination requirements:** Knowledge of resource types, definitions, basic statistics, sampling designs, data quality control, factors that need to be considered in study planning, basic principles of scientific reporting, basic knowledge in cybernetics, system theory, thermodynamics in ecosystems.	6 C

Admission requirements: none	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. rer. nat. Dominik Seidel
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	5
Maximum number of students:	
30	

Georg-August-Universität Göttingen **Module B.ES.702: Special topics in plant ecophysiological methods and applications**	6 C 4 WLH

Learning outcome, core skills: Students will get advanced knowledge of scientific methods and procedures. They will acquire practical skills by active participation in a research project conducted under supervision. The students can choose one among several projects. They learn to develop the research question by literature research and discussion with the supervisor. They decide on the appropriate methods (e.g. field analyses, sterile multiplication and cultivation of plants for controlled experiments, tissue culture, application of stresses, analyses of plant responses by various analytical tools). The students will learn to collect, arrange and analyze relevant scientific data. They will learn how to interpret and present these results.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Plant methods and ecophysiological applications (Practical course)	4 WLH
Examination: Term Paper (max. 20 pages) **Examination requirements:** Scientific hypotheses, experimental design, laboratory techniques, analysis, interpretation and scientific interpretation of research results	6 C

Admission requirements: none	**Recommended previous knowledge:** Successful completion of the course "Forest Botany and Tree Physiology"
Language: German, English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.ES.703: Intraspecific diversity of plants**	6 C 4 WLH
Learning outcome, core skills: Students will learn to investigate the dynamics of intraspecific diversity in different types of ecosystems. This involves field sampling of important plants, DNA extraction from different tissues, laboratory analyses with various types of molecular markers, data analyses and interpretation. Students will learn practical steps to assess genetic diversity, and will be able to evaluate the use of DNA-based methods for applications in breeding, conservation, and ecosystem management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: **Intraspecific diversity of plants** (Lecture)	1 WLH
Course: DNA based methods to study biodiversity (Practical course) *Contents*: Workshops, laboratory exercise	3 WLH
Examination: Term Paper (max. 20 pages) **Examination requirements:** DNA markers and techniques, estimation of intraspecific diversity in different types of ecosystems, methods used for experimental sampling, DNA extraction from different tissues, laboratory techniques, data analyses and interpretation and application of results.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Gailing
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.704: Research practicum**	6 C 4 WLH

Learning outcome, core skills: Students have a possibility to participate in a research work at an institution of their choice (also abroad) to learn new scientific methods and get additional experiences about variety of research topics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Research practicum (Practical course)	3 WLH
Course: Research practicum (Seminar)	1 WLH
Examination: Term Paper (max. 20 pages) **Examination requirements:** Laboratory methods, analysis, interpretation and scientific presentation of research results. In case of abroad practicum: a confirmation letter from the supervisor with a grade (if possible, in the German grade system)	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Gailing
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.ES.707: System science and knowledge transfer**	6 C 4 WLH

Learning outcome, core skills: In this module, students acquire the ability to analyse forestry issues using the systems approach and transfer the scientific results to policy and practice.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Systems Thinking and Systems Dynamics (Lecture) *Contents*: Lecture, Exercise by integrated case study. System thinking is analysing socio-ecological systems by looking for emergent behaviour from interacting components (holistic approach). Students become familiar with cause-effect relationships and feedback systems and conduct a case study.	2 WLH
Course: Management of research and knowledge transfer (Lecture) *Contents*: Lecture, Exercise by integrated case study. Multidisciplinary management techniques are shown for linking system modelling with different disciplines. In addition transdisciplinary management based on the RIU model approach is applied to transfer the scientific information into policy and practice. The integrated case study is linking both parts of the module.	2 WLH
Examination: Oral presentation (15 minutes, 50%) and term paper (max. 10 pages 50%) **Examination requirements:** Understanding the basic concepts of Systems Thinking, modelling dynamical systems using causal-loop-diagrams, application of the gained knowledge to a real world system. Basic knowledge in management of inter- and transdisciplinary research and in transfer of scientific information into practice.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Ronald Bialozyt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.101: Basic Skills: Linguistics, Literature and Culture**	6 C 4 WLH
Learning outcome, core skills: Nach erfolgreichem Abschluß des Moduls • verfügen Studierende über grundlegende Methoden der Literatur- und Kulturwissenschaft sowie der Sprachwissenschaft insbesondere im Hinblick auf die Strukturierung von Informationen und zum Aufbau von Analogien sowie zur Herstellung grundlegender Vernetzungen; • verfügen Studierende über zentrale literatur- und kulturwissenschaftliche sowie sprachwissenschaftliche Arbeitsabläufe; • kennen Studierende verschiedene Lösungsstrategien für literatur- und kulturwissenschaftliche sowie sprachwissenschaftliche Fragestellungen, können sie begründet auswählen und erfolgreich anwenden; • verfügen Studierende über grundlegende Kenntnisse im Bereich des wissenschaftlichen Arbeitens sowohl im Bereich der Literatur- und Kulturwissenschaft als auch in der Sprachwissenschaft.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Teilmodul 1: Grundlagen der Literatur- und Kulturwissenschaft (A) *Contents*: Einführungs-Proseminar "Introduction to the Study of British Literature and Culture" Einführung in die grundlegende Terminologie, in Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner literatur- und kulturwissenschaftlichen Ausrichtung (z.B. Gattungstheorien, Strukturmerkmale, Stilistik, Erzähltechnik, Literaturtheorie, Figurencharakterisierung). Einübung von Techniken des wissenschaftlichen Arbeitens (z.B. Aufbau und Abfassung von wissenschaftlichen Texten; Kritikfähigkeit gegenüber Texten). Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus. Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen Hinweis: Teilmodul 1 (A) ist zu wählen, wenn das Fach English: Language, Literatures and Cultures mit dem Fach North American Studies kombiniert wird. Vgl. auch oben den Hinweis zur Kombinierbarkeit von Fächern.	2 WLH
Course: Teilmodul 1: Grundlagen der Literatur- und Kulturwissenschaft (B) *Contents*: Einführungs-Proseminar "Introduction to the Study of American Literature and Culture" Einführung in die grundlegende Terminologie, in Konzepte und Methoden des Faches "English: Language, Literatures and Cultures/Englisch" in seiner literatur- und kulturwissenschaftlichen Ausrichtung (z.B. Gattungstheorien, Strukturmerkmale, Stilistik, Erzähltechnik, Literaturtheorie, Figurencharakterisierung). Einübung von Techniken des wissenschaftlichen Arbeitens (z.B. Aufbau und Abfassung von wissenschaftlichen Texten; Kritikfähigkeit gegenüber Texten). Förderung eines Verständnisses von der Einheit des Fachs über die differenzierten Teilbereiche hinaus.	2 WLH

Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter)	
Examination: Written examination (90 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Grundlagen der Textanalyse; Grundbegriffe und Grundlagentechniken der Literaturwissenschaft	3 C

Course: Teilmodul 2: Grundlagen der Sprachwissenschaft *Contents*: Einführungs-Proseminar "Introduction to English Linguistics": Einführung in die Grundfragestellungen des Faches Linguistik als empirische, deskriptive und theoretische Wissenschaft. Die wissenschaftliche Erforschung der gegenwärtigen und historischen Erscheinungsformen des Englischen wird exemplarisch auf der Ebene der Phonologie, der Morphologie, der Lexikologie, der Syntax und der Semantik vorgestellt und eingeübt. Um den Gebrauch der Sprache adäquat erfassen zu können, wird in die interdisziplinären Ansätze und Methoden der Sozio-, Pragma- und Psycholinguistik eingeführt. Ziel dieses Teilmoduls ist die Vorbereitung auf Lehrveranstaltungen sowohl im Bereich der modernen Linguistik als auch im Bereich der historischen Linguistik/ Mediävistik.	2 WLH
Examination: Klausur (90 Min) oder klausurähnliche Hausarbeit (max 2000 Wörter), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Die Studierenden weisen in der Teilmodulprüfung nach, dass sie die Grundbegriffe der linguistischen Kerndisziplinen kennen und die zentralen Methoden sprachwissenschaftlicher Analyse anwenden können. Sie weisen des weiteren Überblickskenntnisse zur Sprachgeschichte nach und können diese anhand von geeigneten Beispielen illustrieren. Sie weisen außerdem nach, dass sie in der Lage sind, sprachliche Datensätze zu beschreiben, Muster bezüglich sprachlich relevanter Kategorien und Prozesse zu erkennen und erste Generalisierungen zu formulieren.	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students:	

30	

Georg-August-Universität Göttingen **Module B.Eng.201: Foundations of English: English Grammar and Academic Writing Practice**	5 C 3 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grammatikalische Eigenheiten des Englischen zu erkennen und diese Erkenntnisse regelgeleitet und kontextsensitiv auf neue Situationen zu transferieren; • Grundlagen des akademischen Schreibens zu verstehen und bei der Erstellung von Texten anzuwenden	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: English Grammar *Contents*: Kernbereiche praktischer englischer Grammatik (z.B. Technical Terminology, Tense/ Aspect, Determiners, Prepositions, Collocations)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Academic Writing Practice *Contents*: Grundlegende Methoden und Techniken des effektiven wissenschaftlichen Schreibens (z.B. Aspects of Linguistic Accuracy, Register, Style)	1 WLH
Examination: Learning journal (max. 2000 words), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: Die Studierenden: • Sind mit den grammatikalischen Kerneigenschaften des Englischen vertraut und können ihr Wissen auf neue Situationen anwenden • Sind mit den wesentlichen Aspekten und Anforderungen schriftlicher Arbeiten im universitären Kontext vertraut, insbesondere mit den Anforderungen des Seminars für Englische Philologie	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations:

Max. Anzahl Studierender: Grammar: 65; Academic Writing: 15.

Georg-August-Universität Göttingen **Module B.Eng.202: Foundations of English: Oral Competence**	5 C 4 WLH

Course: Phonetics *Contents*: Theoretische Fundierung der korrekten Aussprache des Englischen	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Learning outcome, core skills:

Nach erfolgreicher Teilnahme sind die Studierenden in der Lage,

• in kommunikativen Standardsituationen mit einer möglichst natürlichen Aussprache frei, korrekt und pragmatisch angemessen zu sprechen;

• Ausspracheprobleme mithilfe phonetischer Kenntnisse kontrastiv zu analysieren, darzustellen und zu begründen.

Workload:
Attendance time:
56 h
Self-study time:
94 h

Course: Oral Practice and Pronunciation *Contents*: • Konsistent korrekte Aussprache des Englischen • Fortgeschrittene Gesprächskompetenz (z.B. talk, vocabulary, conversation)	2 WLH
Examination: Oral examination (approx. 20 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements:
Die Studierenden:

• Kennen phonetische Unterschiede zwischen Ausgangs- und Zielsprache und können diese Kenntnisse und Fertigkeiten aktiv anwenden und in eine korrekte Aussprache umsetzen

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Dr. S. Canpolat
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations: Max. Anzahl Studierender: Oral Practice and Pronunciation: 15; Phonetics: 80

Georg-August-Universität Göttingen **Module B.Eng.203: Writing for Professional Purposes, Culture and Vocabulary**	8 C 6 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • sich mittels unterschiedlicher Lernstrategien ein neues Vokabular aus verschiedenen thematischen Bereichen anzueignen und dies aktiv schriftlich und mündlich anzuwenden; • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren; • schriftliche Texte wie z.B. Lebensläufe, Bewerbungsschreiben und Geschäftsbriefe in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	**Workload:** Attendance time: 84 h Self-study time: 156 h

Course: Writing for Professional Purposes Die benotete Prüfungsleistung wird im Kurs Writing for Professional Purposes abgelegt. Das Portfolio (max. 2500 Wörter) besteht aus einer Reihe von schriftlichen Aufgaben und Übungen, die während des Semesters in den Kurssitzungen oder zu Hause angefertigt werden.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für diesen Kurs sowie den Vocabulary Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Dieser Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Course: Vocabulary Training Für den Institutions-Kurs sowie den Vocabulary Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Examination: Learning journal (max. 2500 words) **Examination prerequisites:** In allen LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	8 C

Examination requirements:	

- Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, alltägliche und anspruchsvollere Texte normengerecht zu lexikalisieren.
- Die Studierenden haben die sprachlichen Fertigkeiten und kulturellen Kenntnisse erworben, um schriftliche Korrespondenz normengerecht zu verfassen.
- Die Studierenden sind mit den Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen.

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Seda Canpolat
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Maximale Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; Writing for Professional Purposes: 25; Vocabulary Training: 25

Georg-August-Universität Göttingen **Module B.Eng.204: Translation, Culture and Vocabulary**	8 C 6 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch korrekt, stilistisch angemessen und landeskundlich kompetent zu meistern • Schriftliche und mündliche Texte unterschiedlicher Thematik, Register und Stilebenen unter Zuhilfenahme zielführender Techniken zu verstehen • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren • Texte unterschiedlicher landeskundlicher Thematik, Register und Stilebenen angemessen vom Deutschen ins Englische zu übersetzen	**Workload:** Attendance time: 84 h Self-study time: 156 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für den Culture and Institutions-Kurs sowie den Vocabulary Course bzw. Listening/ Reading Comprehension Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Translation Course. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Course: Vocabulary Training Course Für den Culture and Institutions-Kurs sowie den Vocabulary Course bzw. Listening/ Reading Comprehension Course ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Institutions-Kurs sowie der Vocabulary Course sind *keine* Prüfungsvorleistungen für den Translation Course. Es bietet sich inhaltlich jedoch an, diese Kurse vorher zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In allen LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	8 C

Examination requirements: • Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, alltägliche und landeskundlich anspruchsvollere Texte normengerecht zu lexikalisieren	

- Die Studierenden können erlernte Techniken einsetzen, um unbekannte schriftliche und mündliche Texte zu verstehen
- Die Studierenden haben die sprachlichen Fertigkeiten und landeskundlichen Kenntnisse erworben, um einen deutschen Text normengerecht ins Englische zu übersetzen

Admission requirements:	Recommended previous knowledge:
B.Eng.201	none
Language:	**Person responsible for module:**
English	Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
not limited	

Additional notes and regulations:

Maximale Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; German-English Translation: 25; Vocabulary Training/LRC: 25

Georg-August-Universität Göttingen **Module B.Eng.205: Writing for Professional Purposes**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren; • schriftliche Texte wie z.B. Lebensläufe, Bewerbungsschreiben und Geschäftsbriefe in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Writing for Professional Purposes Die benotete Prüfungsleistung wird im Kurs Writing for Professional Purposes abgelegt. Das Portfolio (max. 2500 Wörter) besteht aus einer Reihe von schriftlichen Aufgaben und Übungen, die während des Semesters in den Kurssitzungen oder zu Hause angefertigt werden.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für den Kurs ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Kurs ist keine Prüfungsvorleistung für Kurs Writing for Professional Purposes. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher zu besuchen.	2 WLH

Examination: Learning journal (max. 2500 words) **Examination prerequisites:** In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	5 C

Examination requirements: • Die Studierenden sind mit den Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen. • Die Studierenden haben die sprachlichen Fertigkeiten und kulturellen Kenntnisse erworben, um englischsprachige Korrespondenz normengerecht zu verfassen.	

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Seda Canpolat
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester: 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:
Max. Studierendenzahl: American/British Institutions Course: unbegrenzt; Introduction to Irish Institutions: 30; Writing for Professional Purposes: 25

Georg-August-Universität Göttingen **Module B.Eng.206: Translation and Culture**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im gewählten englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren • Texte unterschiedlicher landeskundlicher Thematik, Register und Stilebenen angemessen vom Deutschen ins Englische zu übersetzen	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: American Culture and Institutions (Beginner's Course) or British Culture and Institutions (Beginner's Course) or Irish Culture and Institutions (Beginner's Course) Für den Culture and Institutions-Kurs ist in FlexNow eine "qualifizierte Teilnahme" nachzuweisen. Studierende nehmen "qualifiziert" teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Der Kurs ist keine Prüfungsvorleistung für den Translation Course. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	5 C

Examination requirements: • Die Studierenden sind mit den landeskundlichen Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können diese Kenntnisse in eine kulturell adäquate Übersetzung einfließen lassen • Die Studierenden verfügen über die notwendigen Fertigkeiten, auch anspruchsvollere deutsche Texte grammatikalisch, lexikalisch und stilistisch korrekt ins Englische zu übersetzen	

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students:	

not limited	

Additional notes and regulations:

Max. Studierendenzahl: American/British Institutions Course: unbegrenzt; Irish Institutions: 30; Translation: 25

Georg-August-Universität Göttingen **Module B.Eng.207: Translation and Vocabulary**	5 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch erfolgreich, stilistisch angemessen und landeskundlich kompetent zu meistern • Texte unterschiedlicher Thematik, Register und Stilebenen angemessen vom Englischen ins Deutsche zu übersetzen • Eigenschaften und Besonderheiten von Kultur und Institutionen im englischsprachigen Raum zu benennen und zu beschreiben, analytisch zu begründen und zu interpretieren	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Translation German into English Die benotete Prüfungsleistung wird im Translation Course abgelegt.	2 WLH

Course: Vocabulary Training Für den Kurs Vocabulary Training ist in FlexNow eine „qualifizierte Teilnahme" nachzuweisen. Studierende nehmen teil, indem sie mindestens zwei von vier semesterbegleitend angebotenen "quizzes" (je ca. 15 Min.) bestehen. Das Vocabulary Training ist keine Prüfungsvorleistung für den Translation Course. Es bietet sich inhaltlich jedoch an, diesen Kurs vorher oder parallel zu besuchen.	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** In beiden LV jeweils regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	5 C

Examination requirements: Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular erworben, das sie in die Lage versetzt, Texte unterschiedlicher Provenienz, lexikalisch adäquat zu erfassen. Sie verfügen über die notwendigen Fertigkeiten, auch anspruchsvollere deutsche Texte grammatikalisch, lexikalisch und stilistisch korrekt ins Englische zu übersetzen.	

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Max. Studierendenzahl: Vocabulary Training: 35; Translation: 25

Georg-August-Universität Göttingen **Module B.Eng.208: Writing for Professional Purposes**	3 C 2 WLH

Learning outcome, core skills: Studierende sind in der Lage schriftliche Texte, wie z.B. Lebensläufe, Bewerbungsscheiben und Geschäftsbriefe, in einem professionellen Kontext zu verfassen, die den kulturellen, stilistischen und lexikalischen Normen der anglo-amerikanischen Arbeitswelt entsprechen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lehrveranstaltung Writing for Professional Purposes *Contents*: Einführung in das Verfassen professioneller Korrespondenz wie z. B. Lebensläufen, Bewerbungsschreiben und Geschäftsbriefen.	2 WLH
Examination: Learning journal (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: Die Studierenden haben die notwendigen sprachlichen Fertigkeiten und kulturellen Kenntnisse, um englischsprachige Korrespondenz normengerecht zu verfassen.	

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Seda Canpolat
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.Eng.231: Advanced English Language Skills (Style and Vocabulary)**	6 C 2 WLH

Learning outcome, core skills: Studierende verfügen über vertiefte Methodenkompetenzen vor allem im Hinblick auf Stilistik und Wortschatz insbesondere mit Blick auf die Erstellung einer fremdsprachlich abgefassten Bachelor-Arbeit. Sie vertiefen soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Erarbeitung und Abrundung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte (Sprachbeherrschung, Wortschatz, Hör- und Leseverstehen u.a.); sie vertiefen ihre interkulturelle Kompetenz durch den Vergleich zwischen mutter- und fremdsprachlichen Gegebenheiten. Zentrale Inhalte: Aufbaukurs Sprachpraxis zu einem frei wählbaren Themenkomplex (Hörverstehen, Leseverstehen, Schreiben, Wortschatz) sowie angeleitetes Selbststudium	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Übung: Post-CLC-Course *Contents*: Advanced Essay Training oder Aural/Reading Comprehension oder Advanced Translation oder Vocabulary Training oder Discussion and Essay Writing	2 WLH
Course: Independent Study zum Post-CLC-Course *Contents*: Die Studierenden erweitern und optimieren unter Einsatz der vermittelten Kenntnisse und Techniken ihre Fertigkeiten im gewählten sprachpraktischen Bereich, so dass sie auch komplexere Aufgaben themen- und situationsangemessen ohne Schwierigkeiten bewältigen können. Sie können die erworbenen aktiven und passiven Sprachfertigkeiten erfolgreich in fachwissenschaftliche Aufgabenstellungen umsetzen. Im Kurs Advanced Aural Comprehension vertiefen Studierende ihre Hörkompetenz im Englischen und reflektieren zentrale Kursinhalte. Dies erfolgt beispielsweise, indem Studierende Audioaufnahmen zusammenfassen, eine kommentierte Bibliographie der Bücher erstellen, die zwar auf der Kursbücherliste stehen, auf die aber aus Zeitgründen während des Kurses nicht tiefgehend eingangen werden kann; einen Essay über einen Aspekt des Kurs verfassen. Am Ende des Kurses reichen Studierende entsprechende Arbeiten ein. Im Kurs Vocabulary Training vertiefen Studierende ihren Wortschatz im Englischen und reflektieren einige der Kursinhalte. Dies erfolgt beispielsweise, indem Studierende eine Zusammenfassung eines Texts (z.B. eines Zeitungsartikels) erstellen, welcher Wörter enthält, die nicht während des Kurses behandelt werden; eine kommentierte Bibliographie der Bücher, die zwar auf der Kursbücherliste stehen, auf die aber aus Zeitgründen während des Kurses nicht tiefgehend eingangen werden kann; einen Essay bzw. eine Kurzgeschichte in englischer Sprache über einen Aspekt des Kurs (z.B. *Idioms in Use*) verfassen, in dem Studierende neue Wörter erlernen und im richtigen Kontext verwenden. Am Ende des Kurses reichen Studierende entsprechende Arbeiten ein.	

Der Independent-Study-Anteil umfasst 75 Stunden des gesamten Selbststudiums. Im Seminar besteht die Möglichkeit zur Konsultation und Klärung des im Rahmen des Selbststudiums entstandenen Fragen.	
Examination: Term Paper (max. 1200 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit dem gewählten sprachpraktischen Anwendungsbereich	

Admission requirements: B.Eng.203, B.Eng.204, B.Eng.205, B.Eng.206, B.Eng.207	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Additional notes and regulations: Es ist eines der unter den Zugangsvoraussetzungen genannten Module erfolgreich abzuschließen, bevor dieses Modul belegt werden kann.	

Georg-August-Universität Göttingen **Module B.Eng.251: Additional Module: Advanced English Language Skills (Creative Writing)**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit der Schwerpunktausrichtung auf schriftliche Sprachkompetenzen und kreatives Schreiben. Studierende erwerben schriftliche Kompetenzen durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Textanalyse, Sprachbeherrschung, Wortschatz, Texterstellung, ...	Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Written Skills	2 WLH
Examination: Learning journal (max. 2500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (kreatives Schreiben, Textabfassung, Wortschatz, Grammatik)	

Admission requirements: B.Eng.201	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre schriftliche Sprachkompetenz im Englischen zusätzlich verbessern möchten. Die Lehrveranstaltung "Preparation for TOEFL.iTP" kann in dieses Modul nicht eingebracht werden.

Georg-August-Universität Göttingen **Module B.Eng.252: Additional Module: Aspects of British, Irish or American Culture and Institutions**	3 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem sprachpraktischen Vertiefungsmodul durch eine zusätzliche Übung mit einem landeskundlichem Schwerpunkt aus dem nicht gewählten Teilbereich. Studierende erwerben grundlegende Fachkompetenzen zum Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Sie erwerben Mittlerkompetenzen im Hinblick auf kulturelle, gesellschaftliche und politische Grundlagen auch für spätere nicht-schulische Tätigkeiten. Das Modul vermittelt dabei soziokulturelles Orientierungswissen. Zentrale Inhalte: Grundlegende Kenntnisse zu Geschichte, Kultur und Gesellschaft der wichtigsten Zielsprachenländer. Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Vermittlung von kulturellen, gesellschaftlichen und politischen Grundlagenkenntnissen	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung zu britischen Culture and Institutions, Übung zu irischen Culture and Institutions oder Übung zu amerikanischen Culture and Institutions (Exercise)	2 WLH
Examination: Präsentation (ca. 30 Min.) mit schriftlicher Ausarbeitung (max. 1800 Wörter), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: Grundkenntnisse zu Geschichte, Gesellschaft und Aufbau des behandelten fremdsprachlichen Staats; grundlegendes Verständnis von Stellung und Rezeption in der Gesellschaft	

Admission requirements: B.EP.03	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Eng.253: Additional Module: Advanced English Language Skills (Oral/Listening Competences)**	3 C 2 WLH

Learning outcome, core skills:	Workload:
Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit einer Schwerpunktausrichtung auf mündliche und Hörverstehenskompetenzen. Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz u.a.	Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Oral Skills	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Hörverstehen,Leseverstehen, Wortschatz, ...)	

Admission requirements: B.Eng.202, B.EP.02	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre mündliche Sprachkompetenz im Englischen zusätzlich verbessern möchten.

Georg-August-Universität Göttingen **Module B.Eng.254: Additional Module: Advanced English Language Skills (Written English)**	3 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit der Schwerpunktausrichtung auf schriftliche Sprachkompetenzen Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz, Texterstellung, ...	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Written Skills	2 WLH
Examination: Klausur (90 Min.) oder Portfolio (max. 2500 Wörter) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Textabfassung, Wortschatz, Grammatik, Übersetzung, …)	

Admission requirements: B.Eng.201, B.EP.02	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre schriftliche Sprachkompetenz im Englischen zusätzlich verbessern möchten. Die Lehrveranstaltung "Preparation for TOEFL.iTP" kann in dieses Modul nicht eingebracht werden.

Georg-August-Universität Göttingen **Module B.Eng.255: TOEFL: Test of English as a Foreign Language**	3 C 1 WLH

Learning outcome, core skills: Kompetenzen: sicherer Umgang mit Bereichen der englischen Grammatik, des Lese- und Hörverstehens Zentrale Inhalte: grundlegende grammatische Phänomene (tense/aspect, Zeitenfolge, Interpunktion, Relativsätze u.ä.), Schulung des Hörverstehens; Erarbeitung von Leseverständnis-Strategien	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Preparation for TOEFL.ITP	1 WLH
Examination: TOEFL.ITP-Test (120 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: grundlegende grammatische Phänomene (tense/aspect, Zeitenfolge, Interpunktion, Relativsätze u.ä.), grundlegende Hörverstehenskompetenz; grundlegendes Leseverständnis bei verschiedenen Textgattungen und -inhalten	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 40	

Additional notes and regulations: Studierende, die dieses Modul zum Nachweis ausreichender Englischkenntnisse gem. der Ordnung über die Zugangsvoraussetzungen für die Studienfächer Englisch, English: Language, Literatures and Cultures und für das Studienfach North American Studies (alle Studiengänge) nutzen wollen, benötigen zum Bestehen mind. 87 von 120 (543 von 677) Punkten; das Modul wird in diesem Fall extracurricular absolviert und geht nicht in das Ergebnis der Bachelorprüfung ein. Studierende, die dieses Modul zur Erhöhung ihrer sprachlichen Kompetenzen nutzen möchten, müssen zum Bestehen mind. 92 von 120 (550 von 600) Punkten erreichen und weisen damit ein erhöhtes Kompetenzniveau nach.

Georg-August-Universität Göttingen **Module B.Eng.271: Comprehensive Language, Culture and Institutions Module for Students from Abroad**	6 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluß sind Studierende in der Lage, zentrale Eigenschaften und Besonderheiten des kulturellen Lebens und der Institutionen im englischsprachigen Raum zu benennen und zu beschreiben, auf ihre kulturellen Unterschiede zum Heimatland hin zu untersuchen und zu interpretieren; Standardsituationen im alltäglichen Bereich und formalere Kontexte im akademischen und nicht-akademischen Bereich lexikalisch korrekt, stilistisch angemessen und landeskundlich lompetent zu meistern. Sie haben darüber hinaus ihre grammatischen Kompetenzen und ihre translatorischen Fertigkeiten Deutsch-Englisch im Hinblick auf landeskundliche Themen und Alltagssituationen vertieft.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Comprehensive Language / Culture and Institutions Course for ERASMUS Students	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Präsentation (20 Min) oder Portfolio (2000 Wö)	6 C

Examination requirements: - Die Studierenden sind mit den landeskundlichen Gegebenheiten des von ihnen gewählten englischsprachigen Raumes vertraut und können ihre Kenntnisse in der geforderten Textproduktion einsetzen. - Die Studierenden haben unter Einsatz der vermittelten Lernstrategien ein Vokabular und eine Übersetzungskompetenz erworben, die sie in die Lage versetzen, landeskundliche Texte zu verstehen, angemessen vom Deutschen ins Englische zu übersetzen und kritisch zu diskutieren.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Dieses Modul richtet sich an alle Studierenden, die über das Erasmus-Programm bzw. über ein anderes Austauschprogramm nach Göttingen kommen und ihre sprachpraktischen und landeskundlichen Kompetenzen im Hinblick auf den englischsprachigen Bereich vertiefen wollen.

Georg-August-Universität Göttingen **Module B.Eng.272: Additional Module: English Language Practice**	5 C 4 WLH
Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grammatikalische, phonetische/phonologische Eigenheiten des Englischen zu erkennen und diese Erkenntnisse regelgeleitet und kontextsensitiv auf neue Situationen zu transferieren; • Grundlagen des akademischen Schreibens zu verstehen und bei der Erstellung von Texten anzuwenden Nach Rücksprache mit dem ERASMUS-Beauftragten müssen ZWEI der folgenden Lehrveranstaltungen besucht werden.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Comprehensive Language Course Grammar *Contents*: Kernbereiche praktischer englischer Grammatik (z.B. Technical Terminology, Tense/Aspect, Determiners, Prepositions, Collocations)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Academic Writing *Contents*: Grundlegende Methoden und Techniken des effektiven wissenschaftlichen Schreibens (z.B. Aspects of Linguistic Accuracy, Register, Style)	1 WLH
Examination: Learning journal (max. 2000 words), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Oral Practice and Pronunciation	2 WLH
Examination: Oral examination (approx. 30 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Introduction to British or American Phonetics	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Listening/Reading Comprehension (LRC)	2 WLH
Examination: Written examination (60 minutes), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements:	

(Abhängig von den gewählten Kursen) Die Studierenden:

• sind mit den grammatikalischen Kerneigenschaften des Englischen vertraut und können ihr Wissen auf neue Situationen anwenden

• sind mit den wesentlichen Aspekten und Anforderungen schriftlicher Arbeiten im universitären Kontext vertraut, insbesondere mit den Anforderungen des Seminars für Englische Philologie

• kennen phonetische Unterschiede zwischen Ausgangs- und Zielsprache und können diese Kenntnisse und Fertigkeiten aktiv anwenden und in eine korrekte Aussprache umsetzen

• können erlernte Techniken einsetzen, um unbekannte schriftliche und mündliche Texte zu verstehen

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Hedzer Hugo Zeijlstra
	Pfändner, Johannes
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 5

Additional notes and regulations:

Dieses Modul richtet sich an Erasmusstudierende, die ihre Sprachkompetenz im Englischen verbessern möchten. Alle in diesem Modul angebotenen Kurse sind Teil des Kerncurriculums des Bachelorstudiengangs. Ist die Nachfrage nach Plätzen höher als das Angebot, werden Bachelorstudierende bevorzugt behandelt.

Nach Rücksprache mit dem ERASMUS-Beauftragten müssen ZWEI der folgenden Lehrveranstaltungen besucht werden.

Georg-August-Universität Göttingen **Module B.Eng.273: Additional Module: Advanced English Language Skills (Oral/Listening Competences)**	3 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem gewählten sprachpraktischen Vermittlungsmodul durch eine zusätzliche Übung zur Sprachpraxis mit einer Schwerpunktausrichtung auf mündliche und Hörverstehenskompetenzen Studierende erwerben soziale und kommunikative Kompetenzen (Sprachmittlerkompetenzen) durch Vermittlung hierfür relevanter fortgeschrittener (Teil-)Fertigkeiten und Inhalte wie Sprachbeherrschung, Wortschatz u.a.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Übung: Advanced English-Language Oral Skills	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Course: Übung: Vocabulary Training	2 WLH
Examination: Learning journalbesteht aus vier angebotenen "quizzes" **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements: sicherer Umgang mit Phänomenen aus dem gewählten Bereich (Hörverstehen, Leseverstehen, Wortschatz, …)	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Pfändner, Johannes
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 20	

Additional notes and regulations: Dieses Modul richtet sich an Studierende, die ihre mündliche Sprachkompetenz im Englischen zusätzlich verbessern möchten.

Georg-August-Universität Göttingen **Module B.Eng.274: Additional Module: Aspects of British, Irish or American Culture and Institutions**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Kompetenzen: Verbreiterung der grundlegenden Kenntnisse und Techniken aus dem sprachpraktischen Vertiefungsmodul durch eine zusätzliche Übung mit einem landeskundlichem Schwerpunkt aus dem nicht gewählten Teilbereich. Studierende erwerben grundlegende Fachkompetenzen zum Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Sie erwerben Mittlerkompetenzen im Hinblick auf kulturelle, gesellschaftliche und politische Grundlagen auch für spätere nicht-schulische Tätigkeiten. Das Modul vermittelt dabei soziokulturelles Orientierungswissen. Zentrale Inhalte: Grundlegende Kenntnisse zu Geschichte, Kultur und Gesellschaft der wichtigsten Zielsprachenländer. Verständnis von Stellung und Rezeption des Fachs in der Gesellschaft. Vermittlung von kulturellen, gesellschaftlichen und politischen Grundlagenkenntnissen	Attendance time: 28 h Self-study time: 62 h

Course: Übung zu britischen Culture and Institutions, Übung zu irischen Culture and Institutions oder Übung zu amerikanischen Culture and Institutions (Exercise)	2 WLH

Examination: Präsentation (ca. 30 Min.) mit schriftlicher Ausarbeitung (max. 1800 Wörter), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	3 C

Examination requirements: Grundkenntnisse zu Geschichte, Gesellschaft und Aufbau des behandelten fremdsprachlichen Staats; grundlegendes Verständnis von Stellung und Rezeption in der Gesellschaft	

Admission requirements: B.EP.03	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Eng.304: Overview: Topics and Themes in Anglophone Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: • Studierende vertiefen erworbene Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Texten und Epochen (z.B. komplexe Zusammenhänge epochenübergreifend erkennen und darstellen, epochenübergreifende Systematiken erkennen und beschreiben, Bewertungsmaßstäbe epochengerecht einsetzen) • Vertiefung der Fachkompetenzen im Hinblick auf die Analyse von und den Umgang mit literarischen Texten, kulturgeschichtlichen Zusammenhängen und Theoriekomplexen • Grundlegender Umgang mit literatur- und kulturwissenschaftlichen Forschungspositionen	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung zur anglophonen Literatur- und Kulturgeschichte, zu einem Theorie- bzw. Themenkomplex (Lecture)	2 WLH
Course: Vertiefendes Selbststudium *Contents*: Der Selbststudienanteil dient dazu, Kernbereiche der gewählten Vorlesung vertieft zu bearbeiten. Dies können Primärtexte sein, zentrale Texte der Sekundärliteratur oder sonstige Materialien (z.B. Kunstgegenstände, außerliterarische Texte).	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** • vertiefte Überblickskenntnisse zu einer literaturhistorischen Epoche, zu einem Theorie- bzw. Themenkomplex • sichere Beherrschung von Textanalyse- und Kontextualisierungsmethoden • Einordnung von Texten in literarische und kulturelle Zusammenhänge und Epochen	6 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen Module B.Eng.305: Periods in Anglophone Literature and Culture	7 C 1 WLH

Learning outcome, core skills: Nach erfolgreichem Abschluß des Moduls • beherrschen Studierende zwei Epochen aus der anglophonen Literatur- und Kulturgeschichte in ihren zentralen Entwicklungslinien; • kennen Studierende die wichtigsten kanonischen Autoren zweier Epochen aus der anglophonen Literatur- und Kulturgeschichte, können sie zeitlich einordnen und zentrale Werke benennen; • kennen Studierende die wesentlichen kanonischen Texte der drei Großgattungen (Roman, Drama, Gedicht) aus der anglophonen Literatur- und Kulturgeschichte, können sie zeitlich einordnen und ihren Autoren zuordnen; • kennen Studierende die in zwei Epochen aus der anglophonen Literatur- und Kulturgeschichte wesentlichen gesellschaftlichen Entwicklungen in ihren Grundzügen und ungefähren zeitlichen Verortungen; • können Studierende Epochen aus der anglophonen Literatur- und Kulturgeschichte grob gegeneinander abgrenzen und diese Abgrenzung sachlich begründen.	Workload: Attendance time: 14 h Self-study time: 196 h

Course: Workshop zum Lesen und Verwenden von Literaturgeschichten *Contents*: Die Teilnahme am Workshop ist optional.	1 WLH
Examination: computerbasierte semesterbegleitend abgelegte Teilklausuren (90 minutes), not graded **Examination requirements:** Die Prüfung betrifft zwei Epochen der anglophonen Literatur- und Kulturwissenschaft im Überblick auf der Basis des eigenverantwortlichen Studiums von zwei bis drei einschlägigen Literaturgeschichten. Studierende zeigen: Beherrschen von Epochengrenzen und Gründen für Epochisierungen; Benennung zentraler Autoren und Werke der Epochen (Kanonkenntnisse); zeitliche Einordnung (relativ zueinander) von Texten und Autoren; Kenntnisse zentraler gesellschaftlicher und literaturhistorischer Entwicklungslinien. Angebotene Epochen: Early Modern Period; The 'Long' Eighteenth Century; Victorian Period; Twentieth-Century Literature; Contemporary Literature. Die im Modul B.EP.202 abgedeckte Epoche kann hier nicht noch einmal abgeprüft werden.	7 C

Admission requirements: none	Recommended previous knowledge: B.Eng.304
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff Dr. Frauke Reitemeier
Course frequency:	**Duration:**

once a year	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6

Additional notes and regulations:

Dieses Modul richtet sich an Studierende, die sich einen Überblick über zentrale Entwicklungslinien der anglophonen Literatur- und Kulturgeschichte erarbeiten wollen. Es ist auch für die Anrechnung im Optionalbereich durch Studierende anderer Fächer geeignet.

Für Studierende im BA-Teilstudiengang "English: Language, Literature and Cultures/Englisch" ist das erfolgreiche Bestehen von Modul B.EP.202 eine empfohlene Zugangsvoraussetzung. Die dort abgedeckte Epoche kann hier nicht eingebracht werden.

Georg-August-Universität Göttingen **Module B.Eng.331: Advanced Studies in Anglophone Literature: Focus on Literature**	6 C 2 WLH

Learning outcome, core skills: Studierende besitzen Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten und literaturwissenschaftlichen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen). Zentrale Inhalte: Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Anglistische Literatur- und Kulturwissenschaft" mit Schwerpunktsetzung im Bereich anglophone Literaturwissenschaft.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forschungsorientiertes anglophones Hauptseminar mit literaturwissenschaftlichem Schwerpunkt	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit Textformen und -gattungen, mit Methoden und Problemen der Textanalyse sowie mit relevanter Forschungsliteratur	

Admission requirements: B.Eng.305	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.332: Advanced Studies in British Culture**	6 C 2 WLH

Learning outcome, core skills: Studierende vertiefen v.a. ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten und kulturwissenschaftlichen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen). Zentrale Inhalte: Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Anglistische Literatur- und Kulturwissenschaft" mit Schwerpunktsetzung im Bereich Cultural Studies/ Kulturwissenschaft	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forschungsorientiertes anglistisches Hauptseminar mit kulturwissenschaftlichem Schwerpunkt	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit Textformen, mit Methoden und Problemen der Kulturwissenschaft sowie mit relevanter Forschungsliteratur	

Admission requirements: B.Eng.305	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.351: Additional Module: Anglophone Literature and Culture**	4 C 2 WLH

Learning outcome, core skills: Kompetenzen: Verbreiterung der grundlegenden literaturwissenschaftlichen Kenntnisse und Kompetenzen durch eine zusätzliche Lehrveranstaltung aus dem Angebot der Abt. für Anglistische Literatur- und Kulturwissenschaft. Studierende erwerben grundlegende Methodenkompetenzen im Umgang mit theoretischen Texten aus der Literaturwissenschaft. Sie vertiefen ihre Analysekompetenz durch den Vergleich von Herangehensweisen an verschiedene Textarten. Sie vertiefen darüber hinaus grundlegende Fachkompetenzen im Umgang mit Texten sowie literaturwissenschaftlichen Zusammenhängen. Zentrale Inhalte: Beispielhafte Einübung der Methodik historisch-hermeneutischen Textverständnisses. Beispielhafte Einübung der Methodik systematisch-formaler Textanalyse. Einführung in Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur anglophonen Literatur- und Kulturgeschichte	2 WLH
Examination: Term Paper (max. 4000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	4 C

Examination requirements: Sicherer Umgang mit dem gewählten Primärtext; Grundkenntnisse im Umgang mit Sekundärliteratur; Grundkenntnisse zu Aufbau und Stil wissenschaftlicher Arbeiten	

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Eng.352: Additional Module: Paradigmatic Studies in Literature and Culture**	3 C 1 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • spezifische kanonische Texte nach ihrer Bedeutung einzuordnen; • verschiedene Epochen in ihren Eigenarten untereinander abzugrenzen; • die epochenübergreifende Relevanz literarhistorischer Entwicklungen abzuschätzen; • zentrale Elemente von Kerntexten schnell aufzufassen und mit anderen Kerntexten zu vergleichen.	**Workload:** Attendance time: 14 h Self-study time: 76 h

Course: Blockseminar, begleitend zu einer entsprechend ausgewiesenen Lehrveranstaltung	1 WLH

Examination: Portfolio (max. 10 Seiten), not graded **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Das Portfolio dient zur Dokumentierung der Lektüre sowie zur Reflexion von paradigmatischen Analyseergebnissen.	3 C

Examination requirements: Die Studierenden weisen nach, • daß sie ausgewählte Kerntexte in ihren zentralen Elementen inhaltlich und strukturell erfaßt haben; • daß sie Texte auf das Vorhandensein und die Bedeutung spezifischer Elemente (z.B. Themen, Figurenkonstellationen, gesellschaftliche Entwicklungen) analyseiren können; • daß sie die Analyseergebnisse kritisch vergleichen können; • daß sie auf dieser Basis begründete Aussagen zur Qualität und epochenspezifischen Bedeutung literarischer Texte treffen können	

Admission requirements: Studierende sollten mindestens eines der Aufbaumodule in der Abteilung für Anglistische Literatur- und Kulturwissenschaft erfolgreich abgeschlossen haben (Module B.EP.201, B.EP.202, B.EP.203).	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	3 - 5
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module B.Eng.401: North American Literature and Culture I**	8 C 4 WLH

Learning outcome, core skills: Die Studierenden: - erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Erfassen komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte). - vertiefen erworbene Methodenkompetenzen in der Analyse und Bewertung einzelner Texte. - vertiefen grundlegende Fachkompetenzen im Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen und entwickeln dadurch interkulturelle Kompetenz. - erwerben literatur- und kulturhistorische Kenntnisse zu einer Epoche der amerikanischen Literaturgeschichte durch intensives Studium ausgewählter Texte. - wenden die Methoden historisch-hermeneutischen Textverständnisses und systematisch-formaler Textanalyse an konkreten Beispielen an. - erlernen und nutzen Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH

Examination: Take Home Exam (max. 3000 words) **Examination prerequisites:** regelmäßige Teilnahme; LV 2 zusätzlich: mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen **Examination requirements:** Grundlegende Kenntnisse zur gewählten literatur- und kulturhistorischen Epoche (Textkenntnis, Begrifflichkeit, Epochengrenzen, Zusammenhänge). Sicherer Umgang mit dem gewählten Primärtext; Grundkenntnisse im Umgang mit Sekundärliteratur; Grundkenntnisse hinsichtlich Stil und Strukturierung wissenschaftlicher Arbeiten	8 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Eng.402: North American Literature and Culture II**	7 C 4 WLH

Learning outcome, core skills:	Workload:
Die Studierenden - vertiefen grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte). - vertiefen Methodenkompetenzen in der Analyse und Bewertung einzelner Texte. - erwerben grundlegende Fachkompetenzen im Umgang mit kulturhistorischen Texten sowie Methoden-, Lern- und interkulturelle Kompetenzen im Vergleich verschiedener literaturhistorischer sowie kulturhistorischer Zusammenhänge. - erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch intensives Studium ausgewählter Texte einer Epoche der amerikanischen Literatur. - erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch extensives Studium von beispielhaften literarischen wie nicht-literarischen Texten (z.B. politische Pamphlete, Reden, Essays, Predigten, Verfassungstexte) der amerikanischen Kulturgeschichte. - wenden Methoden systematisch-formaler Textanalyse unter besonderer Berücksichtigung verschiedener Textgattungen an. - vergleichen und verknüpfen die Techniken literaturwissenschaftlicher und kulturwissenschaftlicher Forschung.	Attendance time: 56 h Self-study time: 154 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung "Cultural History and Rhetoric"	2 WLH

Examination: Take Home Exam (max. 3500 words) **Examination prerequisites:** regelmäßige Teilnahme; Präsentation (in Form von Expertengruppen bzw. Moderationsteams, ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter) (LV 2) **Examination requirements:** Grundlegende Kenntnisse zur gewählten literatur- und kulturhistorischen Epoche (Textkenntnis, Begrifflichkeit, Epochengrenzen, Zusammenhänge). Grundkenntnisse zur amerikanischen Kulturgeschichte (grundlegende Daten und historische Ereignisse, Entwicklungslinien); Grundkenntnisse in der Methodik kulturhistorischer Recherche; Grundkenntnisse in der Analyse nicht-literarischer Quellen und der Auswertung von Sekundärliteratur	7 C

Admission requirements: none	Recommended previous knowledge: B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder

Course frequency:	Duration:
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.Eng.403: North American Literature and Culture III**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden - vertiefen erworbene Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Texten und Epochen (z.B. komplexe Zusammenhänge epochenübergreifend erkennen und darstellen, epochenübergreifende Systematiken erkennen und beschreiben, Bewertungsmaßstäbe epochengerecht einsetzen). - vertiefen ihre Fachkompetenzen im Hinblick auf die Analyse von und den kulturwissenschaftlichen Umgang mit verschiedenen Texten sowie unter Berücksichtigung von forschungsorientierten Ansätzen. - vertiefen die kultur- und literaturgeschichtlichen Kenntnisse in der Amerikanistik durch intensives Epochenstudium. - beschreiben, analysieren und interpretieren ein kulturgeschichtliches Problem in forschungsorientierter Form (ggf. zur Vorbereitung einer Bachelorarbeit). - nutzen und verknüpfen dabei die bereits erworbenen Techniken literatur- und kulturwissenschaftlichen Arbeitens.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung zur amerikanischen Literatur- und Kulturgeschichte (Lecture)	2 WLH
Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH

Examination: Hausarbeit (max. 3500 Wörter) oder Klausur (90 Minuten) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen, LV 2 außerdem: mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) **Examination requirements:** sichere Beherrschung von Textanalyse- und Kontextualisierungsmethoden; Kenntnisse in der literaturhistorischen/kulturhistorischen Vernetzung von Texten und Autoren. Vertiefte Überblickskenntnisse zu einer literatur-/kulturhistorischen Epoch. Die Prüfungsleistung bezieht sich inhaltlich auf die Lehrveranstaltung. Studierenden, die eine BA-Arbeit im Bereich Nordamerikastudien planen, wird geraten, in diesem Modul die Hausarbeit zu wählen.	6 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.402
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5

| **Maximum number of students:** | |
| not limited | |

Additional notes and regulations:

Die Prüfungsleistungen sind alternativ zu verstehen.

Studierende können zwischen einer Klausur in der Vorlesung und einer Hausarbeit in der Lehrveranstaltung wählen. Studierenden, die eine BA-Arbeit im Bereich Nordamerikastudien planen, wird geraten, in diesem Modul die Hausarbeit zu wählen.

Georg-August-Universität Göttingen **Module B.Eng.404: Advanced Module: North American Media and Visual Culture**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden - analysieren und interpretieren diverse Medien und künstlerische Ausdrucksformen der nordamerikanischen Kulturgeschichte (z.B. Film, Fernsehen, Fotografie, bildende Kunst,Musik, neue Medien) gemäß fachwissenschaftlich angemessener Verfahren. - erwerben und verwenden kulturwissenschaftliche Methoden und Analysetechniken unter besonderer Berücksichtigung audiovisueller und digitaler Medienformate. - beschreiben, differenzieren und bewerten unterschiedliche Gestaltungs- und Darstellungsformen hinsichtlich ihrer medialen Spezifität und Materialität. - verwenden und verknüpfen narratologische, kultur- und medienwissenschaftliche Forschungstechniken.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Einführungsseminar Introduction to Film and Media Analysis	2 WLH

Course: Medienwissenschaftliche Analyse und Interpretation	2 WLH

Examination: Term Paper (max. 3000 words) **Examination prerequisites:** in beiden LV regelmäßige Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen (Take Home Exam) **Examination requirements:** Überblickswissen zur Film- und Medienanalyse, mit besonderer Berücksichtigung des amerikanischen Kinos, Fernsehens und visueller Kultur; Fähigkeit zur kultur- und medienwissenschaftlichen Analyse audiovisueller und digitaler Texte und Medien; Fähigkeit, eigene Forschungsthesen zu formulieren und Forschungsfragen selbstständig wissenschaftlich zu bearbeiten.	6 C

Admission requirements: B.Eng.401	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Die erfolgreiche Teilnahme an der Veranstaltung "Introduction to Film and Media Analysis" ist Voraussetzung für die Belegung der Veranstaltung "Medienwissenschaftliche Analyse und Interpretation". Die Prüfungsvoraussetzung ist auch in diesem Fall die regelmäßige Teilnahme.

Georg-August-Universität Göttingen **Module B.Eng.431: Advanced Studies in American Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: Die Studierenden - vertiefen ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen - vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fachfremden Ansätzen). - vertiefen und erweitern ihre Kompetenzen zur theoriegeleiteten Textanalyse (anhand eines exemplarischen Forschungsproblems). - reflektieren kritisch das eigene methodische Vorgehen vor dem Hintergrund fachspezifischer und interdisziplinärer Verfahrensweisen	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Forschungsorientiertes Seminar zur nordamerikanischen Literatur und Kultur (Seminar)	2 WLH
Course: Independent Study zum Forschungsseminar *Contents*: Für den Selbststudiumsanteil, welcher 60 Stunden des gesamten Selbststudiums umfasst, wird ein zuvor mit einer Lehrperson vereinbartes Thema im Bereich der American Studies eigenständig erarbeitet. Ziel ist ein thematisch fokussiertes, theorie- und methodengestütztes Selbststudium, für das relevante Primär- und Sekundärtexte in fachlich einschlägigen wissenschaftlichen Datenbanken und Publikationen recherchiert und Forschungsthesen entworfen werden. Die Studierenden entwickeln die Fähigkeit, eigene Ansätze kritisch zu reflektieren, im wissenschaftlichen Dialog mit der Lehrperson anhand von Thesenpapieren zu begründen und im fachlichen Kontext zu verorten. Über die Independent Study-Anteile der amerikanistischen Module vertiefen Studierende ihre Methodenkompetenz und ihr Theoriebewusstsein. Sie stärken ihre Fähigkeit, selbstständig und forschungsorientiert wissenschaftlich zu arbeiten. Anleitung, Rückmeldung und Überprüfung der Fortschritte erfolgen in mindestens drei über die Vorlesungszeit verteilten Treffen.	
Examination: Hausarbeit oder Forschungsbericht (max. 5000 words) **Examination prerequisites:** regelmäßige Teilnahme; mündl. Leistung (Präsentation, Diskussionsleitung ca. 20 Min.), 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (insg. max. 750 Wörter); Independent Study: Thesenpapier/Exposé (max. 1500 Wörter)	6 C
Examination requirements: Fähigkeit zur extensiven Literaturrecherche; Fähigkeit zum kritischen Umgang mit Sekundärliteratur; Fähigkeit, komplexere Forschungsthesen zu formulieren, selbstständig wissenschaftlich darzulegen und überzeugend zu argumentieren	

Admission requirements:	Recommended previous knowledge:
none	B.Eng.401, B.Eng.403
Language:	**Person responsible for module:**
English	Prof. Dr. Babette B. Tischleder
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	5 - 6
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.Eng.452: Additional Module: American Cultural History**	4 C 2 WLH

Learning outcome, core skills: Die Studierenden - vertiefen grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte). - vertiefen Methodenkompetenzen in der Analyse und Bewertung einzelner Texte. - erwerben grundlegende Fachkompetenzen im Umgang mit kulturhistorischen Texten sowie Methoden-, Lern- und interkulturelle Kompetenzen im Vergleich verschiedener literaturhistorischer sowie kulturhistorischer Zusammenhänge. - erweitern die im Aufbaumodul 1 erworbenen Kenntnisse durch extensives Studium von beispielhaften nicht-literarischen Texten der amerikanischen Kulturgeschichte. - wenden die Methoden systematisch-formaler Textanalyse unter besonderer Berücksichtigung der Anforderungen verschiedener Textgattungen an. - vergleichen und verknüpfen die Techniken literaturwissenschaftlicher und kulturwissenschaftlicher Forschung.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Cultural History and Rhetoric	2 WLH

Examination: Take Home Exam (max. 3500 words) **Examination prerequisites:** s. Bemerkungsfeld extern **Examination requirements:** Grundkenntnisse zur amerikanischen Kulturgeschichte (grundlegende Daten und historische Ereignisse, Entwicklungslinien); Grundkenntnisse in der Methodik kulturhistorischer Recherche; Grundkenntnisse in der Analyse literarischer und nicht-literarischer Quellen und der Beurteilung von Sekundärliteratur	4 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 35	

Additional notes and regulations:

Dieses Modul richtet sich zum einen an Studierende, die das Modul B.Eng.402 bereits abgeschlossen haben und einen weiteren, daran anschließenden Kurs zur amerikanischen Kulturgeschichte belegen möchten, zum anderen an Studierende, die einen entsprechenden Kurs zur Verbreiterung ihres Wissens zur anglophonen Literatur- und Kulturwissenschaft nutzen wollen. Soll das Modul ergänzend zu Modul B.Eng.402 belegt werden, ist eine andere thematische Ausrichtung zu wählen.

Prüfungsvorleistungen: regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Präsentation (in Form von Expertengruppen bzw. Moderationsteams, ca. 20 Min.), ggf. 2-3 Quizzes (à ca.5-10 min.) oder vergleichbare kurze schriftl. Leistungen (Insg. max. 750 Wörter)

Georg-August-Universität Göttingen **Module B.Eng.471: North American Literature and Culture (for Euroculture Students)**	4 C 2 WLH

Learning outcome, core skills:	Workload:
Studierende erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen (z.B. Strukturieren von Informationen und Zusammenhängen, Gliederung komplexer Zusammenhänge, Transfer von Kenntnissen auf andere Texte, Ziehen von Analogieschlüssen). Sie vertiefen erworbene Methodenkompetenzen in der Analyse und Bewertung von einzelnen Texten. Sie vertiefen darüber hinaus grundlegende Fachkompetenzen im Umgang mit Texten sowie literatur- und kulturhistorischen Zusammenhängen. Sie entwickeln damit interkulturelle Kompetenz. Zentrale Inhalte: Erwerb literatur- und kulturhistorischer Kenntnisse einer Epoche der amerikanischen Literatur durch intensives Studium ausgewählter Texte. Beispielhafte Einübung der Methodik historisch hermeneutischen Textverständnisses. Beispielhafte Einübung der Methodik systematisch-formaler Textanalyse. Einführung in Techniken und Hilfsmittel literaturwissenschaftlicher Forschung.	Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur amerikanischen Literatur	2 WLH

Examination: Take Home Exam (max. 3000 words) **Examination prerequisites:** regelmäßige Teilnahme; mündliche Leistung (Referat/Präsentation ca. 15 min.), ggf. 2-3 Quizzes (à ca.5-10 min.), oder kleinere schriftliche Hausaufgaben (Insg. max. 750 Wörter) bzw. vergleichbare schriftliche Leistungen	4 C

Examination requirements: - Studierende erwerben im Schwerpunkt grundlegende Methoden- und Lernkompetenzen im Umgang mit literatur- und kulturhistorischen Zusammenhängen - Vertiefung von Methodenkompetenzen in der Analyse und Bewertung von einzelnen Texten	

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 6	

Georg-August-Universität Göttingen **Module B.Eng.501: Theoretical Foundations 1 – Syntax**	8 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden den Zusammenhang zwischen traditioneller, beschreibender Grammatik und einer formalen syntaktischen Theorie, • die Methoden synchroner syntaktischer Analyse, • die Struktureinheiten, Strukturbeziehungen sowie die zentralen Konstruktionen der englischen Syntax, • können die Studierenden die Methoden der modernen Syntax bei der Analyse sprachlicher Daten anwenden, • grammatische Regeln explizieren und formalisieren, • Generalisierungen und Hypothesen formulieren, • alternative syntaktische Analysen bewerten.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Introduction to Syntactic Theory *Course frequency:* each summer semester	2 WLH
Course: Syntax - Lab Class	2 WLH
Examination: Klausur (90 Min.) oder klausurähnliche Hausarbeit (max. 2000 Wörter) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	8 C

Examination requirements: Die Studierenden weisen nach, dass sie die Methoden der syntaktischen Analyse sicher beherrschen, dass sie die zentralen Konstruktionen des Englischen im Rahmen einer syntaktischen Theorie und nach Vorgabe der Lehrveranstaltung analysieren können, und dass sie alternative Analysen bewerten können.	

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 30	

Additional notes and regulations: Wird eine klausurähnliche Hausarbeit angeboten, stammen die Anteile aus beiden Lehrveranstaltungen dieses Moduls (Theoriekurs und Übung).

Theoriekurs und Übung sollten im selben Semester belegt werden; das vollständige Modul wird jeweils nur im Sommersemester angeboten.

Georg-August-Universität Göttingen **Module B.Eng.502: Theoretical Foundations 2 – Semantics and Pragmatics**	8 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden Notationssysteme zur adäquaten Beschreibung semantischer und pragmatischer Phänomene des Englischen, • kennen die Zielsetzung semantischer und pragmatischer Theoriebildung, • kennen den Unterschied zwischen Einzelfallbeschreibung, Generalisierung und theoretischer Vorhersage, • kennen Datenquellen und Methoden der Überprüfung von Generalisierungen, • können selbständig im Rahmen einer semantischen bzw. pragmatischen Theorie eine adäquate Beschreibung grammatischer Phänomene des Englischen durchführen, • können selbständig Generalisierungen formulieren und diese überprüfen, • können einfache Regelsysteme validieren.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Introduction to Formal Semantics and Pragmatics *Course frequency:* each winter semester	2 WLH
Course: Lab Class Semantics and Pragmatics	2 WLH
Examination: Hausarbeit oder klausurähnliche Hausarbeit (max. 2000 words)	8 C

Examination requirements: Die Studierenden weisen nach, dass sie elementare Phänomene der Semantik und Pragmatik kennen und angemessen beschreiben können und dass sie Transferaufgaben nach der Vorgabe der Lehrveranstaltungen lösen können.	

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Additional notes and regulations: Theoriekurs und Übung sollten im selben Semester belegt werden; das vollständige Modul wird jeweils nur im Wintersemester angeboten.

Georg-August-Universität Göttingen **Module B.Eng.531: Research-Oriented Linguistics**	6 C 2 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme • kennen die Studierenden alternative grammatische Theorien, • Kriterien zur Charakterisierung und Bewertung grammatischer Theorien, • Methoden der Literaturrecherche, • relevante Forschungsliteratur zu linguistisch wichtigen Gebieten, • können die Studierenden grammatische Theorien bewerten, • linguistische Argumentationen erstellen, • aktuelle sprachwissenschaftliche Forschungsergebnisse rezipieren und reflektieren, • einen eigenständigen forschungsorientierten Beitrag auf dem aktuellen Stand der Forschung erarbeiten.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: **Forschungsorientiertes linguistisches Hauptseminar**	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: Nachweis der Fähigkeit, relevante Forschungsliteratur zu einem sprachwissenschaftlich relevanten Thema zu recherchieren und zu rezipieren, Forschungsfragen zu extrahieren, den sprachlichen Gegenstand differenziert zu analysieren und eine angemessene Theorie auszuwählen und zu evaluieren	

Admission requirements: B.Eng.503	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.551: Additional Module: Aspects of English Linguistics**	4 C 2 WLH

Learning outcome, core skills: • Erweiterung und Vertiefung der grundlegenden Kenntnisse und Techniken im Bereich der Sprachwissenschaft durch eine zusätzliche Lehrveranstaltung in dem für das Wahlmodul nicht gewählten sprachwissenschaftlichen Teilbereich oder in einem noch nicht abgedeckten Bereich innerhalb des Wahlmoduls. • Erweiterung und Vertiefung der Kompetenz in der Anwendung der Methoden der modernen (synchronen) Sprachwissenschaft bei der Analyse sprachlicher Daten. • Erweiterung und Vertiefung der empirischen und theoretischen Erfassung sprachlicher Phänomene.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur englischen Linguistik *Contents*: z.B. zur englischen Phonologie, Morphologie, Morphosyntax, einer syntaktischen Theorie, zur Dialektologie des Englischen	2 WLH
Examination: Klausur (90 Min.) oder klausurähnliche Hausarbeit (max. 2000 Wörter) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Abhängig von der Themenstellung der gewählten LV weisen die Studierenden nach, dass sie: - ein sprachliches Phänomen vertieft analysieren und auf der Grundlage grammatischer Theorien und Modelle erklären können; - auf der mit empirischen Methoden gewonnen Daten zur Sprachverwendung Einsicht in die Struktur der Sprache gewinnen können; - Methoden der syntaktischen Analyse sicher beherrschen, dass sie die zentralen Konstruktionen des Englischen im Rahmen einer syntaktischen Theorie und nach Vorgabe der Lehrveranstaltung analysieren können, und dass sie alternative Analysen bewerten können.	4 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Regine Eckardt
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 5
Maximum number of students: not limited	

Additional notes and regulations:

Dieses Modul dient dazu, interessierten Studierenden den Besuch eines Zweigs der englischen Linguistik zu ermöglichen, der nicht durch das Kerncurriculum abgedeckt wird (z.B. einer LV zur phonologischen Sprachstruktur, wenn in das Modul B.Eng.503/504 eine LV zur Morphologie eingebracht wurde).

Georg-August-Universität Göttingen **Module B.Eng.601: Medieval English Literature and Culture**	8 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Grundlegende Überblickskenntnisse im Bereich der englischen Literatur des Mittelalters, ihrer Gattungen und Formen, und ihrer historischen Kontexte anhand wichtiger Hauptwerke zu reproduzieren • Kompetenzen im detaillierten Verständnis der historischen Sprachstufen des Englischen durch selbstständige Übersetzung mit Hilfsmitteln einzuüben und durch Wiederholung zu verfeinern und zu differenzieren • Ausgewählte Hauptwerke der mittelalterlich englischen Literatur im *close reading* kritisch zu kommentieren und erste schriftliche Ausdrucksformen für Form-Inhalt-Beziehungen in den Texten zu entwickeln • und haben erste Begegnung mit der handschriftlichen Überlieferungsform gemacht	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Vorlesung Mediävistik (Lecture) *Contents*: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, Literaturtheorie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	2 WLH
Examination: Written examination (30 minutes) **Examination requirements:** Je nach thematischer Ausrichtung der Vorlesung Nachweis sprach- und literaturwissenschaftlicher Kompetenzen im Bezug auf die älteren Sprachstufen des Englischen und deren Beschreibung, auf wichtige Hauptwerke des englischen Mittelalters und ihre historischen, kulturellen und materiellen Kontexte.	2 C

Course: "Introduction to Medieval English Literature and Culture" *Contents*: Die LV soll die Sprach- und Textkenntnis durch regelmäßige Übersetzungsübungen der älteren Sprachstufen vertiefen sowie erste Ansätze zur kritischen Interpretation von Form-Inhalt Beziehungen durch den *close commentary* einüben	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; 1 close commentary **Examination requirements:** Sprachkenntnisse und Übersetzungstechniken; Methoden des *close commentary* zu Form-Inhalt-Beziehungen	6 C

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language:	**Person responsible for module:**

English	Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

English   Prof. Dr. Winfried Rudolf

Georg-August-Universität Göttingen **Module B.Eng.602: Topics of Medieval English Studies**	6 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • spezifische Kenntnisse zu ausgewählten Themen im Bereich der englischen Literatur des Mittelalters, oder der englischen Sprache oder der Kulturwissenschaft zu reproduzieren • Sprachkenntnisse im Alt- und Mittelenglischen mit Bezug auf spezifische sprach-, literatur- oder kulturgeschichtliche Themen kreativ anzuwenden • Die Analyse mittelalterlich englischer Texte und historischer und gegenwärtiger Sprachphänomene mithilfe wichtiger Arbeitstechniken und Forschungsinstrumente zu vertiefen	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung Mediävistik (Lecture) *Contents*: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	2 WLH

Examination: Written examination (30 minutes) **Examination requirements:** Je nach thematischer Ausrichtung der Vorlesung Nachweis sprach- und literaturwissenschaftlicher Kompetenzen im Bezug auf die älteren Sprachstufen des Englischen und deren Beschreibung, auf wichtige Hauptwerke des englischen Mittelalters und ihre historischen, kulturellen und materiellen Kontexte.	2 C

Course: Lehrveranstaltung *Contents*: In den Lehrveranstaltungen werden semesterabhängig Themen zur Sprach-, Literatur- oder Kulturgeschichte des englischen Mittelalters vorlesungsbezogen behandelt: • Sprache: vertiefende Kenntnisse zu einzelnen Sprachperioden und Phänomenen; Einübung der Arbeit mit historischen Wörterbüchern und linguistischen Korpora; • Literatur und Kultur: je nach Vorlesungszyklus die Behandlung von Themen und Hauptwerken spezifischer Jahrhunderte; Beleuchtung wichtiger historischer Rahmenbedingungen, Arbeit am materiellen Text	2 WLH

Examination: Written examination (60 minutes) **Examination prerequisites:** DRINGEND EMPFOHLEN ABER NICHT VERPFLICHTEND VORAUSGESETZT wird die regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen **Examination requirements:** Semesterabhängig Sprachkenntnisse in unterschiedlichen Sprachstufen des Englischen; essayistische Auseinandersetzung mit spezifischen Fragen der Textinterpretation; Beherrschung grundlegender Methoden der literarischen und	4 C

materiellen Textanalyse und des historischen Sprachvergleichs; Grundkenntnisse zum
kulturhistorischen Kontext spezifischer Sprachdenkmäler

Admission requirements:	Recommended previous knowledge:
B.Eng.601	none
Language:	**Person responsible for module:**
English	Prof. Dr. Winfried Rudolf
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.Eng.603: Peer Assisted Medieval English Studies**	7 C 4 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme sind die Studierenden in der Lage, • Individuelle Arbeit an vorlesungsbezogenen Forschungsthemen auszuführen und damit vorhandene Kenntnisse nachzuweisen und zu vertiefen • Feedback zum Forschungsprozess mithilfe regelmäßig geführter *Tutorials* anzunehmen und in die eigene Arbeit zu integrieren • den kritischen Dialog über Themen, Forschungsliteratur und Arbeitsschritte in kleinen Gruppen zu trainieren • Stilkompetenz im wissenschaftlichen Diskurs zu erwerben und eigene Standpunkte fundiert zu vertreten • Selbstkritisch mit den eigenen Forschungsresultaten umzugehen und Problemlösungstrategien im Team zu erarbeiten • eigenständig längere schriftliche Arbeiten zu Forschungsthemen unter Verwendung aller vorhandenen Ressourcen schrittweise zu entwickeln	**Workload:** Attendance time: 56 h Self-study time: 154 h

Course: Tutorial *Contents*: • Das *Tutorial* bietet die Möglichkeit, in kleinen Gruppen die eigenen schriftlichen Entwürfe unter Aufsicht kritisch zu diskutieren • Durch dezidierte Rückmeldung werden die Studierenden dazu befähigt, ihre schriftliche Ausarbeitung besser zu strukturieren und Strategien des wissenschaftlichen Arbeitens zu vertiefen	2 WLH
Course: Vorlesung (Lecture) *Contents*: Die Vorlesung bietet im semesterabhängigen Wechsel Überblicksdarstellungen zur mittelalterlichen Literatur Englands, zur historischen Sprachentwicklung des Englischen sowie zu ausgewählten Themen im Bereich der Paläographie, zu wichtigen Sprachdenkmälern und zur Kulturgeschichte des englischen Mittelalters	2 WLH
Examination: Term Paper (max. 5000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Essay (max. 2000 Wörter) **Examination requirements:** Verfassen eines ersten Essays in Vorbereitung auf die Behandlung eines weiteren Forschungsthemas in der Hausarbeit, Kritische Reflektion; Anwendung erworbener Arbeitstechniken	7 C

Admission requirements: B.Eng.602	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf

Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 4 - 5
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Eng.631: Advanced Medieval English Studies**	6 C 2 WLH

Learning outcome, core skills: Kompetenzen: Studierende vertiefen v.a. ihre Methodenkompetenzen durch Erwerb von forschungsbasierten Fertigkeiten im fachwissenschaftlichen Umgang mit der Sprachgeschichte des Englischen sowie mit Texten in ihren literatur- und kulturhistorischen Zusammenhängen. Sie vertiefen ihre Sozialkompetenzen (v.a. Kritik- und Handlungskompetenzen, Flexibilität im Umgang mit fremden Ansätzen). Zentrale Inhalte: Forschungsorientierte fachwissenschaftliche Vertiefung im Teilfach "Mediävistik".	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forschungsorientiertes Hauptseminar Mediävistik	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	6 C

Examination requirements: sicherer Umgang mit Textformen und -gattungen, mit Methoden und Problemen der Analyse mittelalterlicher englischer Texte, historischer und gegenwärtiger Sprachformen des Englischen sowie mit relevanter Forschungsliteratur	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.701: Introduction to English Language Teaching and Cultural Learning**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Die Studierenden • kennen fachdidaktische Grundlagen der schulischen Vermittlung sprachpraktischer Kenntnisse und Fähigkeiten (Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen); • kennen fremdsprachendidaktische Ansätze aus den Bereichen der Literatur-, Kultur- und Mediendidaktik; • kennen Lernziele des Fremdsprachenunterrichts sowie verschiedene Methoden und Medien zu ihrer Erreichung; • sind in der Lage, fremdsprachliche Lehr-Lern-Prozesse zu planen, anzuleiten und zu beurteilen; • kennen verschiedene Persönlichkeits- und Rollentheorien des Fremdsprachenlehrers bzw. der -lehrerin; • sind in der Lage, ihre professionsorientierte persönliche Entwicklung zu reflektieren; • kennen landeskundliche und interkulturelle Ansätze und Theorien und sind sich ihrer Bedeutung für das Lehren und Lernen einer fremden Sprache bewusst; • sind in der Lage, ihr Interaktionsverhalten hinsichtlich (inter)kultureller Faktoren zu planen, zu beobachten und zu reflektieren; • sind in der Lage, Mittlerfunktionen zwischen Personen unterschiedlicher Kulturen und Sprachen zu übernehmen; • entwickeln ein Bewusstsein für kulturelle Vielfalt als Ressource für Bildungsprozesse.	Attendance time: 56 h Self-study time: 124 h

Course: Introduction to English Language Teaching *Contents*: • theoretische Grundlagen der Fachdidaktik Englisch, • LehrerInnenrollen, LehrerInnenbilder, • Konzeption von fremdsprachlichen Unterrichtsprozessen, • Einsatzmöglichkeiten verschiedener Methoden und Medien und deren Reflexion, • schulische Vermittlung von Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen, • Grundlagen der Literatur-, Kultur- und Mediendidaktik, • Leistungsbeurteilung	2 WLH
Course: Tutorium *Contents*: • Nachbereitung und Vertiefung der Themen aus dem Seminar *Introduction to English Language Teaching*,	1 WLH

• inhaltliche und methodische Planung und Durchführung einer Unterrichtsstunde *(Micro Teaching Unit)*zu einem der Themen aus dem Seminar, • Reflexion der unterrichtspraktischen Erfahrung Anmerkung: Proseminar und Tutorium müssen in einem Semester belegt werden.	
Examination: Learning journal (max. 6000 words) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Planung und Durchführung einer Micro Teaching Unit (MTU) **Examination requirements:** Die Studierenden weisen in der Modulprüfung nach, dass sie die fachdidaktischen Grundlagen der schulischen Vermittlung fremdsprachlicher Unterrichtsinhalte kennen sowie deren Relevanz für die Konzeption von fremdsprachlichen Unterrichtsprozessen reflektieren können; dass sie Grundkenntnisse über den Einsatz verschiedener Methoden und Medien im Fremdsprachenunterricht erworben haben; dass sie die Grundlagen der Fremdsprachendidaktik aus verschiedenen Perspektiven reflektieren können: aus der der Lernenden im Seminar, aus der Sicht von Lehrenden und aus der Sicht von SchülerInnen. Die Studierenden weisen außerdem nach, dass sie in der Lage sind, ihren eigenen Lernprozess auch im Hinblick auf interkulturelle Begegnungssituationen zu reflektieren und Konsequenzen für ihre eigene Unterrichtspraxis und Lehrpersönlichkeit abzuleiten. Sie zeigen, dass sie Kenntnisse von verschiedenen Persönlichkeits- und Rollentheorien als Fachlehrerin oder Fachlehrer erworben haben und diese reflektieren können.	6 C

Course: Introduction to Cultural Learning *Contents*: • Ansätze und Theorien von kulturellem Lernen, • Reflexion von interkulturellen Begegnungs- und Kommunikationssituationen Anmerkung: Es wird empfohlen, die Übung Introduction to Cultural Learning parallel zum Seminar Introduction to English Language Teaching zu belegen. Sie kann aber auch nach dem Besuch des Seminars und des Tutoriums erfolgen. Eine kurze schriftliche Reflexion (700-900 Wörter; 1,5-2 Seiten) ist Teil des Portfolios und geht mit einer Teilnote in die Bewertung des Portfolios ein.	1 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: 43	

Additional notes and regulations:

Das Tutorium ist parallel zur Veranstaltung Introduction to English Language Teaching zu belegen. Die Veranstaltung Introduction to Intercultural Learning sollte ebenfalls parallel belegt werden, kann aber auch später absolviert werden.

Die Teilnahme an der Veranstaltung Introduction to Intercultural Learning ist separat in FlexNow nachzuweisen.

Georg-August-Universität Göttingen **Module B.Eng.702: Introduction to English Language Teaching (at Vocational Schools)**	4 C 3 WLH

Learning outcome, core skills:	**Workload:**
Die Studierenden • kennen fachdidaktische Grundlagen der schulischen Vermittlung sprachpraktischer Kenntnisse und Fähigkeiten (Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen); • kennen fremdsprachendidaktische Ansätze aus den Bereichen der Literatur-, Kultur- und Mediendidaktik; • kennen Lernziele des Fremdsprachenunterrichts sowie verschiedene Methoden und Medien zu ihrer Erreichung; • sind in der Lage, fremdsprachliche Lehr-Lern-Prozesse zu planen, anzuleiten und zu beurteilen; • kennen verschiedene Persönlichkeits- und Rollentheorien des Fremdsprachenlehrers bzw. der -lehrerin; • sind in der Lage, ihre professionsorientierte persönliche Entwicklung zu reflektieren; • kennen landeskundliche und interkulturelle Ansätze und Theorien und sind sich ihrer Bedeutung für das Lehren und Lernen einer fremden Sprache bewusst; • sind in der Lage, ihr Interaktionsverhalten hinsichtlich (inter)kultureller Faktoren zu planen, zu beobachten und zu reflektieren; • sind in der Lage, Mittlerfunktionen zwischen Personen unterschiedlicher Kulturen und Sprachen zu übernehmen; • entwickeln ein Bewusstsein für kulturelle Vielfalt als Ressource für Bildungsprozesse.	Attendance time: 42 h Self-study time: 78 h

Course: Lehrveranstaltung Introduction to English Language Teaching *Contents*: • theoretische Grundlagen der Fachdidaktik Englisch, • LehrerInnenrollen, LehrerInnenbilder, • Konzeption von fremdsprachlichen Unterrichtsprozessen, • Einsatzmöglichkeiten verschiedener Methoden und Medien und deren Reflexion, • schulische Vermittlung von Wortschatz, Grammatik, Hör-, Seh- und Leseverstehen, Sprech- und Schreibvermögen, • Grundlagen der Literatur-, Kultur- und Mediendidaktik, • Leistungsbeurteilung	2 WLH
Course: Tutorium *Contents*: • Nachbereitung und Vertiefung der Themen aus dem Seminar Introduction to English Language Teaching, • inhaltliche und methodische Planung und Durchführung einer	1 WLH

Unterrichtsstunde (Micro Teaching Unit) zu einem der Themen aus dem Seminar, •
Reflexion der unterrichtspraktischen Erfahrung

Anmerkung: Proseminar und Tutorium müssen in einem Semester belegt werden.

Examination: Learning journal (max. 6000 words)
Examination prerequisites:
regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen; Planung
und Durchführung einer Micro Teaching Unit (MTU)
Examination requirements:
Das Portfolio dient zur Reflexion des eigenen Lernprozesses.

Die Studierenden weisen in der Modulprüfung nach, dass sie die fachdidaktischen
Grundlagen der schulischen Vermittlung fremdsprachlicher Unterrichtsinhalte kennen
sowie deren Relevanz für die Konzeption von fremdsprachlichen Unterrichtsprozessen
reflektieren können; dass sie Grundkenntnisse über den Einsatz verschiedener
Methoden und Medien im Fremdsprachenunterricht erworben haben; dass sie die
Grundlagen der Fremdsprachendidaktik aus verschiedenen Perspektiven reflektieren
können: aus der der Lernenden im Seminar, aus der Sicht von Lehrenden und aus
der Sicht von SchülerInnen. Die Studierenden weisen außerdem nach, dass sie in der
Lage sind, ihren eigenen Lernprozess zu reflektieren und Konsequenzen für ihre eigene
Unterrichtspraxis und Lehrpersönlichkeit abzuleiten. Sie zeigen, dass sie Kenntnisse
von verschiedenen Persönlichkeits- und Rollentheorien als Fachlehrerin oder Fachlehrer
erworben haben und diese reflektieren können.

Admission requirements: none	**Recommended previous knowledge:** B.Eng.101
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.Eng.771: Teaching English as a Foreign Language (for Students from Abroad)**	4 C 2 WLH

Learning outcome, core skills: Die Studierenden erwerben vertiefte fremdsprachendidaktische Kenntnisse. Sie zeigen, dass sie in der Lage sind, eine Verbindung von fachdidaktischen Theorien, Methoden und Fragestellungen mit fachwissenschaftlichen Inhalten und Theorien herzustellen. Sie zeigen, dass sie Theorien, Methoden und Erträge fachdidaktischer Forschung (historische und aktuelle Modelle der Sprach-, Literatur- und Kulturvermittlung, Medien- und Methodenkonzepte, Kompetenzmodelle, Steuerung von Lernprozessen, Leistungsfeststellung und -bewertung) kennen und in der Lage sind, diese kritisch zu reflektieren. Sie kennen Einsatzmöglichkeiten und Anpassungsnotwendigkeiten fachwissenschaftlichen Materials für Lehr-/Lernkontexte und sind in der Lage diese kritisch zu reflektieren.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Lehrveranstaltung zur Fachdidaktik des Englischen (Vertiefung)	2 WLH

Examination: Präsentation (ca. 30 Min.) mit Diskussionsleitung und schriftlicher Ausarbeitung (max. 2000 Wörter) **Examination prerequisites:** regelmäßige Teilnahme **Examination requirements:** - Präsentation und schriftliche Ausarbeitung dieser: Kenntnis der theoretischen Grundlagen; Fähigkeit zur Planung einer Unterrichtsstunde (inhaltlich, methodisch); Fähigkeit eine Unterrichtstunde durchzuführen; Fähigkeit diese in einen größeren Kontext (Unterrichtseinheit/-sequenz) einzubinden; Unterrichtsstunde auf der Basis fachdidaktischer theoretischer Grundlagen reflektieren; Verbindung zu fachwissenschaftlichem Inhalt herstellen und reflektieren; Nachweis der selbständigen wissenschaftlichen Bearbeitung eines Themas unter einer bestimmten Fragestellung - Diskussionsleitung: Moderation von Gesprächssituationen (Vergleich zu späteren "Schulsituationen", Fähigkeit zur kritischen inhaltlichen und methodischen Reflexion)	4 C

Admission requirements: none	**Recommended previous knowledge:** Grundlegende Kenntnisse zur Fremdsprachendidaktik
Language: English	**Person responsible for module:** Prof. Dr. Carola Surkamp
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Eng.802: Career-Oriented Internship**	6 C

Learning outcome, core skills: Die Studierenden können Kenntnisse und Techniken aus dem Studium im Fach Englisch/ELLC im Rahmen eines fachnach gewählten Praktikum (Erwachsenenbildung, Museum, Firma/Betrieb, Zeitung/Zeitschrift, Online) anwenden. Sie können den Prozess, ihre Erkenntnisse sowie die eingesetzten Methoden reflektieren. Sie verfügen über einen geeigneten theoretisch-methodischen Bezugsrahmen und können diesen darstellen.	**Workload:** Attendance time: 0 h Self-study time: 180 h

Course: Praxisteil: Praktikum (120 Stunden) *Contents*: mit Blick auf Fachnähe gewähltes Praktikum in einem Betrieb, einer Institution, einer Organisation	
Examination: Internship report (max. 12 pages), not graded	6 C

Examination requirements: Studierende können die während eines Praktikums erworbenen berufsorientierenden Kenntnisse und Erfahrungen reflektieren. Sie können ihre Erfahrungen in einen geeigneten theoretisch-methodischen Bezugsrahmen stellen.	

Admission requirements: Teilnahme an einem Beratungsgespräch zu Praktikumsbereichen; erfolgreiche Bewerbung als PraktikantIn	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each semester1	**Duration:**
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 10	

Additional notes and regulations: Das Modul kann nicht parallel zu B.Eng.813 "Perspektiven der Literatur- und Kulturindustrie" belegt werden.

Georg-August-Universität Göttingen **Module B.Eng.812: Literary Reception and Mediation**	6 C 1 WLH

Learning outcome, core skills: Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	**Workload:** Attendance time: 14 h Self-study time: 166 h

Course: Attendance at two lectures on topics from the field of Anglophone Literature and Culture	
Course: Attendance at two readings on texts in the field of Anglophone Literature and Culture	
Course: Visit to a theater or opera production on a text in Anglophone literature	

Course: Block seminar or self-study unit *Contents*: Brief presentation of subject matter, as well as critical reflection on the events attended; work on literary-sociological issues and theories.	1 WLH

Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format **Content of Portfolio:** Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; Short presentation (about 10 min.)	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module B.Eng.813: Perspectives on the Literature and Culture Industries**	12 C 1 WLH

Learning outcome, core skills: Students enhance their knowledge about the approach to different areas of the literary and cultural industry. They reflect the specific approaches of the literary and cultural industry for non-scientific recipients. They acquire an overview of which texts and authors are absorbed by society. They improve their understanding of what target groups literary events aim at and learn to critically reflect on those events. In cooperation with the host institution, an internship may be utilized for a research-based master thesis.	**Workload:** Attendance time: 14 h Self-study time: 346 h

Course: Internship in a "Literary Business" (8-12 weeks, domestic or abroad) (e.g with a publishing company; for instance the Literarisches Zentrum, Göttingen, the Literaturherbst, a "literary business" outside Göttingen; in a museum (also non literary); in the area of cultural management with a cultural organisation; with a theatre)	

Examination: Internship report (max. 4000 words), not graded **Examination prerequisites:** Nachweis der Kenntnis literatursoziologischer Theorien **Examination requirements:** The internship report helps students to systematically document and reflect upon their internship experiences, and allows them to show that they know the specific challenges of the literature and culture industry, especially with regard to authors and publishing houses. Secondly, it allows them to show that they can critically reflect upon the realisation of the different formats, which they encounter. Furthermore, they show their abilities to adapt to the typical and untypical situations of the literature and culture industry and present their copying strategies, which they have developed for these situations. Foci of the internship report: • documentation of the internship: Students describe the most important experiences and situations of their internship. • reflections of the practical insights gained In the second part of the internship report students analyse and reflect upon their new findings and experiences. Further, they critically think about and evaluate their findings with regard to their distinct role during their internship, as well as their studies, the literature and culture industry and their later potential field of work.	12 C

Course: Block Seminar *Contents*: Activity brief as well as a critical reflection on the marketing of English-speaking writers and their works in the literary scene; development of topics and theories concerning the sociology of literature	1 WLH

Admission requirements:	**Recommended previous knowledge:**

none	none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1-2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations: Das Modul kann nicht parallel zu SK.Eng.Beruf20 belegt werden.

none	none

Georg-August-Universität Göttingen **Module B.Eng.814: Forms of Literary Reception/s: Edinburgh Festivals**	6 C 2 WLH

Learning outcome, core skills: Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Visit to two or three literary museums or places of literary importance in or around Edinburgh *Contents*: e.g. Writers' Museum; Abbotsford House; Lewis Grassic Gibbon Centre; Burns' House	
Course: Attendance at/participation in one or two guided tours with a or on a literary topic *Contents*: e.g. City of Literature Tour; Rebus Tour; 44 Scotland Street Tour; if only one two places/ museums are chosen, students must take part in two tours	
Course: Visit to three events at the Edinburgh International Book Festival After consulting with the person responsible for the module, one of these events may be exchanged for an Edinburgh Fringe Festival event or an Edinburgh International Festival event.	
Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format **Content of Portfolio:** Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; short presentation (about 10 min.)	6 C
Course: Summer School course or self-study unit on aspects of cultural history or cultural theory *Contents*: aspects of the cultural specifics of Edinburgh, with a focus on the literature and culture industries in and around Edinburgh	2 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each summer semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	1 - 3

Georg-August-Universität Göttingen **Module B.Eng.815: The Grimm Brothers in Literary Reception and Mediation**	6 C 1 WLH

Learning outcome, core skills: Students deepen their knowledge of the everyday use and reception of various text types in the print media and culture industry.They know different types of literary museums and guided tours with reference to the Grimm Brothers. They can critically reflect on how different institutions and events in the literature business reach out to audiences, focusing on an internationally acclaimed author pair, also with an international perspective.	**Workload:** Attendance time: 14 h Self-study time: 166 h
Course: Visit to to museums or places of literary importance with a focus on the Grimm Brothers *Contents*: one of the should be Grimmwelt (Kassel), the other museum/place can be chosen freely (e.g. Steinau or Hanau)	
Course: Visit to a virtual exhibition on the Grimm Brothers	
Course: Participation in two guided tours focusing on the Grimm Brothers *Contents*: e.g. 'Märchenhaftes Göttingen' and 'Brothers Grimm in Kassel' or 'Auf den Spuren der Brüder Grimm in Marburg'; as an alternative to one of them a self-guided tour can be taken, e.g. along the Marburg Grimm-Dich-Pfad	
Course: Visit to a further place or to another event with a focus on the Grimm Brothers	
Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** Contents of the portfolio on places and events: reflecting the presentation and mediation of the Grimm Brothers and their works; critical reflection on the ways and means of the presentation (also in social media channels); considering the canonisation of authors. The portfolio can contain reviews, summaries, self-authored journal or newspaper articles/blog entries/podcasts including background research on the events and places plus a critical overall reflection.	6 C
Course: Blockseminar bzw. Selbstlerneinheit *Contents*: literary-sociological theories and topics focusing on the relationship between author and reader, literary museums, literary tourism; forms of reception and mediation of authors; focusing more particularly on the Grimm Brothers and their works in English-speaking countries around the world If students choose the self-study unit, students are expected to accompany their work through the unit by blog entries (approx. 1000 words).	1 WLH

Admission requirements:	**Recommended previous knowledge:**

none	none
Language: English, German	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: 1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
Not all museums and events are offered in English or have guided tours in English. Students should have a good working knowledge of German (approx. CEF level B2).

Georg-August-Universität Göttingen **Module B.Geo.705: Digital techniques**	6 C 3 WLH

Learning outcome, core skills: Die Vorlesung vermittelt grundlegende Kenntnisse und digitale Techniken für geowissenschaftliche und geographische Studiengänge. Im ersten Teil werden Grundlagen der Datenverarbeitung und -analyse mit Fokus auf die Verwendung von Open Source Software, z. B. Python, erlernt sowie verschiedene Aspekte des wissenschaftlichen Datenmanagements auf der Basis von FAIR Prinzipien vorgestellt und diskutiert. Der zweite Teil der Vorlesung bietet einen einführenden Überblick über verschiedenste Simulations- und Modellierungstechniken für geo-relevantes wissenschaftliches Rechnen. Der dritte Teil widmet sich der praktischen Einführung in die Nutzung von Physical-Computing Systemen, z. B. Microcontroller Boards wie beispielsweise Arduino Boards, mit denen die Erhebung eigener Umweltdaten durchgeführt werden kann.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Digitale Techniken (Lecture)	2 WLH
Course: Digitale Techniken (Exercise)	1 WLH
Examination: Vortrag (ca. 15 Minuten) mit schriftlicher Ausarbeitung (max. 10 Seiten)	6 C

Examination requirements: Die Studierenden sind in der Lage, grundlegende Konzepte und Zusammenhänge in den oben angegebenen Gebieten zu verstehen und wiederzugeben sowie in diesem Kontext einfache Programmieraufgaben mit Hilfe von Open Source Software zu lösen	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Dr. rer. nat. Johanna K. Kerch Prof. Andreas Pack
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module B.Inf.1204: Telematics / Computer Networks**	5 C 3 WLH

Learning outcome, core skills: The students • know the core principles and concepts of computer networks. • know the principle of layering and the coherences and differences between the layers of the internet protocol stack. • know the properties of protocols that are used for data forwarding in wired and wireless networks. They are able to analyse and compare these protocols. • know details of the internet protocol. • know the different kinds of routing protocols, both in the intra-domain and inter-domain level. They are able to apply, analyse and compare these protocols. • know the differences between transport layer protocols as well as their commonalities. They are able to use the correct protocol based on the demands of an application. • know the principles of Quality-of-Service infrastructures and networked multimedia • know the basics of both symmetric and asymmetric encryption with regards to network security. They know the various advantages and disadvantages of each kind of encryption when compared to each other and can apply the correct encryption method based on application demands.	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Computernetworks (Lecture, Exercise)	3 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Layering; ethernet; forwarding in wired and wireless networks; IPv4 and IPv6; inter-domain and intra-domain routing protocols; transport layer protocols; congestion control; flow control; Quality-of-Service infrastructures; asymmetric and symmetric cryptography	5 C

Admission requirements: none	**Recommended previous knowledge:** B.Inf.1101, B.Inf.1801
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Inf.1236: Machine Learning**	6 C 4 WLH

Learning outcome, core skills: Students • learn concepts and techniques of machine learning and understand their advantages and disadvantages compared with alternative approaches • learn techniques of supervised learning for classification and regression • learn techniques of unsupervised learning for density estimation, dimensionality reduction and clustering • implement machine learning algorithms like linear regression, logistic regression, kernel methods, tree-based methods, neural networks, principal component analysis, k-means and Gaussian mixture models • solve practical data science problems using machine learning methods	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Machine Learning (Lecture) Bishop: Pattern recognition and machine learning. https://cs.ugoe.de/prml	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** B.Inf.1236.Ex: At least 50% of homework exercises solved and N-1 attempts presented to tutors **Examination requirements:** Knowledge of the working principles, advantages and disadvantages of the machine learning methods covered in the lecture	6 C

Course: Machine Learning - Exercise (Exercise) *Contents*: Students present their solutions of the homework exercises to tutors and discuss them with their tutors.	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Knowledge of basic linear algebra and probability English language proficiency at level B2 (CEFR)
Language: English	**Person responsible for module:** Prof. Dr. Alexander Ecker
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Inf.1237: Deep Learning for Computer Vision**	6 C 4 WLH

Learning outcome, core skills: Students - learn concepts and techniques of deep learning and understand their advantages and disadvantages compared to alternative approaches - learn to solve practical data science problems using deep learning - implement deep learning techniques like multi-layer perceptrons, convolutional neural networks and other modern deep learning architectures - learn techniques for optimization and regularization of deep neural networks - learn applications of deep neural networks for computer vision tasks such as segmentation and object detection	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Deep Learning for Computer Vision (Lecture) Goodfellow, Bengio, Courville: Deep Learning. https://www.deeplearningbook.org Bishop: Pattern Recognition and Machine Learning. https://cs.ugoe.de/prml	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** B.Inf.1237.Ex: At least 50% of homework exercises solved and N-1 attempts presented to tutors **Examination requirements:** Knowledge of basic deep learning techniques, their advantages and disadvantages and approaches to optimization and regularization. Ability to implement these techniques.	6 C

Course: Deep Learning for Computer Vision - Exercise (Exercise) *Contents*: Students present their solutions of the homework exercises to tutors and discuss them with their tutors.	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of linear algebra and probability Completion of B.Inf.1236 Machine Learning or equivalent
Language: English	**Person responsible for module:** Prof. Dr. Constantin Pape Prof. Dr. Alexander Ecker
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Inf.1238: Informetrics**	5 C 4 WLH

Learning outcome, core skills: Students • learn concepts and techniques of informetric analysis • learn concepts of empirical laws in scientific literature analytics • learn basics of Bradford law, Lotka law, Zipf law and other related rank-order distributions • analyse informetric distributions like Lotka law in real-life literature databases • implement informetric techniques • learn to recognise informetric laws	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Introduction to Informetrics (Lecture, Exercise) Wilson, C.S. (1999). Informetrics. Annual Review of Information Science and Technology (ARIST), 34, 107-247	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** At least 50% of homework exercises solved. **Examination requirements:** • Knowledge of informetric techniques and basic informetric laws • Knowledge of basic literature analytics • Ability to implement these techniques	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Philipp Mayr-Schlegel
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Inf.1239: Digital Repositories**	5 C 4 WLH

Learning outcome, core skills: Students - learn concepts and functionalities of Digital Repositories (like Digital Libraries or other types of scientific document collections) - analyse different types of content in Digital Repositories (like scholarly literature full-texts, datasets, etc.) - learn how to automatically process content from Digital Repositories - implement content processing pipelines (like cleaning, aggregating) - implement simple bibliometric analyses - learn to interpret data	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Introduction to Digital Repositories (Lecture, Exercise) Edward A. Fox, Robert M. Akscyn, Richard K. Furuta, and John J. Leggett. 1995. Digital libraries. Commun. ACM 38, 4, 22–28	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** At least 50% of homework exercises solved. **Examination requirements:** - Knowledge of concepts and content in typically state-of-the-art Digital Repositories - Knowledge of basic content processing techniques - Ability to implement these techniques - Ability to interpret output from these techniques	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic understanding of relational databases
Language: English	**Person responsible for module:** Dr. Philipp Mayr-Schlegel
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Inf.1240: Visualization**	6 C 4 WLH

Learning outcome, core skills: Knowledge of - the potentials and limitations of data visualization - the fundamentals of visual perception and cognition and their implications for data visualization. Students can apply these to the design of visualizations and detect manipulative design choices - a broad variety of techniques for visual representation of data, including abstract and high-dimensional data. Students can select appropriate methods on new problems - integration of visualization into the data analysis process, algorithmic generation and interactive methods	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Visualization (Lecture, Exercise)	4 WLH
Examination: Practical project (2-3 weeks) with presentation and questions during oral exam in groups (approx. 20 minutes per examinee). **Examination prerequisites:** At least 50% of homework exercises solved. **Examination requirements:** Knowledge of potentials and limitations of data visualization, fundamentals of visual perception and their implications for good design choices, techniques for visual representation and how to use them.	6 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of linear algebra and analysis (e.g. B.Mat.0801 and B.Mat.0802) and programming skills (e.g. B.Inf.1842).
Language: English	**Person responsible for module:** Prof. Dr. Bernhard Schmitzer
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Inf.1241: Computational Optimal Transport**	6 C 4 WLH

Learning outcome, core skills: Knowledge of - the fundamental notions of optimal transport, and its strengths and limitations as a data analysis tool - the discrete Kantorovich formulation, its convex duality, and Wasserstein distances - classical numerical algorithms, entropic regularization, and their scopes of applicability - examples for data analysis applications. Students can transfer these to new potential applications	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Computational Optimal Transport (Lecture, Exercise)	4 WLH
Examination: Written exam (90 minutes) or oral exam (approx. 20 minutes) **Examination prerequisites:** At least 50% of homework exercises solved. **Examination requirements:** Knowledge of Kantorovich duality, Wasserstein distances, standard algorithms and implications for data analysis applications.	6 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of linear algebra and analysis (e.g. B.Mat.0801 and B.Mat.0802) and programming skills (e.g. B.Inf.1842).
Language: English	**Person responsible for module:** Prof. Dr. Bernhard Schmitzer
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Inf.1709: Advanced Algorithms and Data Structures**	5 C 4 WLH

Learning outcome, core skills: Die Studierenden haben vertiefte Kenntnisse und Kompetenzen auf einem Gebiet aus dem Bereich Algorithmen und Datenstrukturen erworben. Beispiele für solche Gebiete sind Algorithms on Sequences und Advanced Topics on Algorithms.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Algorithms on Sequences (Lecture, Exercise)
Contents:
This course is an introduction into the theory of stringology, or algorithms on sequences of symbols (also called words or strings). Our main intention is to present a series of basic algorithmic and combinatorial results, which can be used to develop efficient word-processing tools. While the emphasis of the course is on the theoretical side of stringology, we also present a series of applications of the presented concepts in areas like data-compression or computational biology.
 	
We expect that the participants to this course will gain an understanding of classical string-processing tools. They are supposed to understand and be able to use in various situations: classical text algorithms (e.g., pattern matching algorithms, edit distance), classical text indexing data structures (e.g., suffix arrays / trees), and classical combinatorial results that are useful in this context (e.g., periodicity lemmas).
 	
The main topics our course will cover are: basic combinatorics on words, pattern matching algorithms, data structures for text indexing (suffix arrays, suffix trees), text compression (Huffman encoding, Lempel-Ziv method), detection of regularities in words, algorithms for words with don't care symbols (partial words), word distance algorithms, longest common subsequence algorithms, approximate pattern matching. The presentation of each theoretical topic from the above will be accompanied by a brief discussion on its possible applications.
 	
Literature
 	
  • T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein: Introduction to Algorithms (3rd Edition), MIT Press, 2009.
  • M. Crochemore, C. Hancart, T. Lecroq: Algorithms on Strings, Cambridge University Press, 2007.
  • M. Crochemore, W. Rytter: Jewels of Stringology, World Scientific, 2002.
  • D. Gusfield. Algorithms on strings, trees, and sequences: computer science and computational biology. Cambridge University Press, 1997.
 	
Course frequency: irregular
	4 WLH

Course: Advanced Topics on Algorithms (Lecture, Exercise) *Contents*: In this course we present a series of selected results on data structures and efficient algorithms, and discuss a series of areas in which they can be applied successfully. The emphasis of the course is on the theory, we also approach the problem of a practical implementation of the presented algorithms.	4 WLH

We expect that the students that will participate in this lecture will become familiar with efficient sorting and searching methods, advanced data structures, dynamic data structures, as well as other efficient algorithmic methods, they will be able to estimate the complexity of those algorithms, and they will be able to apply those algorithms to particular programming problems (from practical or theoretical settings).

The main topics our course will cover are: efficient sorting and searching (non-comparison based methods, van Emde Boas trees, Radix Sort), advanced tree-structures (Fibonacci heaps, B-Trees, structures for working with disjoint sets), dynamic data structures (range minimum queries, lowest common ancestor, applications to string algorithms: suffix arrays, suffix trees), Hashing and Dictionaries, Young tableaux, geometric algorithms (convex hull), number theoretic algorithms. The presentation of each theoretical topic from the above will be accompanied by a brief discussion on its possible applications.

Literature

- T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein: Introduction to Algorithms (3rd Edition), MIT Press, 2009.
- E. Demaine: Advanced Data Structures, MIT Course nr. 6.851, 2012.
- Pawel Gawrychowski and Mayank Goswami and Patrick Nicholson: Efficient Data Structures, MPI Course, Summer 2014.

Course frequency: irregular

Examination: Oral examination (approx. 20 minutes) **Examination requirements:** Algorithms on Sequences • basic combinatorics on words • pattern matching algorithms • data structures for text indexing (suffix arrays, suffix trees) • text compression (Huffman encoding, Lempel-Ziv method) • detection of regularities in words • algorithms for words with don't care symbols (partial words) • word distance algorithms • longest common subsequence algorithms • approximate pattern matching Advanced Topics on Algorithms • efficient sorting and searching (non-comparison based methods, van Emde Boas trees, Radix Sort) • advanced tree-structures (Fibonacci heaps, B-Trees, structures for working with disjoint sets) • dynamic data structures (range minimum queries, lowest common ancestor, applications to string algorithms: suffix arrays, suffix trees) • Hashing and Dictionaries • Young tableaux • geometric algorithms (convex hull) • number theoretic algorithms	5 C

Admission requirements:	Recommended previous knowledge:
none	B.Inf.1101, B.Inf.1103
Language:	**Person responsible for module:**
English	Prof. Dr. Florin Manea
Course frequency:	**Duration:**
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
50	

Georg-August-Universität Göttingen **Module B.Inf.1710: Advanced Computer Security and Privacy**	5 C 4 WLH

Learning outcome, core skills: Die Studierenden haben vertiefte Kenntnisse und Kompetenzen auf einem Gebiet aus dem Bereich Computersicherheit und Privatheit erworben. Beispiele für solche Gebiete sind "Usable Security and Privacy" und "Privacy in Ubiquitous Computing".	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Usable Security and Privacy (Lecture, Exercise) On completion of the lecture, students should be able to: • Understand the needs for usability in secure and privacy-preserving solutions and the associated challenges, • Present and discuss selected themes addressed in the research area of usable security and privacy, • Define and understand the principles and guidelines to apply when designing new solutions, • Describe and compare different methodologies to conduct user studies, • Plan user studies from their design to the processing and presentation of the results. *Course frequency:* irregular	4 WLH
Course: Privacy in Ubiquitous Computing (Lecture, Exercise) *Contents*: After successful completion of the lecture, students are able to: • Define and understand the key concepts of privacy and ubiquitous computing, • Identify and classify threats to privacy in ubiquitous computing, • Describe, compare, and choose fundamental techniques to protect privacy, • Understand and analyze cutting-edge solutions. *Course frequency:* irregular	4 WLH
Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination requirements:** Usable Security and Privacy • Introduction to usable security and privacy, selected topics in the research field of usable security and privacy, human-computer interaction principles and guidelines, methods to design and evaluate usable solutions in the area of security and privacy. Privacy in Ubiquitous Computing • Introduction to privacy and ubiquitous computing, privacy threats, privacy-enhancing technologies, wireless sensor networks, smart meters, participatory sensing, RFIDs, Internet-of-Things.	5 C

Admission requirements: none	**Recommended previous knowledge:** B.Inf.1101, B.Inf.1210

Language:	Person responsible for module:
English	Prof. Dr. Delphine Reinhardt
Course frequency:	**Duration:**
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module B.Inf.1711: Advanced Sensor Data Processing**	5 C 4 WLH

Learning outcome, core skills: Die Studierenden haben vertiefte Kenntnisse und Kompetenzen auf einem Gebiet aus dem Bereich Sensordatenverarbeitung erworben. Beispiele für solche Gebiete sind "Sensor Data Fusion" und "Mobile Robotics".	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Sensor Data Fusion (Lecture, Exercise) *Contents*: This lecture is concerned with fundamental principles and algorithms for the processing and fusion of noisy (sensor) data. Applications in the context of navigation, object tracking, sensor networks, robotics, Internet-of-Things, and data science are discussed. After completion, students are able to • define the notion of data fusion and distinguish different data fusion levels • formalize data fusion problems as state estimation problems • develop distributed and decentralized data fusion architectures • describe the basic concepts of linear estimation theory • explain the fundamental formulas for the fusion of noisy data • deal with unknown correlations in data fusion • understand the Bayesian approach to data fusion and estimation • formulate dynamic models for time-varying phenomena • describe the concept of a recursive Bayesian state estimator • explain and apply the Kalman filter for state estimation in dynamic systems • explain and apply basic nonlinear estimation techniques such as the Extended Kalman filter (EKF) and Unscented Kalman filter (UKF) • assess the properties, advantages, and disadvantages of the discussed (nonlinear) estimators • explain different approaches to deal with uncertainty such as probability theory, fuzzy theory, and Dempster–Shafer theory • identify data fusion applications and assess the benefits of data fusion *Course frequency:* irregular	4 WLH
Course: Mobile Robotics (Lecture, Exercise) *Contents*: This lecture is concerned with fundamental principles and algorithms for mobile robot navigation and perception. After completion, the students are able to • model the locomotion of wheeled mobile robots • understand the concept of dead reckoning • describe the most common sensors for mobile robots, e.g., inertial sensors and beam-based sensors • employ probabilistic state estimation methods such as Kalman filters and sequential Monte Carlo methods (particle filters) for robot navigation and perception	4 WLH

- describe and distinguish different concepts for localization such as trilateration and triangulation
- implement and evaluate basic algorithms for localization
- understand the robot mapping problem and explain different map representations such as occupancy grids
- describe the problem of Simultaneous Localization and Mapping (SLAM)
- implement and evaluate basic algorithms for SLAM such as graph-based approaches and Rao-Blackwellized particle filters
- implement and evaluate basic feature extraction methods such as Random Sample Consensus (RANSAC)
- design basic planning algorithms for mobile robots using, e.g., a Markov Decision Process (MDP)

Course frequency: irregular

Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.)
 Examination requirements:
 Sensor Data Fusion
 	
   • Definition of data fusion; data fusion levels; formalization of data fusion problems; distributed and decentralized fusion architectures; linear estimation theory; fundamental fusion formulas; dynamic state estimation; Kalman filter; Extended Kalman filter (EKF); Unscented Kalman filter (UKF), algorithms for dealing with unknown correlations; fuzzy theory; Dempster-Shafer theory
 	
 Mobile Robotics
 	
   • Motion models for wheeled robots; dead reckoning; mobile robot sensors; Kalman filter; particle filter; localization concepts and algorithms; robot mapping; Simultaneous Localization and Mapping (SLAM); feature extraction methods; planning algorithms
	5 C

Admission requirements: none	**Recommended previous knowledge:** B.Inf.1101, B.Inf.1211
Language: English	**Person responsible for module:** Prof. Dr. Marcus Baum
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Inf.1904: Introduction to Computational Linguistics and Natural Language Processing**	6 C 4 WLH

Learning outcome, core skills: A successful completion of the module enables the participants to: • describe typical language analysis tasks • illustrate suitable methods for different language analysis tasks • apply elementary language analysis algorithms • compare the advantages and disadvantages of different methods • sketch methods for measuring the quality of data annotation performed by humans and algorithms • construct complex problem solving pipelines (data selection, annotation, analysis and evaluation of the results) • select suitable algorithms for specific application scenarios	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Introduction to Computational Linguistics and Natural Language Processing (Lecture, Exercise) *Contents*: The course provides an overview of the main tasks and challenges in computational linguistics and natural language processing. Students are introduced to standard algorithms for analysing natural language, covering the areas lexicon, syntax, semantics and discourse. The course highlights the underlying assumptions and strategies of different methods as well as their advantages and disadvantages in different application scenarios. The students learn to develop approaches for solving text and language processing tasks, taking into account data selection, annotation, analysis and evaluation of the results.	4 WLH
Examination: Written exam (90 minutes) or oral exam (20 minutes) **Examination prerequisites:** Participation in the exercise **Examination requirements:** The students demonstrate knowledge of specific computational linguistic tasks, methods and research results and are able to understand and reflect to some extent on methods and theories in computational linguistics. They are able to: • describe typical language analysis tasks • illustrate suitable methods for different analysis tasks • apply elementary language analysis algorithms • compare the advantages and disadvantages of different methods • select suitable algorithms for specific application scenarios	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Caroline Sporleder

Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
30	

Georg-August-Universität Göttingen **Module B.MES.1121: Global change**	6 C 4 WLH

Learning outcome, core skills: At the end of this course the students are expected to • have insight in the major components of the earth system and how they are connected, • understand how environmental processes and biogeochemical cycles are regulated by biosphere-hydrosphere-atmosphere feedbacks and how they are affected by global chance through natural and anthropogenic processes, • are able to understand and evaluate simple biogeochemical models.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Global change (Lecture, Modelling exercises, Seminar)	4 WLH
Examination: Presentation (approx. 30 minutes, 50%) and written report (max. 10 pages 50%)	6 C

Examination requirements: Successful completion of assignments. After every lab students are given a mandatory homework assignment (though not graded).	

Admission requirements: none	**Recommended previous knowledge:** B.MES.1111, B.MES.1117
Language: English	**Person responsible for module:** Prof. Dr. Edzo Veldkamp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 6
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.113: Methods in systems biology**	6 C 4 WLH

Learning outcome, core skills: "Omics" techniques are the backbone of modern systems biology. This course comprises lectures and practicals in genomics, proteomics, transcriptomics and statistical computing. The students will learn the theory of these applications, and the functioning of the required hard- and software. The students will obtain practical training in selected methods. This involves lab work as well as computer applications. The learning outcome will be that the students are to apply "omics" methods to questions in ecology and systems biology.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Genomics (Lecture, practicals)	1 WLH
Course: Statistical computing and Transcriptomics (Lecture, practicals)	2 WLH
Course: Proteomics (Lecture, practicals)	1 WLH
Examination: Term paper (20 pages max.)	6 C

Examination requirements: Detailed knowledge and understanding of methods to generate and analyse experiments involving approaches of modern systems biology. This includes a detailed understanding of basic statistical concepts to analyse "omics" data sets as well as skills in laboratory analyses and application of software for proteomic and transcriptomic data analysis.. Skills: knowledge how to analyse plant tissues by application of molecular and statistical methods.	

Admission requirements: *Admission requirements:* Successful examination in a minimum of 2 of the following courses: B.MES.101: Molecular plant and stress physiology, B.MES.103: Ecological genetics, B.MES.106: Microbiology and molecular biology, B.MES.108: Computer science and mathematics.	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.114: Biodiversity of pro- and eukaryotic soil microbial communities**	6 C 4 WLH

Learning outcome, core skills: Biodiversity, phylogenetics, morphology and functions of soil microbial communities consisting of prokaryots (archea, bacteria) and eukaryots (algae and fungi); diversity of prokaryotic microbial metabolism and environmental functions. Knowledge of prokaryotic microorganisms and algae relevant for environmental functions, ability to identify these organisms and to analyse them with molecular methods; ability to identify major lineages of cyanobacteria and eukaryotic algae from cultures by microscopy.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Biodiversity of pro- and eukaryotic soil microbial communities (Lecture)	2 WLH
Course: Biodiversity of pro- and eukaryotic soil microbial communities (Laboratory course)	2 WLH
Examination: Protocol (10 pages max.)	6 C

Examination requirements: Students prove their ability to perform specific microbiological molecular techniques independently and their ability to record, interpret and present their experimental results in written form.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Rolf Daniel
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 3
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.116: Conservation and ecosystem management**	6 C 4 WLH

Learning outcome, core skills: The course imparts knowledge about the sustainable management of forest ecosystems and about nature conservation. Based on some fundamentals of forest ecology such as the impact of competitive interactions between trees, options of stand management are presented. Mixed stands and their management are of special importance. The course will provide information on how to analyze forest stands and how to derive appropriate silvicultural treatments in order to achieve the goals set by a given forest owner. The nature conservation part will introduce priority goals of conservation biology, the major threats to natural ecosystems and how they can be managed.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest ecosystem management (Lecture)	2 WLH
Course: Nature conservation (Lecture)	2 WLH
Examination: Written exam (120 minutes)	6 C

Examination requirements: Competition in plant communities, plant – environment interactions, mixed stands, principles of stand management, silvicultural systems, human land-use, climate change, biodiversity, ecosystem functioning.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Christian Ammer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.117: Atmosphere-ecosystem interactions**	6 C 4 WLH

Learning outcome, core skills: In this course students will gain insights in the main atmospheric characteristics and how they influence ecosystem processes and fluxes between ecosystem compounds (e.g. air, plants, soil). They will also learn how ecosystems feed back to the atmosphere at local and global scale. This will form the basis for understanding the impact of climate change on ecosystem functions and services. The lecture course will give an overview on atmospheric variables such as radiation, humidity, temperature, and wind and their interactions with terrestrial ecosystems. In the seminar/exercise class, the understanding will be deepened by quantitative exercises. The students will be trained in quantitative and qualitative scientific methods to describe climate-dependent physical, chemical and biological processes in terrestrial ecosystems enabling them to understand and evaluate the current discussion on climate change and its impact on terrestrial ecosystems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Atmosphere-ecosystem interactions (Lecture)	2 WLH
Course: Atmosphere-ecosystem interactions (Seminar, exercise)	2 WLH
Examination: Written exam (120 minutes)	6 C

Examination requirements: Qualitative and quantitative description of radiation, humidity, temperature, wind, their interactions with terrestrial ecosystems, carbon and water cycle, atmospheric chemistry, climate change, climate modelling.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Alexander Knohl
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.118: Resource assessment in ecosystems**	6 C 4 WLH

Learning outcome, core skills: The students will be trained - to analyse issues and problems of ecological monitoring, with a focus on terrestrial ecosystems, - to plan their own monitoring studies on statistically sound grounds balancing scientific-technical ojectives and economic feasibility, - to critically assess and understand monitoring studies carried out by other. These learning outcomes imply acquiring / enchancing knowledge and skills in the following fields: - design-based statistical sampling, including estimation design, - empirical statistical models, - characteristics of a seriers of sampling designs and plot designs, - the systematic planning process in monitoring studies.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Resource assessment in ecosystems (Lecture) *Contents*: The lectures comprise the theoretical foundations of monitoring and also the discussion based analysis of cases.	2 WLH
Course: Resource assessment in ecosystems (Laboratory course) *Contents*: The field labs are practical exercises in field data collection techniques and measurement devices, the in-house labs are on data analysis and estimation.	2 WLH
Examination: Written exam (120 minutes)	6 C

Examination requirements: Basics of descriptive and inferential statistics (mean, variance, standard error, confidence interval, bias, precision, random selection), relevant basic sampling design options (simple random, stratified random, systematic, cluster sampling), relevant response designs options (fixed area plots, variable plots, distance techniques, point sampling, line sampling). Statistical estimation. Planning criteria for assessments.	

Admission requirements: B.MES-SK.115, B.MES.108	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Christoph Kleinn
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5

| Maximum number of students:
25 | |

Georg-August-Universität Göttingen **Module B.MES.119: Isotopes in ecosystem sciences**	6 C 4 WLH

Learning outcome, core skills: The course provides a very broad background for isotope applications in ecosystem compartments including soils, plants, atmosphere, and microorganisms. Overview of various tracer methods and isotope applications will be presented. The specifics of stable and radioactive isotopes for investigations of ecosystem processes from submolecular to global scale will give deep background for future isotope applications in Bachelor, Master and PhD theses.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Stable isotopes (Lecture, seminar with exercises)	2 WLH
Course: Radioactive isotopes and labeling techniques (Lecture, seminar)	2 WLH
Examination: Written exam (90 minutes)	6 C

Examination requirements: Knowledge of specified teaching content, achievement of defined goals and proof of target competence.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Yakov Kuzyakov
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 5
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.1201: Special topics in plant methods and ecological applications I**	6 C 4 WLH

Learning outcome, core skills: This elective module consists of a seminar and advanced method courses. In the seminar the students will be informed about recent development and new discoveries in forest botany, plant – microbial interactions, biotechnology, plant molecular genetics and practical applications. In the advanced method courses student undertake internships and/or field excursions to learn new methods and applications in plant physiology and ecology. The students will take responsibility in the organization of their study program.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest botany (Seminar)	2 WLH
Course: Ecological applications / Field excursion (Lecture, practical)	2 WLH
Examination: Oral presentation (approx. 15 minutes) and written report (max. 10 pages)	6 C

Examination requirements: Discussion of scientific presentations, knowledge in recent problems in Forest Botany, application of advanced scientific methods to selected problems in plant science. Skills: knowledge in critical text analyses and presentation skills, knowledge in data base research, practical skills in handling modern equipment for plant analyses.	

Admission requirements: none	**Recommended previous knowledge:** In-depth knowledge in biology is required
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.MES.1202: Special topics in plant methods and ecological applications II**	6 C 4 WLH

Learning outcome, core skills: This elective module consists of a seminar and an advanced method course. The seminar will be conducted as a journal club. The students will get lists of papers which they have to read and present during the semester. The topics will be chosen from recent literature. The goal is to become involved in research and to learn to understand how to structure research and to publish. In the advanced method courses, lectures and specialized techniques will be taught and practiced. The students will organize the journal club.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced plant biochemistry and genetics / Journal club (Seminar)	2 WLH
Course: Advanced methods (Lecture, practical)	2 WLH
Examination: Oral presentation (approx. 15 minutes) and written report (10 pages max.)	6 C

Examination requirements: Reading and analyzing scientific publications, in-depth understanding of scientific working methods in plant ecology and molecular biology. Skills: knowledge in critical text analyses and presentation skills, knowledge in research methods.	

Admission requirements: none	**Recommended previous knowledge:** In-depth knowledge in biology is required
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.MES.1203: Semiochemical diversity**	6 C 4 WLH

Learning outcome, core skills: Students will learn to investigate the dynamics of semiochemical diversity in different types of ecosystems. This involves field sampling of important plants and animals, volatile extraction from different tissues, laboratory analyses of various types of volatile markers, data analyses and interpretation. Students will learn practical steps to assess semiochemical diversity, and will be able to evaluate the use of chemo-ecological methods for applications in plant protection, nature conservation, and ecosystem management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Semiochemical diversity (Lecture)	1 WLH
Course: Methods to study semiochemical diversity and biodiversity (Workshop, laboratory course)	3 WLH
Examination: Term paper (20 pages max.)	6 C

Examination requirements: Classification of semiochemicals, measures of chemical and biological diversity, analytical and determination methods, key species, key volatiles, key processes, semiochemicals in practical application.	

Admission requirements: B.MES.1102	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** N.N.
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.1204: Protection of renewable resources**	6 C 4 WLH

Learning outcome, core skills: The use of chemical methods is commonplace in protection measures at various levels of biological organization in forest protection, plant protection and stored product protection. Students will learn the results of chemo-ecological approaches in integrated pest management based on selected projects and recent literature. Students will be able to critically evaluate benefits and limitations of chemo-ecological approaches in a production and conservation context. Examples will be taken from different geographic and climatic regions.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Protection of renewable resources based on chemical and chemo-ecological methods (Lecture)	1 WLH
Course: Assessment of protection measures for renewable resources (Seminar, Workshop)	3 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (max. 5 pages)	6 C

Examination requirements: Application of semiochemicals in different ecosystems, quality control, toxicology, integrated pest management, production of renewable resources, nature protection.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** N.N.
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.1205: Isotopes in ecosystem sciences**	6 C 4 WLH

Learning outcome, core skills: The course provides a very broad background for isotope applications in ecosystem compartments including soils, plants, atmosphere, and microorganisms. Overview of various tracer methods and isotope applications will be presented. The specifics of stable and radioactive isotopes for investigations of ecosystem processes from submolecular to global scale will give deep background for future isotope applications in Bachelor, Master and PhD theses.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Stable isotopes (Lecture, seminar with exercises)	2 WLH
Course: Radioactive isotopes and labeling techniques (Lecture, seminar)	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Knowledge of specified teaching content, achievement of defined goals and proof of target competence.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Dr. Jens Dyckmans
Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	Recommended semester: 5
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.1206: Intraspecific diversity of plants**	6 C 4 WLH

Learning outcome, core skills: Students will learn to investigate the dynamics of intraspecific diversity in different types of ecosystems. This involves field sampling of important plants, DNA extraction from different tissues, laboratory analyses with various types of molecular markers, data analyses and interpretation. Students will learn practical steps to assess genetic diversity, and will be able to evaluate the use of DNA-based methods for applications in breeding, conservation, and ecosystem management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Intraspecific diversity of plants (Lecture)	1 WLH
Course: DNA based methods to study biodiversity (Workshops, laboratory exercise)	3 WLH
Examination: Term paper (20 pages max.)	6 C

Examination requirements: DNA markers and techniques, estimation of intraspecific diversity in different types of ecosystems, methods used for experimental sampling, DNA extraction from different tissues, laboratory techniques, data analyses and interpretation and application of results.	

Admission requirements: B.MES.1103, B.MES.1104	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Konstantin V. Krutovsky
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.121: Global change**	6 C 4 WLH

Learning outcome, core skills: At the end of this course the students are expected to • have insight in the major components of the earth system and how they are connected, • understand how environmental processes and biogeochemical cycles are regulated by biosphere-hydrosphere-atmosphere feedbacks and how they are affected by global chance through natural and anthropogenic processes, • are able to understand and evaluate simple biogeochemical models.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Global change (Lecture)	2 WLH
Course: Global change (Modelling exercises, seminar)	2 WLH
Examination: Presentation (approx. 30 minutes, 50%) and written report (10 pages max., 50%) **Examination prerequisites:** Successful completion of exercises and seminar	6 C

Examination requirements: Successful completion of assignments. After every lab students are given a mandatory homework assignment (though not graded).	

Admission requirements: none	**Recommended previous knowledge:** B.MES.111, B.MES.117
Language: English	**Person responsible for module:** Prof. Dr. Edzo Veldkamp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 6
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.122: Molecular soil ecology**	6 C 4 WLH

Learning outcome, core skills: This lecture and laboratory course aims to integrate the basic knowledge on soil microbiology in ecological studies. The course is focused on the importance of active microorganisms and their diversity of species/genetic lineages as biogeochemical driver of soil processes linking microbial growth, enzymes kinetics and the stoichiometry with the modern molecular and isotopic approaches. Experiments will demonstrate how the hotspots of microbial activity (rhizosphere, detritusphere, biopores) can be revealed and visualized in situ in soil. • Goup 1: The microbial activity state is characterized by the values of eco-physiological indicators based on respiration, molecular biomarkers and viable cell compartments (ATP, PLFA, RNA). The Laboratory training links visualization of plant-microbial interactions by novel zymography approach (based on fluorogenic substrates) with enzyme kinetics and microbial growth parameters determined in the rhizosphere hotspots under impact of environmental stressors. • Group 2: Students will become familiar with molecular technologies used for analyzing the structure and function of decomposer systems, such as quantitative real time PCR, tagging of organisms by fluorescent markers compound specific stable isotope lipid analysis and molecular gut content analysis.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Molecular soil ecology (Lecture and Seminar)	2 WLH
Course: Molecular soil ecology (Laboratory course and Seminar)	2 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (10 pages max.)	6 C

Examination requirements: Knowledge on: • Plant-microbial and microbial interactions in soil • Functional diversity and genetic diversity of soil microbial communities • Techniques to analyze soil-micro-foodwebs, such as zymography, application of fluorogenic substrates, enzymes kinetics, microbial growth, stable isotopes and lipid analysis • Response of soil microorganisms to environmental stressors	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Scheu
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 6

Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.123: Project (research participation)**	6 C 4 WLH

Learning outcome, core skills: This course is a final step linking the data-set obtained and statistically treated by the students in practical trainings (B.MES. 105; 111; 113; B.MES-SK-115; 122) to the ongoing research projects. Introduction of structure, research strategy and outcome of the projects, from which the students have got the samples for practical training in previous semesters. Students compare their own results to the projects outcome. Course gives an advanced knowledge and application skills on the methods learnt within MES program (B.MES. 105; 111; 113; 115; 119; 122). Lecture course on Project design comprises all necessary steps to develop a scientific project: literature acquisition, research idea, scientific hypotheses, research strategy, design of the experiments (sites selection, sampling procedure, selection of methods), expected outcome and knowledge dissemination, time-table. Students develop and present their own projects for Bachelor study. This course is also aimed to help the students in preparation of their Bachelor study using as practical examples on-going projects of the department of "Soil Science of Temperate Ecosystems".	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Project design (Lectures and Seminar) *Contents*: Lecture course on Project design. Seminar on the own contribution to research.	2 WLH
Course: Project (research participation) *Contents*: Laboratory courses work and/or active participation in ongoing research projects of lectures involved in the program.	2 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (10 pages max.)	6 C

Examination requirements: Scientific hypotheses, experimental design, laboratory techniques, analysis interpretation and scientific presentation of research results.	

Admission requirements: At least 120 credits earned	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. Evgenia Blagodatskaya
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 6
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.301: Special topics in plant methods and ecological applications I**	6 C 4 WLH

Learning outcome, core skills:	Workload:
This elective module consists of a seminar and advanced method courses. In the seminar the students will be informed about recent development and new discoveries in forest botany, plant – microbial interactions, biotechnology, plant molecular genetics and practical applications. In the advanced method courses student undertake internships and/or field excursions to learn new methods and applications in plant physiology and ecology. The students will take responsibility in the organization of their study program.	Attendance time: 56 h Self-study time: 124 h

Course: Forest botany (Seminar)	2 WLH
Course: Ecological applications / Field excursion (Lecture, practical)	2 WLH
Examination: Oral presentation (aaprox. 15 minutes) and written report (10 pages max.)	6 C

Examination requirements:	
Discussion of scientific presentations, knowledge in recent problems in Forest Botany, application of advanced scientific methods to selected problems in plant science. Skills: knowledge in critical text analyses and presentation skills, knowledge in data base research, practical skills in handling modern equipment for plant analyses.	

Admission requirements: none	Recommended previous knowledge: In-depth knowledge in biology is required
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.MES.302: Special topics in plant methods and ecological applications II**	6 C 4 WLH

Learning outcome, core skills: This elective module consists of a seminar and an advanced method course. The seminar will be conducted as a journal club. The students will get lists of papers which they have to read and present during the semester. The topics will be chosen from recent literature. The goal is to become involved in research and to learn to understand how to structure research and to publish. In the advanced method courses, lectures and specialized techniques will be taught and practiced. The students will organize the journal club.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced plant biochemistry and genetics / Journal club (Seminar)	2 WLH
Course: Advanced methods (Lecture, practical)	2 WLH
Examination: Oral presentation (approx. 15 minutes) and written report (10 pages max.)	6 C

Examination requirements: Reading and analyzing scientific publications, in-depth understanding of scientific working methods in plant ecology and molecular biology. Skills: knowledge in critical text analyses and presentation skills, knowledge in research methods.	

Admission requirements: none	**Recommended previous knowledge:** In-depth knowledge in biology is required
Language: English	**Person responsible for module:** Prof. Dr. Andrea Polle
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.MES.303: Semiochemical diversity**	6 C 4 WLH

Learning outcome, core skills: Students will learn to investigate the dynamics of semiochemical diversity in different types of ecosystems. This involves field sampling of important plants and animals, volatile extraction from different tissues, laboratory analyses of various types of volatile markers, data analyses and interpretation. Students will learn practical steps to assess semiochemical diversity, and will be able to evaluate the use of chemo-ecological methods for applications in plant protection, nature conservation, and ecosystem management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Semiochemical diversity (Lecture)	1 WLH
Course: Methods to study semiochemical diversity and biodiversity (Workshop, laboratory course)	3 WLH
Examination: Term paper (20 pages max.)	6 C

Examination requirements: Classification of semiochemicals, measures of chemical and biological diversity, analytical and determination methods, key species, key volatiles, key processes, semiochemicals in practical application.	

Admission requirements: B.MES.102	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Schütz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen	6 C
Module B.MES.304: Protection of renewable resources	4 WLH

Learning outcome, core skills: The use of chemical methods is commonplace in protection measures at various levels of biological organization in forest protection, plant protection and stored product protection. Students will learn the results of chemo-ecological approaches in integrated pest management based on selected projects and recent literature. Students will be able to critically evaluate benefits and limitations of chemo-ecological approaches in a production and conservation context. Examples will be taken from different geographic and climatic regions.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Protection of renewable resources based on chemical and chemo-ecological methods (Lecture)	1 WLH
Course: Assessment of protection measures for renewable resources (Seminar, workshop)	3 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (5 pages max.)	6 C

Examination requirements: Application of semiochemicals in different ecosystems, quality control, toxicology, integrated pest management, production of renewable resources, nature protection.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Schütz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.305: Conservation of biodiversity**	6 C 4 WLH

Learning outcome, core skills: The use of molecular methods is commonplace in conservation at various levels of biological organization from genes to ecosystems. Students will examin the results of molecular approaches in biodiversity conservation based on selected projects and recent literature. Students will be able to critically evaluate benefits and limitations of molecular studies in a conservation context. Examples will be taken from different geographic and climatic regions.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Conservation of biodiversity based on molecular tools (Lecture)	1 WLH
Course: Assessment of molecular diversity for conservation (Seminar, Workshop)	3 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (5 pages max.)	6 C

Examination requirements: Effective comprehension of scientific literature with regard to conservation of biodiversity, different methods used for conservation of biodiversity and their specific applications, critical evaluation of molecular studies in a conservation context.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** N. N.
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.MES.306: Intraspecific diversity of plants**	6 C 4 WLH

Learning outcome, core skills: Students will learn to investigate the dynamics of intraspecific diversity in different types of ecosystems. This involves field sampling of important plants, DNA extraction from different tissues, laboratory analyses with various types of molecular markers, data analyses and interpretation. Students will learn practical steps to assess genetic diversity, and will be able to evaluate the use of DNA-based methods for applications in breeding, conservation, and ecosystem management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Intraspecific diversity of plants (Lecture)	1 WLH
Course: DNA based methods to study biodiversity (Workshops, laboratory exercise)	3 WLH
Examination: Term paper (20 pages max.)	6 C

Examination requirements: DNA markers and techniques, estimation of intraspecific diversity in different types of ecosystems, methods used for experimental sampling, DNA extraction from different tissues, laboratory techniques, data analyses and interpretation and application of results.	

Admission requirements: B.MES.103, B.MES.104	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** N. N.
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:** 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.Mat.0922: Mathematics information services and electronic publishing**	3 C (incl. key comp.: 3 C) 2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: After having successfully completed the module, students are familiar with the basics of mathematics information services and electronic publishing. They • work with popular information services in mathematics and with conventional, non-electronic as well as electronic media; • know a broad spectrum of mathematical information sources including classification principles and the role of meta data; • are familiar with current development in the area of electronic publishing in the subject mathematics. **Core skills:** After successfull completion of the module students have acquired subject-specific information competencies. They • have suitable research skills; • are familiar with different information and specific publication services.	Attendance time: 28 h Self-study time: 62 h

Course: Lecture course (Lecture) *Contents*: Lecture course with project report	
Examination: Written examination (90 minutes), not graded **Examination prerequisites:** Regular participation in the course	3 C

Examination requirements: Application of the acquired skills in individual projects in the area of mathematical information services and electronic publishing	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dean of studies
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 1 - 6; Master: 1 - 4; Promotion: 1 - 6
Maximum number of students: not limited	

Additional notes and regulations:

Instructors: Lecturers at the Mathematical Institute

Georg-August-Universität Göttingen **Module B.Mat.0923: Scientific Writing**	3 C (incl. key comp.: 3 C) 2 WLH

| **Learning outcome, core skills:**
Learning outcome:

After having successfully completed the module, students are familiar with the basics of scientific writing.

Objectives:

• How to start; motivation for writing a paper (thesis, term paper, seminar presentation, conference talk); choice of language (German/English/?); when to start; support resources.
• Different text types in the professional carreer, e.g. motivation letter, research report, technical report, proposal etc.
• Plagiarism; different types of plagiarism, unintentional and intentional plagiarism; how to avoid and recognise plagiarism? How to avoid being accused of plagiarism?
• Planning and execution, structure, overall style of language, clear and concise writing, writing problems and how to avoid them, cultural sensitivity, cultural transferability.
• Discussion; purpose, content, tense, structure; introducing tense, voice and mood; introducing modular writing and why it helps.
• Methods; purpose, content (Bishop report implications), tense, structure.
• Results; purpose, content, tense, structure; what goes in figures, images and tables; effective placing and citation of figures, images, tables; warning on image manipulation.
• Introduction; purpose, content, tense, structure.
• Title, abstract, key words, search engine optimization, list of references, acknowledgements.
• Optionally, choosing a journal, text matching, predatory & trick journals, your audience, factors affecting choice, scope, impact factors, open access.
• Optionally, ethics of publication, COPE, Vancouver rules and other bodies, authorship, author order, contributorship statements, coauthors, corresponding authors, chaperones, grievance procedures.

Core skills:

After successfull completion of the module students have acquired subject-specific competencies in scientific writing. They

• have suitable research skills;
• are familiar with how to find and discuss a topic academically and using academic terms and methodology. | **Workload:**
Attendance time:
28 h
Self-study time:
62 h |

| **Course: Lecture course** (Lecture)
Contents:
Lecture course with project report | 2 WLH |

Examination: Term Paper (max. 15 pages), not graded	3 C

Examination requirements:	
Application of the acquired skills in individual projects in the area of mathematical information services and electronic publishing	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Dean of studies
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	Bachelor: 1 - 6; Master: 1 - 4; Promotion: 1 - 6
Maximum number of students:	
not limited	

Additional notes and regulations:
Instructors: Lecturers at the Mathematical Institute

Georg-August-Universität Göttingen **Module B.Mat.3043: Non-life insurance mathematics**	6 C 4 WLH
Learning outcome, core skills: Non-life insurance mathematics deals with models and methods of quantifying risks with both, the occurrence of the loss and its amount showing random patterns. In particular the following problems are to be solved: • determing appropriate insurance premiums, • calculate adequate loss reserves, • determine how to allocate risk between policyholder and insurer resp. insurer and reinsurers. The German Actuarial Association (Deutsche Aktuarvereinigung e. V.) has certified this module as element of the training as an actuary („Aktuar DAV" / „Aktuarin DAV", cf. www.aktuar.de). To this end, the course is designed in view of current legislative and regulatory provisions of the Federal Republic of Germany. **Learning Outcomes** The aim of the module is to equip students with knowledge in four areas: 1. risk models, 2. pricing, 3. reserving, 4. risk sharing. After completion of the module students are familiar with fundamental terms and methods of non-life insurance mathematics. They • are familiar with and able to handle essential definitions and terms within non-life insurance mathematics; • have an overview of the most valuables problem statements of non-life insurance; • understand central aspects of risk theory; • know substantial pricing and reserving methods, • estimate ruin probabilities; • are acquainted with the most important reinsurance forms and reinsurance pricing methods. **Competencies** After successful completion of the module students have acquired fundamental competencies within non-life insurance. They are able to • evaluate and quantify fundamental risks, • model the aggregate loss with individual or collective model, • apply a basic reserve of solving approaches, • analyse and develop pricing models which mathematically are state of the art, • apply different reserving methods and calculate outstanding losses, • assess reinsurance contracts.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Lecture course with problem session	4 WLH

Examination: Written examination (120 minutes)	6 C

Examination requirements:	
Basic knowledge of non-life insurance mathematics	

Admission requirements:	Recommended previous knowledge:
none	B.Mat.1400
Language:	**Person responsible for module:**
English	Dean of studies
Course frequency:	**Duration:**
not specified	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students:	
not limited	

Additional notes and regulations:
Lecturers of the Institute of Mathematical Stochastics

Georg-August-Universität Göttingen **Module B.Mat.3044: Life insurance mathematics**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**

Learning outcome, core skills:

This module deals with the basics of the different branches in life insurance mathematics.In particular, the students get to know both the classical deterministic model and the stochastic model as well as how to apply them to problems relevant in the respective branch. On this base the students describe essential notions of present values, premiums and their present values as well as the actuarial reserve.

The German Actuarial Association (Deutsche Aktuarvereinigung e. V.) has certified this module as element of the training as an actuary („Aktuar DAV" / „Aktuarin DAV", cf. www.aktuar.de). To this end, the course is designed in view of current legislative and regulatory provisions of the Federal Republic of Germany.

Learning outcomes:

After successfully completing this module students are familiar with fundamental terms and methods of life insurance mathematics. In particular they

- assess cashflows within financial and insurance mathematics,
- apply methods of life insurance mathematics to problems from theory and practise.
- characterise financial secutiries and insurance contracts in terms of cashflows,
- have an overview of the most valuables problem statements of life insurance,
- understand the stochastic interest structure,
- master fundamental terms and notions of life insurance mathematics,
- get an overwiew of most important problems in life insurance mathematics,
- understand mortality tables and leaving orders within pension insurance,
- know substantial pricing and reserving methods,
- know the economic and legal requirements of private health insurance in Germany,
- are acquainted with per-head loss statistics, present value factor calculation and biometric accounting priciples.

Competencies:

A student who completes this module successfully should have acquired fundamental competencies within life insurance. The student should be able to

- assess cashflows with respect to both collateral and risk under deterministic interest structure,
- calculating premiums and provisions in life -, health- and pension-insurance,
- understand the actuarial equivalence principle as base of actuarial valuation in life insurance,
- apply and understand the actuarial equivalence principle for calculating premiums, actuarial reserves and ageing provisions,
- calculate profit participation in life insurance,
- master premium calculation in health-insurance,
- calculate present value and settlement value of pension obligations,
- find mathematical solutions to practical questions in life, health and pension insurance.

Workload:

Attendance time:
56 h
Self-study time:
124 h

Course: Lecture course with problem session	4 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements:	
Basic knowledge of life insurance mathematics	

Admission requirements:	Recommended previous knowledge:
none	B.Mat.1400
Language:	**Person responsible for module:**
English	Dean of studies
Course frequency:	**Duration:**
not specified	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students:	
not limited	

Additional notes and regulations:
Lecturers of the Institute of Mathematical Stochastics

Georg-August-Universität Göttingen **Module B.Phy.1410: Certificate study focus Astrophysics/ Geophysics**	4 C

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls haben die Studierenden ihr Wissen im Bereich der Astro-/Geophysik (veranstaltungsübergreifend) vertieft. Die Studierenden sollten... • sich ein größeres Gebiet der Astro-/Geophysik selbstständig erarbeitet haben; • die Bachelorarbeit in einem breiten Kontext als Seminarvortrag wissenschaftlich darstellen können • Grundlagen der Astro-/Geophysik im Gespräch darstellen und anwenden können.	**Workload:** Attendance time: 0 h Self-study time: 120 h

Examination: Vortrag (ca. 45 Min.) und mdl. Prüfung (ca. 45 Min.) Examination requirements: Vortrag über die eigene Bachelorarbeit sowie mdl. Prüfung zum gewählten Schwerpunkt (Astro- bzw. Geophysik); Beherrschung und Anwendung der Begriffe und Methoden der Astro- bzw. Geophysik (Niveau Bachelor).	4 C

Admission requirements: 1.) Einführung in die Astro- bzw. Geophysik 2.) Vertiefende Veranstaltung in Astro- bzw. Geophysik 3.) Einführung ins wissenschaftliche Arbeiten: Astro- bzw. Geophysik 4.) Bachelorarbeit angemeldet in Astro- bzw. Geophysik	Recommended previous knowledge: none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 6
Maximum number of students: 210	

Georg-August-Universität Göttingen	4 C
Module B.Phy.1411: Certificate study focus in Biophysics/Physics of Complex Systems	

Learning outcome, core skills:	Workload:
Nach erfolgreichem Absolvieren des Moduls haben die Studierenden ihr Wissen im Bereich der Biophysik/Physik komplexer Systeme (veranstaltungsübergreifend) vertieft. Die Studierenden sollten... • sich ein größeres Gebiet der Biophysik/komplexer Systeme selbstständig erarbeitet haben; • die Bachelorarbeit in einem breiten Kontext als Seminarvortrag wissenschaftlich darstellen können • Grundlagen der Biophysik/komplexer Systeme im Gespräch darstellen und anwenden können.	Attendance time: 0 h Self-study time: 120 h

Examination: Vortrag (ca. 45 Min.) und mdl. Prüfung (ca. 45 Min.)	4 C
Examination requirements: Vortrag über die eigene Bachelorarbeit sowie ca. 45 Min. mdl. Prüfung zur Biophysik bzw. Physik komplexer Systeme; Beherrschung und Anwendung der Begriffe und Methoden in Biophysik bzw. Physik komplexer Systeme (Niveau Bachelor).	

Admission requirements:	Recommended previous knowledge:
1.) Einführende Veranstaltung in Biophysik bzw. Physik komplexer Systeme 2.) Vertiefende Veranstaltung in Biophysik bzw. Physik komplexer Systeme 3.) Einführung ins wissenschaftliche Arbeiten: Biophysik bzw. Physik komplexer Systeme 4.) Bachelorarbeit angemeldet in Biophysik bzw. Physik komplexer Systeme	none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 6
Maximum number of students: 210	

Georg-August-Universität Göttingen **Module B.Phy.1412: Certificate study focus Solid State Physics / Materials Physics**	4 C

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls haben die Studierenden ihr Wissen im Bereich der Festkörper-/Materialphysik (veranstaltungsübergreifend) vertieft. Die Studierenden sollten... • sich ein größeres Gebiet der Festkörper-/Materialphysik selbstständig erarbeitet haben; • die Bachelorarbeit in einem breiten Kontext als Seminarvortrag wissenschaftlich darstellen können • Grundlagen der Festkörper-/Materialphysik im Gespräch darstellen und anwenden können.	**Workload:** Attendance time: 0 h Self-study time: 120 h

Examination: Vortrag (ca. 45 Min.) und mdl. Prüfung (ca. 45 Min.) **Examination requirements:** Vortrag über die eigene Bachelorarbeit sowie mdl. Prüfung in Festkörper- bzw. Materialphysik; Beherrschung und Anwendung der Begriffe und Methoden in Festkörper- bzw. Materialphysik (Niveau Bachelor)	4 C

Admission requirements: 1.) Einführende Veranstaltung in Festkörper- bzw. Materialphysik 2.) Vertiefende Veranstaltung in Festkörper- bzw. Materialphysik 3.) Einführung ins wissenschaftliche Arbeiten: Festkörper- bzw. Materialphysik 4.) Bachelorarbeit angemeldet in Festkörper- bzw. Materialphysik	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 6
Maximum number of students: 210	

Georg-August-Universität Göttingen	4 C
Module B.Phy.1413: Certificate study focus particle physics	

Learning outcome, core skills:	Workload:
Nach erfolgreichem Absolvieren des Moduls haben die Studierenden ihr Wissen im Bereich der Kern-/Teilchenphysik (veranstaltungsübergreifend) vertieft. Die Studierenden sollten... • sich ein größeres Gebiet der Kern-/Teilchenphysik selbstständig erarbeitet haben; • die Bachelorarbeit in einem breiten Kontext als Seminarvortrag wissenschaftlich darstellen können • Grundlagen der Kern-/Teilchenphysik im Gespräch darstellen und anwenden können.	Attendance time: 0 h Self-study time: 120 h

Examination: Vortrag (ca. 45 Min.) und mdl. Prüfung (ca. 45 Min.)	4 C
Examination requirements: Vortrag (ca. 45 Min.) über die eigene Bachelorarbeit sowie ca. 45 Min. mdl. Prüfung in Kern-/Teilchenphysik; Beherrschung und Anwendung der Begriffe und Methoden der KT	

Admission requirements:	Recommended previous knowledge:
1.) Einführung in KT 2.) Teilchenpyhsik II 3.) Einführung ins wissenschaftliche Arbeiten: KT 4.) Bachelorarbeit angemeldet in KT	none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 6
Maximum number of students: 210	

Georg-August-Universität Göttingen **Module B.Phy.1512: Particle physics II - of and with quarks**	6 C 6 WLH

Learning outcome, core skills: After successful completion of this module, students should be familiar with the properties and interactions of quarks as well as with experimental methods and experiments which lead to their discovery and are used for precise studies.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Particle physics II - of and with quarks (Lecture)	4 WLH
Course: Particle physics II - of and with quarks (Exercise)	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Concepts and methods along with specific implementations of statistical methods in data analysis. Properties and discovery of quarks, discovery of W and Z bosons at hadron colliders, the top-quark, CKM mixing matrix, decays of heavy quarks, quark mixing and oscillations, CP-violation, jets, gluons and fragmentation, deep-inelastic scattering, QCD tests and measurement of the strong coupling alpha_s.	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.1522: Solid State Physics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of this Module students will be able to understand: • The role of the band-structure for electron and lattice dynamics • The motion of crystal electrons/holes in electric and magnetic fields • Quasiparticle scattering processes • The deviation of macroscopic dielectric properties from microscopic theory • The dielectric properties of metals and plasma oscillations • Independent electron magnetism and the emergence of collective magnetic phenomena • Magnetic ordering phenomena • The BCS theory of superconductivity	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Solid State Physics II	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Examination topics: Basics, phenomena and models for electrons and lattice dynamics in solids. Concepts of quasi-particle interaction: Transport phenomena incl. electrical and thermal conductivity, dielectric properties, plasmons. Semiconductors, magnetic properties of solids, superconductivity.	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to solid state physics
Language: German, English	**Person responsible for module:** Prof. Dr. Stefan Mathias
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 120	

Georg-August-Universität Göttingen **Module B.Phy.1531: Introduction to Materials Physics**	4 C 4 WLH

Learning outcome, core skills:	Workload:
This 2 week long intensive course is offered between the winter and summer semesters. It applies the knowledge obtained in the Einführung in die Festkörperphysik and Thermodynamik und statistische Physik to understanding the structure, properties and dynamic behavior of the materials we use in our everyday lives. **Learning outcomes:** crystal defects, disordered systems, impurities, crystalline mixtures and alloys, phase diagrams, phase transformations, diffusion, kinetics, materials selection, structure-property relations. **Core skills:** The students will gain an understanding of the different materials classes that we use in everyday life, including: how properties of materials are determined by their atomic scale structure, which driving forces determine the structure of equilibrium phases, and how kinetic processes control phase transformations and the dynamics of non-equilibrium processes.	Attendance time: 56 h Self-study time: 64 h

Course: Introduction to Materials Physics (Lecture)	2 WLH

Examination: Written or oral examWritten exam (120 minutes) or oral examination (approximately 30 minutes) **Examination prerequisites:** 50% of the homework problems must be solved successfully. **Examination requirements:** Crystal defects, disordered systems, impurities, crystalline mixtures and alloys, phase diagrams, phase transformations, diffusion, kinetics, materials selection.	4 C

Course: Introduction to Materials Physics (Exercise)	2 WLH

Admission requirements:	Recommended previous knowledge:
none	• Experimentelle Methoden der Materialphysik, • Einführung in die Festkörperphysik, • Thermodynamik und statistische Physik

Language:	Person responsible for module:
English	Prof.in Cynthia Volkert

Course frequency:	Duration:
each winter semester	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
three times	Bachelor: 5 - 6; Master: 1

Maximum number of students:	
30	

Georg-August-Universität Göttingen **Module B.Phy.1551: Introduction to Astrophysics**	8 C 6 WLH

Learning outcome, core skills: After successful completion of the module students are familiar with the basic concepts of astrophysics in observation and theory. In particular, they • have gained an overview of observational techniques in astronomy • understand the basic physics of the formation, structure and evolution of stars and planets have learned about the classification and structure of normal and active galaxies • understand the basic physics of homogeneous cosmology and cosmological structure formation	**Workload:** Attendance time: 84 h Self-study time: 156 h

Course: Lecture and exercises for introduction to astrophysics	
Examination: oral (approx. 30 minutes) or written (120 min.) exam **Examination prerequisites:** At least 50% of the homework of the excercises have to be solved successfully. **Examination requirements:** Observational techniques, Planets and exoplanets, planet formation, stellar formation, structure and evolution, galaxies, AGN and quasars, cosmology, structure formation	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Jens Niemeyer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1
Maximum number of students: 120	

Georg-August-Universität Göttingen	6 C
Module B.Phy.1561: Introduction to Physics of Complex Systems	6 WLH

Learning outcome, core skills:	**Workload:**
Sound knowledge of essential methods and concepts from Nonlinear Dynamics and Complex Systems Theory, including practical skills for analysis and simulation (using, for example, the programming language python) of dynamical systems.	Attendance time: 84 h Self-study time: 96 h

Course: Introduction to Physics of Complex Systems (Lecture)	4 WLH

Examination: written examination (120 Min.) or oral examination (approx. 30 Min.)	6 C
Examination prerequisites: At least 50% of the homework of the excercises have to be solved successfully. **Examination requirements:** • Knowledge of fundamental principles and methods of Nonlinear Physics • Modern experimental techniques and theoretical models of Complex Systems theory.	

Course: Introduction to Physics of Complex Systems (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Basic programming skills (for the exercises)
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Klumpp Prof. Dr. Ulrich Parlitz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 2
Maximum number of students: 120	

Georg-August-Universität Göttingen **Module B.Phy.1571: Introduction to Biophysics**	6 C 6 WLH

Learning outcome, core skills: After attending this course, students will have basic knowledge about • the build-up of cells and the function of the components • transport phenomena on small length scales, derivation and solution of the diffusion equation • laminar hydrodynamics and its application in biological systems (flow, swimming, motility) • reaction kinetics and cooperativity, including enzymes • non-covalent interaction forces • self-assembly • biological (lipid) membrane build-up and dynamics • biopolymer physics and cytoskeletal filaments, including filament and cell mechanics • neurobiophysics • experimental methods, including state-of-the-art microscopy	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Introduction to Biophysics (Lecture) *Contents*: components of the cell; diffusion, Brownian motion and random walks; low Reynolds number hydrodynamics; chemical reactions, cooperativity and enzymes; biomolecular interaction forces and self-assembly; membranes; polymer physics and mechanics of the cytoskeleton; neurobiophysics; experimental methods and microscopy	4 WLH
Examination: Written exam (120 min.) or oral exam (ca. 30 min.) **Examination prerequisites:** At least 50% of the homework problems have to be solved successfully. **Examination requirements:** Knowledge of the fundamental principles, theoretical descriptions and experimental methods of biophysics.	6 C

Course: Introduction to Biophysics (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 2
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module B.Phy.1609: Foundations of the Unity of Human and Nature**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten Studierende Einblicke in die naturwissenschaftlichen, ökonomischen und weltanschaulichen Grundlagen der Wechselbeziehung Mensch – Natur gewonnen haben. Sie sollten... • über Grundlagen in der Systemdynamik komplexer Systeme verfügen; • mit Präsentationsmedien umgehen können; • komplexe Sachverhalte vor Experten und fachfremden Zuhörern präsentieren können; • den Erkenntnisforschritt im Seminar kritisch reflektieren können. Als Schlüsselkompetenzen sollten sie Diskussionsfähigkeit, Kritikfähigkeit und Ausdrucksfähigkeit erworben haben.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Grundlagen zur Einheit von Mensch und Natur	
Examination: Lecture (approx. 30 minutes) **Examination prerequisites:** Aktive Mitwirkung an der Diskussion der Präsentationen und Erarbeitung eines laufenden Erkenntnisfortschritt des Seminars als Hausaufgabe **Examination requirements:** Verständnis der wissenschaftlichen Grundlagen der Wechselbeziehung Mensch-Natur anhand wissenschaftlicher Fachliteratur. Die Entwicklung des Stoffwechsels des Menschen mit der Natur, insbesondere in der Produktion und Reproduktion von Gütern behandelt und ihre philosophische Reflektion wird behandelt. Der Schwerpunkt liegt auf der modernen Entwicklung der internationalen kapitalistischen Produktion zu einem dominanten Einflussfaktor auf die Biosphäre, die daraus resultierenden Möglichkeiten und die Faktoren der möglichen Untergrabung der Einheit von Mensch und Natur in einer globalen Umweltkatastrophe.	4 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: not limited	

| Georg-August-Universität Göttingen | 6 C |
| Module B.Phy.5402: Advanced Quantum Mechanics | 6 WLH |

Learning outcome, core skills:	**Workload:**
Acquisition of knowledge: After successful completion of the module students will be familiar with the core concepts and mathematical methods of advanced quantum mechanics and quantum many-body theory.	Attendance time: 84 h Self-study time: 96 h
Competencies: Students will be able to model and analyse single-particle and many-body quantum mechanical systems, drawing also on concepts of quantum information theory.	

Course: Advanced Quantum Mechanics (Lecture)	4 WLH
Examination: written exam (120 min.) or oral exam (approx. 30 min.) **Examination prerequisites:** At least 50% of the homework of the excercises have to be solved successfully. **Examination requirements:** Time-dependent perturbation theory, scattering, mixed states, path integrals in quantum mechanics, quantum information, entanglement as resource, many-body systems, second quantisation, basis elements of quantum field theory.	6 C

Course: Advanced Quantum Mechanics (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of 1-particle quantum mechanics
Language: English	**Person responsible for module:** Prof. Dr. Stefan Kehrein
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 3
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module B.Phy.5403: Fluctuation theorems, stochastic thermodynamics and molecular machines**	3 C 3 WLH

Learning outcome, core skills: After successful completion of the module students will be familiar with the core concepts and mathematical methods of stochastic thermodynamics, the key fluctuation theorems and applications to simple systems. Students will be able to model and analyse strongly fluctuating non-equilibrium processes within the framework of stochastic thermodynamics, in particular in the context of open reaction networks and simple discrete state models of molecular machines.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Fluctuation theorems, stochastic thermodynamics and molecular machines (lecture with exercise if necessary)	
Examination: oral (approx. 30 min.) or written exam (120 min.) **Examination requirements:** Stochastic dynamics (Markov chains), time reversal symmetry, integral and detailed fluctuation theorems, Langevin dynamics, applications to non-equilibrium dynamics of discrete state space models.	3 C

Admission requirements: none	Recommended previous knowledge: Module „Statistical mechanics and thermodynamics" or equivalent knowledge of equilibrium statistical mechanics.
Language: English	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module B.Phy.5404: Introduction to Statistical Machine Learning**	3 C 3 WLH

Learning outcome, core skills: After successful completion of the module students will be familiar with the core concepts and mathematical methods of statistical machine learning. Students will be able to devise, implement and analyse a range of machine learning approaches based primarily on a Bayesian statistics framework, including methods for regression, classification and approximate inference methods based on connections to statistical physics.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Introduction to Statistical Machine Learning (lecture with exercise if necessary)	
Examination: oral (approx. 30 min.) or written exam (120 min.) **Examination requirements:** Bayesian regression and classification, non-parametric models including Gaussian process, graphical models, variational inference	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic probability theory and linear algebra; familiarity with equilibrium statistical mechanics is helpful
Language: English	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module B.Phy.5405: Active Matter**	3 C 2 WLH

Learning outcome, core skills: **Learning objectives**: The students will learn about the basic principles of the physics of active matter as characterized via nonequilibrium statistical physics. Topics will include: physics of micro-swimming, hydrodynamic coordination, continuum description of scalar active matter and motility-induced phase separation, polar active matter and flocking, active liquid crystals (e.g. nematics) and defects, phoretic active matter, activity in enzyme suspensions, and active membranes. **Competences**: This course will give the students a good theoretical understanding of active matter and enable them to follow the state-of-the-art research in the area of active matter.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Active Matter (Lecture)	
Examination: written examination (60 Min.) or oral examination (approx. 30 Min.)	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in statistical physics and hydrodynamics
Language: English	**Person responsible for module:** Prof. Dr. Ramin Golestanian
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5406: Physics with fluctuating paths: stochastic and trajectory thermodynamics**	3 C 3 WLH

Learning outcome, core skills: After successful completion of the module students will be familiar with the core concepts and mathematical methods of stochastic and trajectory thermodynamics including the key fluctuation theorems, statistics of path-based observables and dynamical phase transitions Students will be able to model and analyse strongly fluctuating non-equilibrium processes within the framework of stochastic and trajectory thermodynamics, with applications e.g. in driven systems, non-equilibrium dynamics and reaction networks.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Physics with fluctuating paths: stochastic and trajectory thermodynamics	2 WLH
Course: Physics with fluctuating paths: stochastic and trajectory thermodynamics	1 WLH

Examination: Mdl. Prüfung (ca. 30 Minuten) oder Klausur (120 Minuten) **Examination requirements:** Stochastic dynamics (Markov chains) and Langevin dynamics, entropy production and work, time reversal symmetry and fluctuation theorems, trajectory thermodynamics and large deviations, dynamical phase transitions	3 C

Admission requirements: none	**Recommended previous knowledge:** Module "Statistical mechanics and thermodynamics" or equivalent knowledge of equilibrium statistical mechanics.
Language: German, English	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module B.Phy.5503: Astrophysical Spectroscopy**	3 C 2 WLH

Learning outcome, core skills: After successful completion of the modul the students should ... • know astronomial telescopes and measurement techniques • have an understanding of spectroscopic observation techniques • know principles of spectroscopy and design of astronomical spectrographs • know planning and execution of astronomical observations • data reduction and analysis	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Astrophysical Spectroscopy (Lecture)	

Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Knowledge of astronomical spectroscopy, telescopes, image errors, instrumentation; observation, reduction and analysis of spectroscopic data.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Astrophysics
Language: German, English	**Person responsible for module:** Prof. Dr. Ansgar Reiners
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen	3 C
Module B.Phy.5505: Data Analysis in Astrophysics	2 WLH

Learning outcome, core skills:	Workload:
After successful completion of the modul students are able to model noise and signal.	Attendance time: 28 h Self-study time: 62 h

Course: **Vorlesung** (Lecture)	
Examination: Oral examination (approx. 30 minutes)	3 C

Examination requirements:	
Demonstrate an understanding of concepts developed in lecture: Introduction to methods of data analysis in astrophysics: Random signal and noise; correlation analysis; model fitting by least squares and maximum likelihood; Monte Carlo simulations; Fourier analysis; filtering; signal and image processing; Hilbert transform; mapping; applications to problems of astrophysical relevance.	

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5509: Introduction to theoretical astrophysics**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden wissenschaftliche Vorträge über Themen der theoretischen Astrophysik (Grundlagen der theoretischen Astrophysik, von N-Körper-Problemen, Hydrodynamik, Magneto-Hydrodynamik bis zu ISM-Chemie und Strahlungstransport) vorbereiten und halten können.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar (Seminar)	

Examination: Vortrag (ca. 45 Min.) **Examination prerequisites:** Aktive Teilnahme	

Examination requirements: Angemessene Aufbereitung und Präsentation eines Themas der theoretischen Astrophysik.	

Admission requirements: none	**Recommended previous knowledge:** Einführung in die Astrophysik
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: 20	

| Georg-August-Universität Göttingen | 3 C |
| Module B.Phy.5511: Magnetohydrodynamics | 2 WLH |

Learning outcome, core skills:	Workload:
After successful comletion of this module, students should be able to apply the fundamental concepts and methods of magnetohydrodynamics to geo- and astrophysical problems.	Attendance time: 28 h Self-study time: 62 h

Course: Lecture (Lecture)	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (120 minutes)	3 C
Examination: Oral examination (approx. 30 minutes)	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: German, English	Person responsible for module: Prof. Dr. Andreas Tilgner
Course frequency: every 4th semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5513: Numerical fluid dynamics**	6 C 4 WLH

Learning outcome, core skills: After completion of this module students should ... • know the basic methods for solving partial differential equations • be able to program and analyze numerical methods for the solution of partial differential equations.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture with exercises	

Exactly one of the following examinations must be successfully completed:	
Examination: Term Paper (max. 15 pages)	6 C
Examination: Oral examination (approx. 30 minutes)	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Andreas Tilgner
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5514: Physics of the Interior of the Sun and Stars**	3 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students should be able ... • to understand the equations of stellar structure, • to understand current questions about the physics of solar/stellar interiors and magnetism, • to understand the physics of solar/stellar oscillations and their diagnostic potential.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung (Lecture)	
Examination: Oral examination (approx. 30 minutes)	3 C

Examination requirements: Demonstrate an understanding of concepts developed in lecture: Introduction to stellar structure, evolution, and dynamics; rotation; convection; dynamos; observations of solar and stellar oscillations; introduction to stellar pulsations; normal modes; weak perturbation theory; numerical forward modeling	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 3
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5517: Physics of the Sun, Heliosphere and Space Weather: Key Knowledge**	3 C 2 WLH

Learning outcome, core skills:	Workload:
After successful completion of the module the participants understand: • the elementary parameters of the Sun-Earth-System, • the origin and different forms of solar activity, • the physical processes of the heliosphere, • the exploration of space and the Sun with space missions, • the effects of the Sun on Earth and space weather.	Attendance time: 28 h Self-study time: 62 h

Course: Physics of the Sun, Heliosphere and Space Weather: Key Knowledge (Lecture) *Contents*: • Basic knowledge of the Sun-Earth-System, • Basic physics of the Sun, its outer atmosphere and its effects on interplanetary spac, • Exploration of the Sun and space with dedicated spacecraft and instruments, • Effects of the Sun on Earth, including cosmic effects, Finally, the research field of space weather, different forecast methods and new projects will be presented.	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examinationWritten examination (120 minutes)	3 C
Examination: Oral examinationoral examination (approx. 30 minutes)	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	Person responsible for module: Prof. Dr. Ansgar Reiners Contact Person: Dr. Bothmer
Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 4 - 6; Master: 1
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5518: Physics of the Sun, Heliosphere and Space Weather: Space Weather Applications**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: Introduction into the physics processes of space weather based on applied study cases. Core skills: Knowledge about physical processes of space weather and its applications. Ability in self-organised solving of case studies.	Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung (Lecture)	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (120 minutes)	3 C
Examination: Oral examination (approx. 30 minutes)	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Ansgar Reiners Contact person: Dr. Bothmer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5522: Solar Eclipses and Physics of the Corona**	3 C 2 WLH

Learning outcome, core skills: After successfully completed the modul students should understand the basic processes on how a cool star can heat and sustain its million Kelvin hot outer atmosphere, the corona. Using basic concepts of magnetohydrodynamics they should also be able to explain the structure and dynamics of the corona.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture (Lecture)	

Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Understanding of basic physical process in the corona of a star. The exam will be based on excecises distributed during the lecture course. Phenomenology of solar eclipses, timing of eclipses; Physics of hot gases; interaction of gas and magnetic field in the outer atmosphere of the Sun and other stars; phyiscal processes for plasma heating („coronal heating"); wave and Ohmic heating, acceleration of plasma to form a solar wind, solar-terrestrial relations	3 C

Admission requirements: none	**Recommended previous knowledge:** -Introduction to astrophysics - Electrodynamics
Language: German, English	**Person responsible for module:** apl. Prof. Dr. Hardi Peter
Course frequency: every 4th semester; summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5523: General Relativity**	6 C 6 WLH

Learning outcome, core skills: The students master the foundations of General Relativity mathematically and physically. They are able to perform corresponding computations in simple models.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: General Relativity (Lecture)	4 WLH
Examination: Written examination (120 minutes) **Examination requirements:** Basic structures of Differential geometry, simple examles of computations, Einstein's equation, underlying principles, Schwarzschild space-time, classical tests of General Relativity, foundations of cosmology.	6 C

Course: Excercises	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of Mechanics, Electrodynamics and special Relativity, Analysis of several real variables
Language: German, English	**Person responsible for module:** apl. Prof. Folkert Müller-Hoissen
Course frequency: Two-year as required / Winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 60	

Georg-August-Universität Göttingen **Module B.Phy.5524: Seminar Advanced Topics of General Relativity Theory**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden... • sich in ein fortgeschrittenes Thema aus dem Bereich der Allgemeinen Relativitätstheorie einarbeiten und dieses professionell präsentieren können; • die Fähigkeit zur kompetenten Präsentation der wesentlichen Ideen und Rechnungen besitzen.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Vortrag (ca. 90 Min.) mit schriftlicher Ausarbeitung (max. 20 Seiten) **Examination prerequisites:** Aktive Teilnahme **Examination requirements:** Studierende sollen die dem Thema zugrunde liegenden Fachbegriffe erklären und die wesentlichen Rechnungen skizzieren können.	

Admission requirements: keine	Recommended previous knowledge: Grundlagen der ART
Language: German, English	**Person responsible for module:** apl. Prof. Folkert Müller-Hoissen
Course frequency: zweijährig je nach Bedarf im SoSe oder WiSe	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 10	

Additional notes and regulations: Schwerpunkte: Astro-/Geophysik sowie Kern-/Teilchenphysik

Georg-August-Universität Göttingen **Module B.Phy.5525: Seminar on Integrable Systems and Solitons**	4 C 2 WLH

Learning outcome, core skills:	Workload:
Learning outcome: Special topics of the mathematics and physics of integrable systems and solitons, using original articles or advanced text books. **Core skills:** Ability to get acquainted with an advanced topic from this area of mathematics and physics, using original articles or advanced text book material, and to present a professional talk about this material.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Presentation with discussion (approx. 75 minutes) and written elaboration (max. 10 pages) **Examination prerequisites:** Active participation	

Admission requirements: none	Recommended previous knowledge: Basic knowledge of the mathematics and physics of integrable systems and solitons.
Language: German, English	**Person responsible for module:** apl. Prof. Folkert Müller-Hoissen
Course frequency: every 4th semester; Two-year as required / Summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.Phy.5529: Galaxies and the Intergalactic Medium**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden ... • mit Grundlagen und aktueller Forschung bezüglich Galaxien und dem intergalaktischen Medium vertraut sein; • entsprechende Grundlagenkenntnisse in Vorträgen darstellen können.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Vortrag (ca. 45 Min.) **Examination prerequisites:** Aktive Teilnahme	4 C

Examination requirements: Präsentation wichtiger Grundlagen sowie aktueller Forschungsergebnisse über Galaxien oder das intergalaktische Medium. Globale Eigenschaften von Galaxien und deren Interaktion mit dem intergalaktischen Medium; kosmologische Entwicklung des intergalaktischen Medium: Beobachtungen, analytische und numerische Modelle.	

Admission requirements: Einführung in die Astrophysik	**Recommended previous knowledge:** Grundlagen der Astro- und Geophysik
Language: German, English	**Person responsible for module:** PD Dr. Wolfram Schmidt
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen	3 C
Module B.Phy.5530: Introduction to Cosmology	2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome:	Attendance time:
	28 h
Newtonian cosmology, relativistic homogeneous isotropic cosmology, horizons and distances, the hot universe, Newtonian inhomogeneous cosmology, inflation. This course will be based on video lectures and short quizzes that will be discussed in class.	Self-study time:
	62 h
Core skills:	
Understanding the evolution of the universe on very large scales, knowledge of current questions in physical cosmology.	

Course: Introduction to Cosmology (Lecture)	2 WLH
Course frequency: each summer semester	

Examination: Written exam (120 Min.) or oral exam (approx. 30 Min.)	3 C
Examination requirements:	
Physikalisches Verständnis der Entwicklung des Universums auf sehr großen Skalen, Kenntnis der aktuellen Fragen der Kosmologie	

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Jens Niemeyer
Course frequency:	**Duration:**
every 4th semester; vorraussichtlich SoSe	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	from 5
Maximum number of students:	
20	

Additional notes and regulations:
Study Foci: AG, KT

Georg-August-Universität Göttingen **Module B.Phy.5531: Origin of solar systems**	3 C 2 WLH

Learning outcome, core skills: After finishing the module the students should be able to apply the fundamental knowledge about the structure and the formation of planetary systems to geophysical and astrophysical problems.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Theory and observation of early phases of stars and planetary systems, including extrasolar planets and our own solar system. In particular: Early phases of formation of stars and protoplanetary disks, models of the condensation of molecules and minerals during formation of planetary systems, chemistry and radiation in low-density astrophysical environments, formation of planets and their migration, small solar system bodies as source of information on the early solar system.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Astropyhsics
Language: German, English	**Person responsible for module:** Prof. Dr. Stefan Dreizler Ansprechpartner: Dr. Jockers, Dr. Krüger
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen Module B.Phy.5532: Symmetries and Nonlinear Differential Equations in Physics	6 C 6 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten Studierende... - ein Verständnis verschiedener Symmetriebegriffe in Zusammenhang mit gewöhnlichen und partiellen Differenzialgleichungen, insbesondere Lie-Punktsymmetrien und Berührungstransformationen, aber auch allgemeine Koordinatentransformationen und Eichtransformationen, sowie deren Relevanz in physikalischen Theorien gewonnen haben; - die Anwendungsfähigkeit auf relevante Beipiele aus der Physik entwickelt haben; - die wichtigsten Solitonengleichungen, Lösungsmethoden, Eigenschaften exakter Lösungen, Auftreten in physikalischen Modellen kennen. - einen Überblick gewinnen hinsichtlich der Bedeutung von kontinuierlichen Symmetrien für die Untersuchung von Differenzialgleichungen und als Grundlage physikalischer Theorien; - in der Lage sein, grundlegende mathematische Methoden auf einfache Beispiele anwenden zu können; - das Auftreten von Solitonen (lokalisierte und formstabile Wellen mit einer Art nichtlinearem Superpositionsprinzip) als typisch nichtlineares Phänomen (spezieller) nichtlinearer partieller Differenzialgleichungen verstanden haben; - die Fähigkeit zur Nutzung von Mathematiksoftware (Mathematica oder Maple) in diesem Kontext entwickelt haben.	Workload: Attendance time: 84 h Self-study time: 96 h

Course: Symmetrien und Nichtlineare Differenzialgleichungen in der Physik (Lecture)	4 WLH
Course: Symmetrien und Nichtlineare Differenzialgleichungen in der Physik (Exercise)	2 WLH

Examination: Klausur (120Min.) oder mdl. Prüfung (ca. 30 Min.) Examination requirements: Symmetriebegriffe, Anwendungsfähigkeit entsprechender Methoden in einfachen Beispielen; spezielle mathematische Methoden der Theorie integrabler Systeme; Beispiele von Solitonen-Gleichungen und deren Auftreten in physikalischen Systemen.	6 C

Admission requirements: none	Recommended previous knowledge: Differenzial- und Integralrechnung mehrerer Veränderlicher; Grundlagen der komplexen Analysis; Grundkenntnisse der Mechanik und Elektrodynamik
Language: German, English	Person responsible for module: apl. Prof. Folkert Müller-Hoissen
Course frequency: alle zwei Jahre im WiSe	Duration: 1 semester[s]
Number of repeat examinations permitted:	Recommended semester:

three times	from 4
Maximum number of students: not limited	

Additional notes and regulations: Bachelor und Master Schwerpunkt Astro-/Geophysik, Biophysik/Komplexe Systeme; Kern-/Teilchenphysik

Georg-August-Universität Göttingen **Module B.Phy.5533: Solar and Stellar Activity**	6 C 4 WLH

Learning outcome, core skills: Fundamental knowledge of solar and stellar structure, sun-like stars, generation of magnetic fields and magnetic activity, physics of the chromosphere and corona, dynamo mechanisms, evolution of stellar activity and other stellar parameters, star-planet interaction.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture (Lecture)	

Examination: Written examination (ca. 120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Knowledge of the structure of the sun and solar-like stars; generation of magnetic fields and magnetic activity; physics of the chromosphere and the corona; dynamo mechanisms; evolution of stellar activity; star-planet interaction	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Astrophysics
Language: German, English	**Person responsible for module:** Prof. Dr. Ansgar Reiners
Course frequency: unregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5535: Fluid dynamics, nonlinear dynamics and turbulence**	3 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden... - die kinetische und fluiddynamische Beschreibung von Gasen verstanden haben; - verschiedene Näherungen (relativistisch/nichtrelativistisch, viskos/ideal, etc.) anwenden können; - Zugang zur Theorie der Turbulenz gefunden haben; - den Ursprung von Skalengesetzen verstanden haben.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung *Contents*: Kinetische Theorie, relativistische und nichtrelativistische kompressible Fluiddynamik; allgemeine Aspekte nichtlinearer Systeme; Turbulenz als nichtlineares Phänomen in der Fluiddynamik; Überschallturbulenz; Skalengesetze und Intermittenz	

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Grundlagen der kinetischen Theorie; fluiddynamische Beschreibung (insbesondere kompressible Navier-Stokes-Gleichungen); Theorie der Turbulenz (allgemeine Grundlagen; Kolmogorov-Theorie und Erweiterungen/Modifikationen) Kinetische Theorie; relativistische und nichtrelativistische kompressible Fluiddynamik; allgemeine Aspekte nichtlinearer Systeme; Turbulenz als nichtlineares Phänomen in der Fluiddynamik; Überschallturbulenz; Skalengesetze und Intermittenz	3 C

Admission requirements: keine	Recommended previous knowledge: Theoretische Physik
Language: English	**Person responsible for module:** PD Dr. Wolfram Schmidt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 3
Maximum number of students: not limited	

Additional notes and regulations: Schwerpunkt Astro-/Geophysik Schwerpunkt Biophysik/Komplexe Systeme

Georg-August-Universität Göttingen Module B.Phy.5538: Stellar Atmospheres	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students should know how to applicate physical concepts (such as atomic and molecular physics, thermodynamics, and statistical physics) in an astrophysical context, and know their implementation in numerical simulations.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Physics of stellar atmospheres (Vorlesung) *Course frequency:* each winter semester	2 WLH
Course: Stellar atmosphere modelling (Computerpraktikum) *Course frequency:* each winter semester	2 WLH
Examination: Oral Exam (ca. 30 Min.)	6 C

Examination requirements: Oral account of the context and concepts learned during the two courses on the topics of interaction of radiation and matter; radiative transfer; structure of stellar atmospheres; and theoretical foundations of spectral analysis; answering of specific questions on all the aspects in this field.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Dreizler
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 20	

Additional notes and regulations: Schwerpunkt: Astro-/Geophysik

Georg-August-Universität Göttingen **Module B.Phy.5539: Physics of Stellar Atmospheres**	3 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students should understand the interaction of radiation and matter, radiative transfer, structure of stellar atmospheres; thorough understand the theoretical foundations of spectral analysis and know how to applicate physical concepts (such as atomic and molecular physics, thermodynamics, and statistical physics) in an astrophysical context.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Physics of stellar atmospheres (Vorlesung)	
Examination: Oral Exam (ca. 30 Min.)	3 C

Examination requirements: Oral account of the context and concepts of radiative transfer and structure of stellar atmospheres.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Dreizler
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 20	

Additional notes and regulations: Schwerpunkt: Astro-/Geophysik

Georg-August-Universität Göttingen **Module B.Phy.5540: Introduction to Cosmology**	3 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students should understand the evolution of the universe on very large scales, knowledge of current questions in physical cosmology.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture Introduction to Cosmology	
Examination: written (120 min.) or oral (ca. 30 min.) exam **Examination requirements:** Key concepts and calculations from homogeneous cosmology: Newtonian cosmology; relativistic homogeneous isotropic cosmology; horizons and distances; the hot universe; Newtonian inhomogeneous cosmology; inflation. This course will be based on video lectures and short quizzes that will be discussed in class.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Jens Niemeyer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: 20	

Additional notes and regulations: Schwerpunkt: Astro-/Geophysik; Kern-/Teilchenphysik

Georg-August-Universität Göttingen **Module B.Phy.5543: Black Holes**	3 C 2 WLH

Learning outcome, core skills: After successfully completing the module, students are expected to understand the basic mathematical properties of black holes as solutions of Einstein's equations of General Relativity and to know the scenarios of astrophysical black hole formation.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Black Holes (Lecture)	

Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Gravitational collapse, Schwarzschild black holes, charged black holes, rotating black holes, horizon properties, black hole mechanics, black hole thermodynamics	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of General Relativity
Language: German, English	**Person responsible for module:** Prof. Dr. Jens Niemeyer
Course frequency: at irregular intervals	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5544: Introduction to Turbulence**	3 C 2 WLH

Learning outcome, core skills: **Learning objectives:** In this course, the students will be introduced to the phenomenon of turbulence as a complex system that can be treated with methods from non-equilibrium statistical mechanics. The necessary statistical tools will be introduced and applied to obtain classical and recent results from turbulence theory. Furthermore, current numerical and experimental techniques will be discussed. **Competencies:** The students shall gain a fundamental understanding of turbulent flows as a problem of non-equilibrium statistical mechanics. Part of the course will be held in tutorial style in which textbook problems will be discussed in detail. The course shall also strengthen the students' ability to perform interdisciplinary work by stressing the interdisciplinary aspects of the field with connections to pure and applied math as well as engineering sciences.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Introduction to Turbulence (Lecture)	
Examination: Written exam (90 min.) or oral exam (approx. 30 min.) **Examination requirements:** Basic knowledge and understanding of the material covered in the course such as: continuum description of fluids (Navier-Stokes equations), non-dimensionalization & dimensional analysis, Kolmogorov phenomenology, intermittency, exact statistical approaches & the closure problem, soluble models of turbulence.	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic Knowledge in continuum mechanics or electrodynamics
Language: English, German	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen	3 C
Module B.Phy.5601: Theoretical and Computational Neuroscience I	2 WLH

Learning outcome, core skills:	**Workload:**
Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden... • ein vertieftes Verständnis folgender Themen entwickelt haben: TCN I: biophysikalische Grundlagen neuronaler Anregbarkeit, mathematische Grundlagen neuronaler Anregbarkeit, Input-Output Beziehungen und Bifurkationen, Klassifizierung, Existenz, Stabilitaet und Koexistenz sychroner und asynchroner Zustaende in spikenden neuronalen Netzwerken; • Methoden und Methodenentwicklung für die Analyse hochdimensionaler Modelle ratenkodierter Einheiten in Feldmodellen verstehen; • die Handhabung von Bifurkationsszenarien und zugehörigen Instabilitäten verstanden haben.	Attendance time: 28 h Self-study time: 62 h

Course: Collective Dynamics Biological Neural Networks I (Lecture)	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (120 minutes)	3 C
Examination: Oral examinationMündliche Prüfung (approx. 30 minutes)	3 C
Examination: Vortrag (2 Wochen Vorbereitungszeit) (30 minutes)	3 C

Examination requirements:	
Grundlagen der Membranbiophysi;, Bifurkationen anregbarer Systeme; Verständnis der Grundlagen der Modellierungsansätze der Neurophysik; kollektive Zustände spikender neuronaler Netzwerke; insbesondere Synchonizität; Balanced State; Phase-Locking und diesen Zuständen unterliegenden lokalen und Netzwerkeigenschaften: Netzwerktopologie; Delays; inhibitorische und exzitatorische Kopplung; sparse random networks	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fred Wolf
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 90	

Georg-August-Universität Göttingen **Module B.Phy.5602: Theoretical and Computational Neuroscience II**	3 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten Studierende... • das vertiefte Verständnis folgender Themen entwickelt haben: TCN II: Grundlagen neuronaler Anregbarkeit, Input-Output Beziehungen bei Einzelneuronen, eindimensionale Feldmodelle (Feature Selectivity, Contrastinvariance), zweidimensionale Feldmodell (Zusammenwirken von kurz- und langreichweitigen Verbindungen sowie lokaler Nichtlinearitaeten), Amplitudengleichungen und ihre Loesungen; • Methoden und Methodenentwicklung für die Analyse spikender neuronaler Netzwerke mit und ohne Delays, Handhabung von Bifurkationsszenarien und zugehörigen Instabilitäten verstehen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Collective Dynamics Biological Neural Networks II (Lecture)	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (120 minutes)	3 C
Examination: Oral examination (approx. 30 minutes)	3 C
Examination: Seminarvortrag (2 Wochen Vorbereitungszeit) (30 minutes)	3 C

Examination requirements: Ratenmodelle von Einzelneuronen; Feldansatz in der theoretischen Neurophysik; Grundlagen der Bifurkationen anregbarer System; Verständnis der Grundlagen der Modellierungsansätze der Neurophysik; Zusammenhang diskrete/kontinuierliche Modelle; kollektive Zustände ein- und zweidimensionaler Feldmodelle, insbesondere ring model of feature selectivity; orientation preference maps.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fred Wolf
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 90	

Georg-August-Universität Göttingen **Module B.Phy.5604: Foundations of Nonequilibrium Statistical Physics**	3 C 2 WLH

Learning outcome, core skills: **Lernziele**: Invariant densities of phase-space flows with local and global conservation of phase-space volume; reduction of a microscopic dynamics to a stochastic description, to kinetic theory and to hydrodynamic transport equations; fluctuation theorems; Green-Kubo relations; local equilibrium; entropy balance and entropy production; the second law; statistical physics of equilibrium processes as a limit of a non-equilibrium processes; applications in nanotechnology and biology: small systems far from thermodynamic equilibrium. **Kompetenzen**: After successful completion of the modul the students should know modeling approaches for a statistical-physics description of small systems far from thermodynamic equilibrium: in homework problems, that will be presented in a subsequent symposium, this will be highlighted by explicitly working out examples in nanotechnology and biology.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: lecture	
Examination: Presentation (approx. 30 min) and handout (max. 4 pages)	3 C

Examination requirements: Modeling of an experimental system by a Master equation, kinetic theory or Non-Equilibrium Molecular Dyanamics with discussion of the appropriate fluctuation relations and/or the relation of models on different levels of coarse graining.	

Admission requirements: none	**Recommended previous knowledge:** Statistische Physik
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5605: Computational Neuroscience: Basics**	3 C 2 WLH

Learning outcome, core skills: **Goals:** Introduction to the different fields of Computational Neuroscience: • Models of single neurons, • Small networks, • Implementation of all simple as well as more complex numerical computations with few neurons. • Aspects of sensory signal processing (neurons as ‚filters'), • Development of topographic maps of sensory modalities (e.g. visual, auditory) in the brain, • First models of brain development, • Basics of adaptivity and learning, • Basic models of cognitive processing. **Kompetenzen/Competences:** On completion the students will have gained… • … overview over the different sub-fields of Computational Neuroscience; • … first insights and comprehension of the complexity of brain function ranging across all sub-fields; • … knowledge of the interrelations between mathematical/modelling methods and the to-be-modelled substrate (synapse, neuron, network, etc.); • … access to the different possible model level in Computational Neuroscience.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Computational Neuroscience: Basics (Lecture)	
Examination: Written examination (45 minutes) **Examination requirements:** Actual examination requirements: Having gained overview across the different sub-fields of Computational Neuroscience; Having acquired first insights into the complexity of across the whole bandwidth of brain function; Having learned the interrelations between mathematical/modelling methods and the to-be-modelled substrate (synapse, neuron, network, etc.) Being able to realize different level of modelling in Computational Neuroscience.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 2 - 6; Master: 1 - 4

Georg-August-Universität Göttingen **Module B.Phy.5607: Seminar: Mechanics and dynamics of the cytoskeleton**	4 C 2 WLH

Learning outcome, core skills: After successfully finishing this course, students will be able to work on specific questions with the help of book chapters or journal publications and to present the topic in a seminar talk.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar: Mechanics and dynamics of the cytoskeleton	
Examination: Presentation with discussion (Bachelor approx. 30 min., Master approx. 60 min.) **Examination prerequisites:** Active participation **Examination requirements:** Polymer physics and polymer networks; membranes; physics on small scales; cell mechanics; molecular motors; cell motility; dynamics in the cell.	4 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics and/or Physics of Complex Systems
Language: German, English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen	3 C
Module B.Phy.5608: Micro- and Nanofluidics	2 WLH

Learning outcome, core skills:	**Workload:**
Students will learn the fundamentals of fluid dynamics, hydrodynamics on the micro- and nanoscale, wetting and capillarity and "life" at low Reynolds numbers. Students will also learn the how these topics are studied/applied in experiments, learn about device fabrication using soft lithography and the use of fluidics in biology and biophysics including "lab-on-a-chip" applications. After successfully completing this course, students will be familiar with basic hydrodynamics and their applications at scales applicable to biology, biophysics, material sciences and biotechnology.	Attendance time: 28 h Self-study time: 62 h

Course: Micro- and Nanofluidics (Lecture)	

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (60 minutes)	3 C
Examination: Oral examination (approx. 30 minutes)	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics and/or Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: every 4th semester; summerterm, in even years	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5611: Optical spectroscopy and microscopy**	3 C 2 WLH

Learning outcome, core skills: **Learning outcome**: Physical basics of fluorescence and fluorescence spectroscopy, fluorescence anisotropy, fluorescence lifetime, fluorescence correlation spectroscopy, basics of optical microscopy, resolution limit of optical microscopy, wide field and confocal microscopy, super-resolution microscopy. **Core skills:** The students shall learn the basics and applications of advanced fluorescence spectroscopy and microscopy, including single-molecule spectroscopy and all variants of super-resolution fluorescence microscopy.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Fundamental understanding oft he physics of fluorescence and the applications of fluorescence in spectroscopy and microscopy.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5612: Physics of Extreme Events**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden mit den Grundlagen der Physik extremer Events, den analytischen und numerischen Methoden für die statistische Analyse und Vorhersage extremer Events, der Anwendung der Theorie extremer Events u. a. in Wellensystemen, Biophysik und Ökonophysik, vertraut sein.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Vortrag (ca. 60 Min.) **Examination prerequisites:** Aktive Teilnahme	4 C

Examination requirements: Entwicklung und Handhabung statistischer Modelle, die extreme Events beschreiben; analytische und numerische Methoden für deren Analyse und Vorhersage. Die Vortragszeit umfasst auch die anschließende Diskussion.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** apl. Prof. Dr. Jürgen Vollmer
Course frequency: every 4th semester; zweijährig je nach Bedarf im SoSe oder WiSe	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5613: Soft Matter Physics**	3 C 2 WLH

Learning outcome, core skills: **Learning objectives** After successfully finishing this course, students will be familiar with fundamental concepts of soft condensed matter physics and their applications. Topics include: intermolecular interactions; phase transitions; interface physics; amphiphilic molecules; colloids; polymers; polymer networks; gels; fluid dynamics; self-organization. **Learning outcomes:** Students will be able to apply these fundamental concepts independently to specific questions. They will be able to use the knowledge learned to critically evaluate the current literature.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Soft Matter Physics (Lecture)	2 WLH

Exactly one of the following examinations must be successfully completed:	
Examination: Written examinationwritten exam (120 minutes)	3 C
Examination: Oral examinationoral exam (approx. 30 minutes)	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to…Biophysics or/and Physics of complex systems or/and Solid State Physics or/and Materials Physics
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: every 4th semester; summerterm, in odd years	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5614: Proseminar Computational Neuroscience**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students have deepened their knowledge in computational neuroscience / neuroinformatics by independent preparation of a topic. They should... - know and be able to apply methods of presentation of topics from computer science; - be able to deal with (English-language) literature; - be able to present a topic of computer science; - be able to lead a scientific discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Proseminar	
Examination: Talk (approx. 45 Min.) with written report (max. 7 S.) **Examination requirements:** Proof of the acquired knowledge and skills to deal with scientific literature from the field of computational neuroscience / neuroinformatics under guidance by presentation and preparation.	4 C

Admission requirements: none	**Recommended previous knowledge:** B.Phy.5605
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5615: Biology and Biochemistry for Physicists**	3 C 2 WLH

Learning outcome, core skills: **Lernziele**: Aufbau und Erweiterung von Kenntnissen über biologische Grundlagen der Biophysik. **Kompetenzen:** Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden über grundlegende Kenntnisse über Struktur und Funktion von Makromolekülen in der Zelle, die wichtigsten zellulären Vorgänge sowie über die Signaltransduktion und biologische Informationsverarbeitung verfügen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung	
Examination: Written examination (120 minutes)	3 C

Examination requirements: Fundierte biologische Kenntnisse als Grundlage für die Bearbeitung von Fragestellungen der Biophysik	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik / Ansprechpartner Dr. Qui Van
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1
Maximum number of students: 35	

Georg-August-Universität Göttingen **Module B.Phy.5620: Physics of Sports**	4 C 2 WLH

Learning outcome, core skills: After completing this module a student should be able to: • Research a topic in the scientific literature and analyse it critically. • Show fundamental skills in model building and, for example, in the discussion of nonlinear differential equations or other complex physical models.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Presentation with discussion (approx. 45 minutes) and supplementary report (max. 4 pages) **Examination prerequisites:** Active participation	

Examination requirements: The student should: Present a summary of the key physics underlying a particular sport; Explain the topic from intuition to a deep description of the relevant physical facts or foundation; Set up an appropriate model and discuss the solution. Where appropriate, the student must take into account a critical discussion of the relevant literature.	

Admission requirements: none	**Recommended previous knowledge:** Basic analytical mechanics and fluid dynamics.
Language: English, German	**Person responsible for module:** Prof. Dr. Stephan Herminghaus Contact persons: Dr. O. Bäumchen, Dr. M. Mazza
Course frequency: unegular, two year as required	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen	6 C
Module B.Phy.5623: Theoretical Biophysics	4 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: Basics of probability theory, Bayes Theorem, Brownian motion, stochastic differential equations, Langevin equation, path integrals, Fokker-Planck equation, Ornstein-Uhlenbeck processes, thermophoresis, chemotaxis, Fluctuation Dissipation Theorems, Stochastic Resonance, Thermal Ratchet, motor proteins, hydrodynamics at the nanoscale, population dynamics, Jarzynski relations, non-equilibrium thermodynamics, neural networks.	Attendance time: 56 h Self-study time: 124 h
Core skills: The core coal is to teach students fundamental theoretical concepts about stochastic systems in the widest sense, an the application of these concepts the biophysics of biomolecules, cells and populations.	

Course: Vorlesung mit Selbststudium Literatur	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Derivation of fundamental relations describing stochastic systems, derivation, handling and explanation of differential equations, derivation of analytical and approximative solutions for the various considered problems.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Jörg Enderlein
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5624: Introduction to Theoretical Neuroscience**	4 C 2 WLH

Learning outcome, core skills: After successfully completing this course, students should understand and be able to employ the fundamental concepts, model representations and mathematical methods of the theoretical physics of neuronal systems.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	
Examination: Lecture (approx. 60 minutes) **Examination prerequisites:** Active Participation **Examination requirements:** Elementary knowledge of the construction, biophysics and function of nerve cells; probabilistic analysis of sensory encoding; simple models of the dynamics and information processing in networks of biological neurons; modelling of the biophysical foundations of learning processes.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fred Wolf
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.Phy.5625: X-ray physics**	6 C 4 WLH

Learning outcome, core skills: Knowledge in: - Radiation-matter interaction - Dosimetry, radiobiology and radiation protection - Scattering experiments: photons, neutrons and electrons - Fundamental concepts in diffraction and Fourier theory - Structure analysis in crystalline and non-crystalline condensed matter - Generation of x-rays and synchrotron radiation - X-rays optics and detection - X-ray spectroscopy, microscopy and imaging After taking the course, students - will integrate fundamental concepts of matter-radiation interaction . - are able to apply quantitative scattering techniques with short wavelength radiation for structure analysis of condensed matter, including problems in solid state, materials, soft matter, and biomolecular physics - are able to plan and carry out x-ray laboratory experiments - are prepared to participate in beamtimes at synchrotron, neutron or free-electron radiation sources - can solve analytical problems in x-ray optics, diffraction and imaging	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: X-ray Physics	
Examination: Written examination (120 minutes) or oral examination (ca. 30 min.) or presentation (ca. 30 min.) **Examination prerequisites:** none **Examination requirements:** - solve problems of the topics mentioned above on a quantitative level, including calculations of structure factor, correlation functions, - applications of Fourier theory to structure analysis and basic solutions to the phase problem, - solve problems of wave optical propagation and diffraction - knowledge about interaction mechanisms and order -of-magnitude estimations, - knowledge about theoretical concepts and experimental implementations of different techniques, - knowledge of laboratory skills (x-ray sources, detection, dosimetry)	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Tim Salditt

Course frequency:	Duration:
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	Bachelor: 6; Master: 1 - 2
Maximum number of students:	
15	

Georg-August-Universität Göttingen **Module B.Phy.5628: Pattern Formation**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: Spatial patterns such as stripes or spots emerge in many physical systems, biology and beyond. This course will cover the mechanisms and most common examples of such patterns. We shall show how broad classes of nonlinear dynamical systems are related in terms of non-dimensional groups, and symmetries. Linear stability theory will be introduced to demonstrate the onset of emergent features, and amplitude equations will be derived around these instabilities to describe the rules of pattern selection (like spots or stripes). Finally, the significance of defects and their dynamics will be explored. Model systems such as convection cells, waves in excitable tissue, wrinkling, reaction-diffusion patterns and beyond will be introduced. Additional context and related questions of current research will be covered in talks by members of the Göttingen Research Campus. **Core skills:** After successful completion of the modul, the students should... • know, how to approach the study of natural patterns in nonlinear systems from a rigorous physical perspective; • know, how to identify the conditions for the onset of a pattern, and to analyse pattern selection and stability; • be able to develop a familiarity with the principles of pattern formation, and apply these to a broad range of situations, from the large-scale structure of the universe, to a leopard's spots and flux tubes in superconductors; • be able to perform an in-depth investigation on a particular topic of their choice, and present this topic during class.	Attendance time: 56 h Self-study time: 124 h

Course: lecture	2 WLH

Course: tutorium	2 WLH

Examination: presentation (approx. 45 min) and handout (max. 4 pages)	6 C

Examination requirements: Modeling of an experimental system by identifying appropriate dimensionless variables; determining the stability threshold; deriving appropriate amplitude equations and discussing the pattern selection beyond the threshold of linear stability.	

Admission requirements: none	**Recommended previous knowledge:** Analytical Mechanics, basic knowledge on Partial Differential Equations.
Language: English	**Person responsible for module:** apl. Prof. Dr. Jürgen Vollmer
Course frequency: two year as required, summer or winter term	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

three times	Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Phy.5629: Nonlinear dynamics and time series analysis**	6 C 4 WLH

Learning outcome, core skills: Sound knowledge and practical experience with methods and concepts from Nonlinear Dynamics and Time Series Analysis, mainly obtained by devising, implementing, and running algorithms and simulation programs.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Blockpraktikum	
Examination: Presentation with discussion (approx. 45 minutes) and written elaboration (max. 10 pages) **Examination requirements:** • Presentation of a specific topic • Report about own (simulation) results obtained for the specific topic	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic programming skills (for the exercises)
Language: German, English	**Person responsible for module:** apl. Prof. Dr. Ulrich Parlitz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 12	

Additional notes and regulations: (Duration: 2 weeks with 8h per day)

Georg-August-Universität Göttingen	4 C
Module B.Phy.5631: Self-organization in physics and biology	2 WLH

Learning outcome, core skills:	Workload:
Learning outcome: Non-linear dynamics, instabilities, basics of self-organisation, bifurcations, non-equilibrium thermodynamics: **Core skills:** Upon successful seminar participation, the students should be capable of - accomplish literature research autonomously and therefore understand and analyse scientifc articles in the corresponding scientific context - create a presentation including physical and biological basics relevant to the scientific article and give the oral presentation	Attendance time: 28 h Self-study time: 92 h

Course: Seminar	

Examination: Presentation (approx. 45 Min.) **Examination prerequisites:** Active Participation **Examination requirements:** Elaborated presentation, which includes an introduction to the necessary basics	4 C

Admission requirements: none	Recommended previous knowledge: -Introduction to biophysics -Introduction to physics of complex systems
Language: English, German	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz Further contact person: Dr. M. Tarantola
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module B.Phy.5632: Current topics in turbulence research**	4 C 2 WLH

Learning outcome, core skills:	Workload:
Learning outcome: Based on a selected topic the students shall develop a basic understanding of turbulent flows. **Core skills**: The goal of this course is to enable the students to present their research in the context of the international state of the art of the field.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar	WLH
Examination: Presentation (approx. 45 Min.) **Examination prerequisites:** Active Participation **Examination requirements:** Basic understanding of turbulence; instabilities, scaling, models of turbulence, turbulence in rotating and stratified systems, turbulent heat transport, particles in turbulence	4 C

Admission requirements: none	Recommended previous knowledge: Basic knowledge of advanced continuum mechanics or electrodynamics.
Language: English, German	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module B.Phy.5635: Introduction to Chaotic Behavior I: Dissipative Systems**	3 C 2 WLH

Learning outcome, core skills: **Lernziele:** Chaos in diskreten dynamischen Systemen, Charakterisierung durch Lyapunov-Exponenten, invariante Maße, Korrelationsfunktionen und Powerspektren; kontinuierliche dynamische Systeme und seltsame Attraktoren; Bifurkationen und Routen ins Chaos, Periodenverdopplung und Feigenbaum-Universalität **Kompetenzen:** Analytische Methoden der nichtlinearen Dynamik	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Introduction to Chaotic Behavior I: Dissipative Systems (Lecture) *Course frequency:* each winter semester	

Examination: Written examination (90 minutes) **Examination prerequisites:** none **Examination requirements:** Methoden der Nichtlinearen Dynamik	3 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Theo Geisel
Course frequency: every 4th semester; two-year as required, summer semester or winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 6
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5636: Introduction to Chaotic Behavior II: Hamiltionian Systems**	3 C 2 WLH

Learning outcome, core skills: On successful completion of this course, students shall have a command of the analytical methods of non-linear dynamics.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture	

Examination: Written examination (90 minutes) **Examination prerequisites:** none **Examination requirements:** Arnold's cat map; Hartmann-Grobmann theory; homoclinic slices; Melnikov methods; homoclinic tangles; Smale's horseshoe map; ergodicity; Kolmogrov-Sinai entropy.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Theo Geisel
Course frequency: Two year as required / summer or winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen	3 C
Module B.Phy.5639: Optical measurement techniques	2 WLH

Learning outcome, core skills: After successful completion of the module, students should ... • be able to apply light models • have understood basic optical principles of measurement • have gained an overview of optical measurement method for measuring different physical quantities at different scales	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Optical Measurement Techniques (Lecture)	
Examination: Presentation with discussion (approx. 30 min.) or oral examination (approx. 30 Min.) **Examination requirements:** Understanding optical measurement principles and methods	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik / Ansprechpartner: Dr. Nobach
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5642: Experimental Methods in Biophysics**	3 C 2 WLH

Learning outcome, core skills: After successful completion of this module, students know some fundamental physics of experimental methods used in biophysics and are able to adapt those to selected problems.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture	
Examination: oral exam (approx. 15 Min.) or talk (approx. 30 Min.) **Examination requirements:** Fundamental physics of experimental methods in biophysics, e.g. microscopy, atomic force microscopy, optical tweezers, data acquisition and analysis, image analysis, rheology	

Admission requirements: none	Recommended previous knowledge: Introduction to Biophysics
Language: English	Person responsible for module: Dr. Florian Rehfeldt
Course frequency: every 4th semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5643: Seminar: Experimental Methods in Biophysics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of this module, students are able to present selected problems from literature in a seminar talk.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Experimental Methods in Biophysics	

Examination: Lecture (approx. 30 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Fundamental physics of experimental methods in biophysics, e.g. microscopy, atomic force microscopy, optical tweezers, data acquisition and analysis, image analysis, rheology.	

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics
Language: English	**Person responsible for module:** Dr. Florian Rehfeldt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5645: Nanooptics and Plasmonics**	3 C 2 WLH

Learning outcome, core skills: After the course, the students should have a profound knowledge about the rapidly evolving field nanooptics and plasmonics, both experimentally as well as theoretically.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Nanooptics and Plasmonics (Lecture)	
Examination: Written examination (90 min.) or oral examination (approx. 30 Min.) **Examination requirements:** Electrodynamics of single particle/molecule emission, electrodynamic interaction of nano-emitters and molecules with light, interaction of light with nanoscale dielectric and plasmonic structures, and with optical metamaterials. Theory of light-matter interaction at the nanometer length scale. Fundamentals of optical microscopy and spectroscopy, applied to optical quantum emitters.	3 C

Admission requirements: none	**Recommended previous knowledge:** Experimental Physics I-IV
Language: German, English	**Person responsible for module:** Prof. Dr. Jörg Enderlein
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5646: Climate Physics**	6 C 4 WLH

Learning outcome, core skills: **Learning outcome:** This course will introduce the physical principles of the Earth's climate, and the dynamics of our atmosphere and oceans. We will show how the basic features of a climate system can be understood through a detailed energy balance. A momentum balance, in the form of the Navier-Stokes equations, and mass balance, give rise to many of the additional behaviours of a real climate system. The main features of atmospheric and ocean circulation, mixing, and transport will be discussed in this context, including such topics as the thermohaline circulation; turbulent mixing; atmospheric waves; and Coriolis effects. We will then return to the global energy budget, and discuss physically grounded models of climate prediction and climate sensitivity (e.g. Milankovitch cycles), as well as their implications. In the latter part of the course, additional context on related questions of current research will be covered in special topics presented by members of the Göttingen Research Campus. **Core skills:** After successful completion of the modul the students should ... • know how to approach the study of climate in planetary systems from a rigorous physical perspective; • know which factors influence the climate, and how to analyse climate patterns and stability; • be able to develop a familiarity with the principles of climate science, and apply these to a broad range of situations, from the large-scale convection patterns in atmospheres and oceans, to the impact of clouds and precipitation, and box models for the energy and entropy budget.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture with exercises	
Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Profound geophysical basis for the work on issues of climate physics.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basics of Hydrodynamics
Language: German, English	**Person responsible for module:** apl. Prof. Dr. Jürgen Vollmer
Course frequency: two year as required, winter term or summer term	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Phy.5647: Physics of Coffee, Tea and other drinks**	4 C 2 WLH

Learning outcome, core skills: After completing this module a student should be able to: • Research a topic in the scientific literature and analyse it critically. • Show fundamental skills in model building and, for example, in the discussion of nonlinear differential equations or other complex physical models. • Understand the phase behaviour of two (or more) component mixtures, the kinetics of phase separation, the physics of multi-phase fluids and soft materials such as foams and gels.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Physics of Coffee, Tea and other drinks (Seminar)	
Examination: Presentation with discussion (approx. 45 minutes) and written elaboration (max. 4 pages) **Examination prerequisites:** Active Participation **Examination requirements:** Presentation of a complex physical summary of the key physics underlying a mixed drink, or other beverage (e.g. drainage of foam in espresso, slow waves and convective stripes in latte macchiato, bubble formation and growth in champagne). Where appropriate, the student must take into account a critical discussion of the relevant literature.	4 C

Admission requirements: none	**Recommended previous knowledge:** Basic analytical mechanics and fluid dynamics
Language: German, English	**Person responsible for module:** Prof. Dr. Stephan Herminghaus Contact Person: Dr. M. Mazza
Course frequency: unregular, two year as required	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module B.Phy.5648: Theoretical and Computational Biophysics**	4 C 2 WLH

Learning outcome, core skills: This combined lecture and hands-on computer tutorial focuses on the basics of computational biophysics and deals with questions like "How can the particle dynamics of thousands of atoms be described precisely?" or "How does a sequence alignment algorithm function?" The aim of the lecture with exercises is to develop a physical understanding of those "nano maschines" by using modern concepts of non-equilibrium thermodynamics and computer simulations of the dynamics on an atomistic scale. Moreover, the lecture shows (by means of examples) how computers can be used in modern biophysics, e.g. to simulate the dynamics of biomolecular systems or to calculate or refine a protein structure. No cell could live without the highly specialized macromolecules. Proteins enable virtually all tasks in our bodies, e.g. photosynthesis, motion, signal transmission and information processing, transport, sensor system, and detection. The perfection of proteins had already been highly developed two billion years ago. During the exercises, the knowledge presented in the lecture will be applied to practical examples to further deepen and strengthen the understanding. By completing homework sets, which will be distributed after each lecture, additional aspects of the addressed topics during the lecture shall be worked out. The homework sets will be collected during the corresponding exercises.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Theoretical and Computational Biophysics (Lecture, Exercise)	

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Protein structure and function, physics of protein dynamics, relevant intermolecular interactions, principles of molecular dynamics simulations, numeric integration, influence of approximations, efficient algorithms, parallel programing, methods of electrostatics, protonation balances, influence of solvents, protein structure determination (NMR, X-ray), principal component analysis, normal mode analysis, functional mechanisms in proteins, bioinformatics: sequence comparison, protein structure prediction, homology modeling, and hands-on computer simulation.	4 C

Admission requirements: none	**Recommended previous knowledge:** • Introduction to Biophysics • Introduction to Physics of Complex Systems
Language: English, German	**Person responsible for module:** Hon.-Prof. Dr. Karl Helmut Grubmüller
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students:	

30	

Georg-August-Universität Göttingen **Module B.Phy.5649: Biomolecular Physics and Simulations**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning objectives: This combined lecture and hands-on computer tutorial offers the possibility to deepen the knowledge about theory and computer simulations of biomolecular systems, particularly proteins, and can be understood as continuation of the lecture with exercises "Theoretical and Computational Biophysics" (usually taking place in the previous winter semester). During the exercises, the knowledge presented in the lecture will be applied to practical examples to further deepen and strengthen the understanding. By completing homework sets, which will be distributed after each lecture, additional aspects of the addressed topics during the lecture shall be worked out. The homework sets will be collected during the corresponding exercises. **Competencies:** Whereas the winter term lecture with exercises "Theoretical and Computational Biophysics" emphasized the principles of running and analysing simple atomistic force field-based simulations, this advanced course will broaden our view and introduce basic principles, concepts and methods in computational biophysics, particularly required to understand biomolecular function, namely thermodynamic quantities such as free energies and affinities. Further, inclusion of quantum mechanical simulation techniques will allow to also simulate chemical reactions, e.g., in enzymes.	Attendance time: 28 h Self-study time: 92 h

Course: Lecture with Exercises Biomolecular Physics and Simulations	

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Basic knowledge and understanding of the material covered in the course such as: Free energy calculations, Rate Theory, Non-equilibrium thermodynamics, Quantum mechanical methods (Hartree-Fock and Density Functional Theory), enzymatic catalysis; "handson" computational calculations and simulations	4 C

Admission requirements: none	**Recommended previous knowledge:** B.Phy.5648 Theoretical and Computational Biophysics
Language: English, German	**Person responsible for module:** Hon.-Prof. Dr. Karl Helmut Grubmüller
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5651: Advanced Computational Neuroscience**	3 C 2 WLH

Learning outcome, core skills: Participants in the course can explain and relate biological foundations and mathematical modelling of selected (neuronal) algorithms for learning and pattern formation. Based on the the algorithms' properties, they can discuss and derive possible technical applications (robots).	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Advanced Computational Neuroscience I (Lecture)	

Examination: Written examination (90 Min.) or oral examination (approx. 20 Min.)
Examination requirements:
Algorithms for learning:
 	
   • Unsupervised Learning (Hebb, Differential Hebb),
   • Reinforcement Learning,
   • Supervised Learning
 	
Algorithms for pattern formation.
 	
Biological motivation and technical Application (robots).
	3 C

Admission requirements: none	**Recommended previous knowledge:** Basics Computational Neuroscience
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 50	

Additional notes and regulations: Hinweis: Die B.Phy.5652 kann als vorlesungsbegleitendes Praktikum besucht werden.

Georg-August-Universität Göttingen **Module B.Phy.5652: Advanced Computational Neuroscience II**	3 C 2 WLH

Learning outcome, core skills: Participants in the course can implement, test, and evaluate the properties of selected (neuronal) algorithms for learning and pattern formation.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Advanced Computational Neuroscience II	
Examination: 4 Protocols (max. 3 Pages) and Presentations (ca. 10 Min.), not graded **Examination requirements:** Algorithms for learning: • Unsupervised Learning (Hebb, Differential Hebb), • Reinforcement Learning, • Supervised Learning Algorithms for pattern formation. Biological motivation and technical Application (robots). *For each of the 4 programming assignments 1 protocol (ca. 3 pages) and 1 oral presentations (demonstration and discussion of the program, ca. 10 min).*	3 C

Admission requirements: B.Phy.5651 (can be taken in parallel to B.Phy.5652)	**Recommended previous knowledge:** Programming in C++, basic numerical algorithms, Grundlagen Computational Neuroscience B.Phy.5504: Computational Physics (Scientific Computing)
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module B.Phy.5656: Experimental work at large scale facilities for X-ray photons**	3 C 3 WLH

Learning outcome, core skills: The goal of this course is to acquire the competence to perform experiments at modern synchrotron sources and free-electron-laser sources (large scale facilities) in a team; this includes the theoretical and experimental preparation of such beam times, as well as the experiment itself and the data analysis; Competences: after successfully finishing this course, students should have the theoretical basis as well as the experimental abilities for performing modern X-ray experiments and should have applied their knowledge to specific examples from biophysics, soft matter physics and materials physics.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Lab Course *Contents*: Lab course during an x-ray beam time performed by the Institute for X-Ray Physics at a national or international source (in particular DESY, BESSY, XFEL, ESRF, SLS, NSLSII, SACLA, Diamond, Soleil, Elettra); students will already be involved in the preparation and will thus be well prepared for the experimental approach. At the x-ray source, they experience the technical/experimental as well as the theoretical part of the work; after the campaign, they learn modern methods of data analysis by direct interaction with the project leaders.	
Examination: Written report (max. 10 p.) or oral examination (approx. 30 min.) about the finished scientific project, not graded **Examination prerequisites:** Active participation at an X-ray beam time, including preparation and post-processing **Examination requirements:** Description of the scientific project, including the theoretical background and the experimental challenges and approaches; description of the data analysis and the results; discussion within the scientific context.	3 C

Admission requirements: none	**Recommended previous knowledge:** Good basic knowledge of physics (semesters 1-4) and good or very good knowledge of biophysics and x-ray optics
Language: German, English	**Person responsible for module:** Prof. Dr. Sarah Köster Prof. Dr. Tim Salditt
Course frequency: each semester; every semester, depending of availability of X-ray beam times	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4

Additional notes and regulations:

Maximum number of students: 2/beam time; if there are more applicants than slots, participants will be selected according to their experience and knowledge

Georg-August-Universität Göttingen	3 C
Module B.Phy.5657: Biophysics of gene regulation	2 WLH

Learning outcome, core skills:	**Workload:**
Objectives:	Attendance time:
The students will learn basic concepts of the biophysics of gene regulation, including physical mechanisms and their physiological functions, as well as the methods for the theoretical analysis of such systems and their dynamics.	28 h
	Self-study time:
	62 h
Competences:	
After successful participation in the module, students should be able to analyze problems in gene regulation using the theoretical tools discussed in the lecture.	

Course: Biophysics of gene regulation (Lecture)	WLH
Course frequency: each winter semester	

Examination: written examination (60 Min.) or oral examination (approx. 30 Min.)	3 C
Examination requirements:	
Physical principles of gene regulation, mechanisms of regulation, thermodynamic modelling, deterministic and stochastic dynamics	

Admission requirements:	**Recommended previous knowledge:**
none	Basic knowledge in statistical physics and biophysics
Language:	**Person responsible for module:**
English, German	Prof. Dr. Stefan Klumpp
Course frequency:	**Duration:**
every 4th semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.Phy.5658: Statistical Biophysics**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Objectives: The students will learn basic concepts of statistical biophysics at the molecular, cellular and population level, as well as methods for the theoretical analysis of biophysical systems. **Competences:** After successful participation in the module, students should have working knowledge of basic concepts of statistical biophysics and be able to apply them to selected problems.	Attendance time: 56 h Self-study time: 124 h

Course: Statistical Biophysics (Lecture with integrated problem sessions) *Course frequency:* each winter semester	WLH
Examination: written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination requirements:** Physical principles of biological systems on the molecular, cellular and population level, application of methods from statistical physics to biological and biophysical problems.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in biophysics and statistical physics
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5659: Seminar on current topics in theoretical biophysics**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
Objectives: The students will develop a basic understanding of current topics and methods of theoretical biophysics at the molecular, cellular and population level, based on selected examples. **Competences:** After completing this module, the students should be able to research a topic in theoretical biophysics in the scientific literature, analyse it critically and present it in a seminar talk.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar on current topics in theoretical biophysics	
Examination: Presentation with discussion (Bachelor approx. 30 min., Master approx. 60 min.) **Examination prerequisites:** Active participation **Examination requirements:** Presentation of a selected research topic and critical discussion of its methods and results	4 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in biophysics and statistical physics
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4

Additional notes and regulations:

Georg-August-Universität Göttingen **Module B.Phy.5660: Theoretical Biofluid Mechanics**	3 C 2 WLH

Learning outcome, core skills: The course will discuss the theoretical foundations of fluid mechanics used in the study of biological systems. Important concepts in the mathematical study of fluids will be introduced and employed to investigate blood flow and circulation, the propulsion of organisms and transport facilitated by fluid flow. Students will learn to set up theoretical models for a range of biological systems involving fluids employing the Navier-Stokes equation and appropriate boundary conditions. The course will prepare the students to simplify, assess and analyze models to investigate the intricate role of fluids in biological settings.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Theoretical Biofluid Mechanics (Lecture)	
Examination: Written exam (60 minutes) or oral exam (approx. 30 minutes) **Examination requirements:** Solving Navier-Stokes equation in simple geometry, derive simplified equations from models of fluid flow and transport, explore theoretical models in limiting parameter range and assess prediction in relation to modeled biological system. The exam will be oral, if max. 20 students take part at the first date of the course. Oherwise it will be a written exam.	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of calculus and algebra
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Klumpp Contact: David Zwicker
Course frequency: every 4th semester; Every second Summerterm in Rotation to Microfluidic	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 3 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5661: Biomedical Techniques in Complex Systems**	4 C 2 WLH

Learning outcome, core skills: The seminar provides an overview of current biomedical techniques applied in research and therapy. A strong orientation towards the combination of theoretical basics and practical use will be given by introducing up-to-date research results (original articles and text book material). Besides getting a deeper understanding of current biomedical techniques, the students will learn how to prepare and present up-to-date scientific results. This includes literature research, understanding of underlying methodological basics and didactic preperation (talk in front of the seminar participants).	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Biomedical Techniques in Complex Systems (Seminar)	

Examination: Oral examination(Bachelor: approx. 30 min.; Master: approx. 45 min.) **Examination requirements:** The students will elaborate and give a presentation about current biomedical techniques. The talk should include an introductory part to the underlying basics.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Luther
Course frequency: each winter semester1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Additional notes and regulations: Contact: Dr. C. Richter

Georg-August-Universität Göttingen **Module B.Phy.5662: Active Soft Matter**	4 C 2 WLH

Learning outcome, core skills: Students acquire in depth expertise in the discipline of Active Soft Matter, focussed on artificial and biological microswimmers in experiment and theory. Topics include self-propulsion at low Reynolds numbers, chemo-, electro-, magneto- , gravi- and phototaxis, active droplets, colloids and Janus particles, dynamics of flagellae and ciliae in bacteria and algae, interaction with interfaces and complex geometries, collective and swarming dynamics and active emulsions. Core skills include the independent study of literature on current research, and the condensation, presentation and discussion of a specific topic, which are vital skills pertaining to presenting your own research and its position in a wider research field. Students will practice the critical appreciation of current research in scientific discussion and receive feedback on their presentation skills.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Active Soft Matter (Seminar)	
Examination: Oral presentation (approx. 45 min.) and handout (4 pages max.) **Examination requirements:** Preparation, presentation and discussion of a current topic in active soft matter based on published literature. Active engagement in discussions on other student's presentations. Handouts must be submitted before the presentation.	4 C

Admission requirements: none	**Recommended previous knowledge:** introductory hydrodynamics and thermodynamics
Language: English, German	**Person responsible for module:** Prof. Dr. Stephan Herminghaus
Course frequency: every 3rd semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 26	

Additional notes and regulations: Contact: Dr. Oliver Bäumchen, Dr. Corinna Maaß,

Georg-August-Universität Göttingen	6 C
Module B.Phy.5663: Stochastic Dynamics	6 WLH

Learning outcome, core skills:	**Workload:**
Lernziele: The students will learn basic concepts and the dynamic equations of stochastic dynamics as well as methods for their theoretical and computational analysis. **Kompetenzen**: After successful participation in the module, students should have working knowledge of basic concepts and methods of stochastic dynamics and be able to apply them to selected problems.	Attendance time: 84 h Self-study time: 96 h

Course: Stochastic Dynamics (Lecture)	4 WLH
Course: Stochastic Dynamics (Exercise)	2 WLH

Examination: written examination (120 Min.) or oral examination (approx. 30 Min.) or small project with written term paper (approx. 8-10 pages) **Examination requirements:** Approaches to stochastic dynamics and dynamic equations (random walks, Master equation, Langevin equation, Fokker-Planck equation), analytical solution methods, simulation algorithms.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of statistical physics and programming
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5664: Excursion to DESY and the European XFEL, Hamburg**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning goals: Basic knowledge about mission of large scale reasearch facilities, user concept and mission of DESY and European Free-electron laser (XFEL). Basic concepts of modern accelerators (super conducting and conventional), generation of synchrotron and FEL radiation, and fields of applications. **Competencies:** Overview about research and career opportunities at DESY and XFEL and how large scale facilities can be used for research and study topics. Categorize interdisciplinary information gathered at the excursion (presentations, poster session, workshop) and place it in perspective with own study background.	Attendance time: 28 h Self-study time: 62 h

Course: Excursion to DESY and the European XFEL, Hamburg (Excursion)	
Examination: oral presentation of one of the scientific activities at DESY (approx. 20min+10min discussion), Poster on a corresponding research topic, or approx. 4 pages contribution to the excursion protocol., not graded **Examination prerequisites:** Participation in the excursion and discussion of prepared lerning material **Examination requirements:** Basic knowledge about mission of large scale reasearch facilities, user concept and mission of DESY and European Free-electron laser (XFEL). Basic concepts of modern accelerators (super conducting and conventional), generation of synchrotron and FEL radiation, and fields of applications.	3 C

Admission requirements:	Recommended previous knowledge:
none	B.Phy.5625: Röntgenphysik

Language:	Person responsible for module:
English, German	Prof. Dr. Tim Salditt Prof. Dr. Sarah Köster

Course frequency:	Duration:
each winter semester	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
three times	Bachelor: 5 - 6; Master: 1 - 4

Maximum number of students:	
10	

Georg-August-Universität Göttingen **Module B.Phy.5665: Processing of Signals and Measured Data**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: • Errors, e.g. systematic vs. random, static vs. dynamic, error propagation • Extraction of relevant information (separating trends, stochastic data and affecting influences, such as noise) • Stationarity, statistical quantities and functions • Characteristics of estimators (e.g., sufficiency, ergodicity, bias freeness, efficiency), Cramer-Rao bound, Bessel's correction • Sampling (equidistant and non-uniform), Possibility of reconstruction, sampling theorem, aliasing • Signal transformations (e.g. cosine, Fourier, Hilbert, Laplace, wavelet, z transform) and signal decomposition (e.g. Proper Orthogonal Decomposition, Independent Component Analysis) • Correlation functions and spectra, Wiener-Khinchin theorem • preferred acquisition, sample weighting • Window functions, moving average **Core skills**: • Specification of a measurement (sampling rate, duration, amount of data) • Bias-free and most efficient signal and data processing of measured data • Programming in Matlab or Python	Attendance time: 28 h Self-study time: 62 h

Course: Processing of Signals and Measured Data	2 WLH
Examination: Presentation or oral exam (ca. 30 Min.) **Examination requirements:** Efficient use of signal and image processing methods as well as statistical analysis methods.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5666: Molecules of Life – from statistical physics to biological action**	4 C 2 WLH

Learning outcome, core skills:	Workload:
After successfully finishing this course, students will be able to work on specific questions with the help of book chapters or journal publications and to present the topic in a seminar talk to a wide audience. They should be also able to evaluate it critically.	Attendance time: 28 h Self-study time: 92 h

Course: Molecules of Life – from statistical physics to biological action (Seminar)	
Examination: Presentation, Bachelor approx. 30 min; Master approx. 60 min	4 C

Admission requirements: none	Recommended previous knowledge: • Thermodynamik und statistische Mechanik and/or • Introduction to Biophysics and/or • Introduction to Physics of Complex Systems and/or • Theoretical and Computational Biophysics and/or • Biomolecular Physics and Simulations
Language: English, German	Person responsible for module: Hon.-Prof. Dr. Karl Helmut Grubmüller Bert de Groot, Aljaz Godec
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module B.Phy.5669: Seminar on Living Matter Physics**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning objectives: The seminar is a combination of presentations by external speakers and journal club presentations by students. The students will learn about state-of-the-art theoretical and experimental research in the physics of biological and biomimetic systems, as delivered by the invited speakers in the weekly seminars of the Department of Living Matter Physics of the MPI for Dynamics and Self-Organization. Seminars will be on a wide range of topics such as biological and artificial micro-swimmers and molecular motors; collective behaviour in cellular tissues, bacterial colonies, and dense active materials; chemical activity and self-organization at the sub-cellular scale; the physics of cellular and biomimetic membranes; or information flow and stochastic thermodynamics in living systems. The students will also learn how to conduct research, prepare and deliver journal club presentations about recently published articles in these topics. **Competences**: This course will give students a broad view of the latest research on the physics of living matter, and acquaint them with how practicing researchers communicate scientific findings to each other.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar on Living Matter Physics	
Examination: One or more journal club presentations (approx. 30 mins each) depending on the number of participating students (30 minutes)	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ramin Golestanian Dr. Jaime Agudo-Canalejo
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5670: Introduction to Magnetic Resonance Imaging**	6 C 4 WLH

Learning outcome, core skills: Introduction to magnetic resonance imaging. This includes basic knowledge about the underlying physics (e.g. nuclear spins, Larmor frequency, Zeeman effect, gyromagnetc ratio, Bloch equations, spin relaxation), technical details of an MRI scanner (e.g. static magnetic field, radio-frequency transmitter, magnetic gradient system, receiv- and transmitter coils), about acquisition and reconstruction methods and about specific medical applications (e.g. perfusion and diffusion imaging). The lecture is complemented by exercises and practical examples to strengthen the acquired knowledge.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture: Introduction to Magnetic Resonance Imaging (Lecture)	WLH
Course: Exercises: Introduction to Magnetic Resonance Imaging (Exercise)	WLH

Examination: Written exam (120 min.), oral exam (ca. 30 min.), or practical project with presentation (ca. 20 min) and written report (10 pages max.), 4 weeks of preparation time **Examination requirements:** Basic knowledge about magnetic resonance imaging (physics, MRI scanner, data acquisition, reconstruction, and applications)	6 C

Admission requirements: none	**Recommended previous knowledge:** Electrodynamics, quantum mechanics
Language: English, German	**Person responsible for module:** Prof. Dr. Tim Salditt Prof. Dr. Uecker, Prof. Dr. Boretius
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Phy.5671: Dynamics of living systems**	3 C 4 WLH

Learning outcome, core skills:	Workload:
The student will learn to simulate the dynamical changes observed in different living systems. Typically these systems have been already published in classical papers that develop simulations. These simulations will be reproduced as part of the course project. During the course we will use known system to translate biological functions to the underlying biochemistry. The biochemistry in turn is converted to rate equations, which typically form a system of coupled nonlinear differential equations that cannot be solved analytically. Using simple numerical approaches the students will simulate these systems to recover the behavior observed in the real, living systems. Typical examples are oscillations, pattern formations and bifurcations. The student will be able to model biological signaling cascades and diffusion problems by simple numerical approaches. This will train interdisciplinary skills, understanding of basic biological concepts, integration of physics, biology, chemistry and math. The problems are solved in groups of 2 training communication skills. Furthermore, critical analysis of the already published simulations will help understanding the strength and pitfalls of simulations in biology.	Attendance time: 56 h Self-study time: 34 h

Course: Lecture: Dynamics of Living Systems (Lecture)	1 WLH
Course: Computer Lab Course: Dynamics of Living Systems (Internship)	3 WLH

Examination: Oral presentation (ca. 30 min. including ca. 10 min. discussion), short report (max. 20 pages) on the project. **Examination prerequisites:** Active participation (computer lab). Generation of a running simulation. **Examination requirements:** The project prepared during the semester will be presented to the other students, hence all students have to be present during the presentations. A short report (15-20 pages) describing the project and the generated code, including a short discussion of the difficulties encountered.	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Alle Prof. Betz
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 16	

Georg-August-Universität Göttingen **Module B.Phy.5672: Nonlinear Dynamics**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
After successfully finishing this course, students will know about and understand typical features of nonlinear systems. Furthermore, they will be familiar with basic and advanced concepts and methods of nonlinear dynamics and their applications in physics and other fields of science. In particular, students will be able to implement suitable numerical algorithms or use existing software to simulate complex and chaotic dynamical processes and to perform different forms of analyses (stability and bifurcation analysis, time series analysis and prediction, control and synchronization, estimation of fractal dimension(s), computation of Lyapunov spectra, network analysis, ..).	Attendance time: 28 h Self-study time: 62 h

Course: Workshop and Lecture Nonlinear Dynamics	2 WLH

Examination: Oral exam (ca. 30 min.) or written exam (60 min.) or presentation (ca. 30 min, 2 weeks preparation time) **Examination requirements:** Knowledge of different topics and concepts in nonlinear dynamics covered in the course and understanding how to apply them to investigate, simulate and analyse dynamical systems, in particular using numerical tools.	3 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in physics; linear algebra and calculus; programming skills
Language: English, German	**Person responsible for module:** apl. Prof. Dr. Ulrich Parlitz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5673: Cell Mechanics**	6 C 4 WLH

Learning outcome, core skills: **Learning outcome:** Basics in elasticity theory and fluid dynamics, viscoelastic materials, soft matter, polymers and complex filaments, 2D and 3D networks, passive and active microrheology, fluctuations dissipation theorem, bio membranes, membrane undulations, intermembrane and electrostatic forces, simplified cells and vesicles, dynamic filaments, growth and division, traction forces, mechanosensing, Life in crowded environments, 2D tissue dynamics, jamming, 3D tissue dynamics, mechanics in development **Core skills:** The core goal is to give a deep overview of the adaptive mechanics and coordinated force generation used by cells and cellular systems to perform various complex functions. We will focus on a deep physics understanding, coming from fundamental physical laws that are rooted in conservation laws and statistical physics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture and self-studies using literature: Cell Mechanics	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Derivation of fundamental mechanics properties, including viscoelasticity, modelling of polymers and biopolymers, microrheology, membrane mechanics, 2D and 3D networks.	6 C

Admission requirements: None	**Recommended previous knowledge:** Introduction to Biophysics
Language: German, English	**Person responsible for module:** Prof. Dr. Timo Betz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5674: Modern Image Processing**	3 C 2 WLH

Learning outcome, core skills: **Learning outcome:** Enabling the student to extract meaningful data from scientific images using self-written Python programs. The syllabus starts with standard techniques of image processing and ends with more recent developments coming from the field of machine learning. This is a hands-on course; a significant part of the time will be used for coding exercises. **Core skills:** Concepts covered include: image acquisition, intensity transfomations, color, spatial and morphological filters, image registration, feature extraction, Fast Fourier Transform, segmentation, Convolutional Neural Networks, autoencoder, semantic segmentation, surface models, tomography, stereo vision.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Lecture Modern Image Processing with in-class exercises and homework	
Examination: Oral Presentation (approx. 30 minutes) **Examination requirements:** An image processing project, demonstrating mastery of the concepts taught in this course	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** PD Dr. Matthias Schröter
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5675: Machine Learning, hands-on**	4 C 3 WLH

Learning outcome, core skills: Learning outcome: Enabling the student to apply machine learning algorithms to solve scientific problems using self-written Python programs. The syllabus covers both more traditional techniques and deep neural networks. This is a hands-on course, a significant part of the time will be used for coding exercises. Core skills: Concepts covered include: data preprocessing, linear regression, regularization, logistic regression, Bayesian reasoning in ML, Gaussian Mixture Models, decision trees, random forests, support vector machines, clustering, principal component analysis, deep neural networks, convolutional neural networks, (variational) autoencoders, natural language processing, reinforcement learning, ethics and ML.	**Workload:** Attendance time: 42 h Self-study time: 78 h

Course: Machine Learning, hands-on *Contents*: Lecture with in-class exercises, quizzes and homework	3 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** a machine learning project, demonstrating mastery of the concepts taught in this course	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp PD Dr. Matthias Schröter
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5676: Computer Vision and Robotics**	9 C 6 WLH

Learning outcome, core skills: After successful completion of this module, students are familiar with • the basic concepts of computer vision (CV), • low level hardware components and their functions, • building and programming a robot, and • computer vision and robotics algorithms.	**Workload:** Attendance time: 84 h Self-study time: 186 h

Course: Introduction to Computer Vision and Robotics (Lecture) *Contents*: On-Off Controller, PID Controller, Moving Average Filter, Exponential Moving Average Filter, Kalman Filter, A*, Dijkstra, RRT, Q-Learning , Inverse and Forward Kinematics, Movement Generation Methods, Smoothing and Median Filtering, Bilateral Filtering, Non-Local Means, Connected Components , Morphological Operators , Line Detection, Circle Detection, Feature Detection, Advanced image segmentation algorithms.	2 WLH
Course: Practical Course on Computer Vision and Robotics (Lecture) *Contents*: Building a robot, solving a graph problem using the robot and executing the found solution by the robot in a real-world scenario involving perception and navigation	2 WLH
Course: Tutorial on Computer Vision and Robotics (Tutorial) *Contents*: In the accompanying tutorial sessions students deepen and broaden their knowledge from the lectures	2 WLH
Examination: Written report (approx. 10 p.) and Oral Exam (approx. 30 minutes) **Examination requirements:** Written report requirements: The students must be able • to describe their project in a written report • to explain given problems and used solutions for navigation- and perception problems of robots Oral Examination requirements: The students must be able • to repeat and explain lecture material • to explain control algorithms for a robot, and • to identify and understand low level hardware components as robot sensors and actuators.	9 C

Admission requirements: none	**Recommended previous knowledge:** Programming in Python
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

three times	Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module B.Phy.5677: Seminar on Advanced Topics in Cellular Biophysics**	4 C 2 WLH

Learning outcome, core skills: The aim of this course is for students to gain a profound knowledge in a selection of the following topics in cellular biophysics: - Cell studies ("top-down") - In vitro experiments ("bottom-up") - Cytoskeleton - Biopolymers and networks - Cell mechanics - Cell dynamics - Cell adhesion - Cell motility - Force generation in biological systems After successfully finishing this course, students will be able to work on specific questions with the help of book chapters or journal publications and to present the topic in a seminar talk.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on Advanced Topics in Cellular Biophysics	
Examination: Presentation with scientific discussion (ca. 30 min.) and scientific discussion with the other participants **Examination requirements:** Cell studies ("top-down"), in vitro experiments ("bottom-up"), cytoskeleton, biopolymers and networks, cell mechanics, cell dynamics, cell adhesion, cell motility, force generation in biological systems	4 C

Admission requirements: none	**Recommended previous knowledge:** Successful completion of the course "Introduction to Biophysics"; Bachelor studies in physics or a related field
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5678: Seminar on Advanced Methods in Biophysics**	4 C 2 WLH

Learning outcome, core skills: The aim of this course is for students to gain a profound knowledge in a selection of the following methods and their applications in biophysics: - Imaging: Fluorescence microscopy, x-ray imaging, x-ray scattering, atomic force microscopy - Force measurements: optical tweezers, atomic force spectroscopy, traction force microscopy - Modelling After successfully finishing this course, students will be able to work on specific questions with the help of book chapters or journal publications and to present the topic in a seminar talk.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on Advanced Methods in Biophysics	
Examination: Presentation with scientific discussion (ca. 30 min.) and scientific discussion with the other participants **Examination requirements:** Fluorescence microscopy, x-ray imaging, x-ray scattering, optical tweezers, atomic force microscopy and spectroscopy, modelling: methods and applications in biophysics	4 C

Admission requirements: none	**Recommended previous knowledge:** Successful completion of the course "Introduction to Biophysics"; Bachelor studies in physics or a related field
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5681: Seminar CARA: Critical analysis of research articles of cell and tissue mechanics**	4 C 2 WLH

Learning outcome, core skills: After successfully finishing this course, students will be able to critically read a research paper on the subject of cell and tissue mechanics. They will be able to present such subjects in detail by identifying strengths and weaknesses. This will be done on articles that are currently only on the preprint servers. In the second part, the participants will prepare a brief presentation if a second paper where they learn how to efficiently transmit the highlights of a recent research paper. Master students and if interested also Bachelor students will practice the skill of Peer-Reviewing a paper by writing such a peer review of the paper they had presented in more detail.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar CARA (Seminar)	2 WLH
Examination: Presentation with discussion (Bachelor approx. 30 min., Master approx. 60 min.) **Examination prerequisites:** Active participation **Examination requirements:** Soft matter, cell mechanics, rheology, tissue mechanics, active systems, membranes, cell motility	

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics and/or Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Timo Betz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5682: Seminar: Special Topics in Cell Mechanics**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
The aim of this course is for students to gain profound knowledge in a selection of the following topics in cellular biophysics: • Biopolymers • Soft Matter • Active and Passive Rheology • Cell mechanics • Cell dynamics • Cell motility • Force generation in biological systems This will be done by presenting a short research project that will be performed in the context of the course. After successfully finishing this course, students will be able to work out or reproduce a specific question with the help of book chapters or journal publications and to present the topic in a seminar talk.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar: Special Topics in Cell Mechanics (Seminar)	2 WLH
Examination: Presentation with a scientific discussion of a research project on the subject of cell mechanics. **Examination prerequisites:** Active participation **Examination requirements:** Biopolymers, Soft Matter, Active and Passive Rheology, Cell mechanics, Cell dynamics, Cell motility, Force generation in biological systems.	

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics and/or Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Timo Betz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5709: Seminar on Nanoscience**	4 C 2 WLH

Learning outcome, core skills: **Lernziele**: Electronic properties of electrons confined in low-dimensional structures (2D, 1D and 0D). Experimental methods for the preparation and characterization of nanostrucures. Functional nanostructures. Devices in nanoelectronics. Semiconductor materials will be on focus. **Kompetenzen**: After successful completion of the modul the students should be able to gain a deep knowledge of a current topic in nanoscience and nanodevices from the recommended scientific literature. The student will present and discuss the topic in a Seminar.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar (Blockveranstaltung)	
Examination: Vortrag (ca. 30 Min.) - student choice if in German or in English **Examination prerequisites:** Aktive Teilnahme	4 C

Examination requirements: The students should achieve a deep knowledge of a current topic in nanoscience and nanodevices from the recommended scientific literature; the student should be able to transfer this knowledge to an audience in a seminar.	

Admission requirements: none	**Recommended previous knowledge:** • Einführung in die Festkörperphysik • Einführung in die Materialphysik • Quantenmechanik I • Nanoscience
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 2
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5714: Introduction to Solid State Theory**	6 C 6 WLH

Learning outcome, core skills: **Lernziele:** Fundamental concepts of of solid state theory, Born-Oppenheimer approximation, homogeneous electron gas, electrons in lattices, lattice vibrations, elementary transport theory **Kompetenzen:** After successful completion of the modul students should be able to describe and calculate fundamental properties of solids; understand and use the language of solid-state theory.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: lecture	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Application of fundamental concepts in solid state theory, interpretation of basic experimental observations, theoretical description of fundamental phenomena in solid state physics.	6 C

Course: exercises	2 WLH

Admission requirements: keine	Recommended previous knowledge: Quantum mechanics I
Language: German, English	Person responsible for module: Prof. Dr. Stefan Kehrein
Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5716: Nano-Optics meets Strong-Field Physics**	6 C 4 WLH

Learning outcome, core skills: At the end of the course, students should understand and be able to apply the basic concepts of nano-optics and strong-field physics, as well as their connection in modern research. In the accompanying exercises, numerical simulations will be developed which build on the topics discussed in the lectures. An introduction will be given to scripting in Matlab and to finite element simulations with Comsol Multiphysics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung	2 WLH
Course: Übung	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Implementation of a task in an executable programme.	6 C

Admission requirements: none	**Recommended previous knowledge:** Experimentalphysik I-IV, Quantenmechanik
Language: German, English	**Person responsible for module:** Prof. Dr. Claus Ropers StudiendekanIn der Fakultät für Physik
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5717: Mechanisms and Materials for Renewable Energy**	6 C 4 WLH

Learning outcome, core skills: By participation in both lectures on photovoltaics and solar thermal energy, thermoelectrics and solar fuels students gain knowledge about the full spectrum of physical and chemical basics of renewable energy conversion. In addition, overlapping aspects of fundamental concepts and technological approaches have been reviewed. Students shall independently apply gained knowledge to acquire and present current research in the field.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Mechanismen und Materialien für erneuerbare Energien (Lecture)	
Examination: Poster presentation with oral examination (approx. 30 Min.) **Examination requirements:** Beherrschung der grundlegenden Begriffe, Fakten und Methoden. Selbständige Erarbeitung wissenschaftlicher Publikationen und deren Präsentation.	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to solid state physics, Introduction to materials physics
Language: German, English	**Person responsible for module:** apl. Prof. Dr. Michael Seibt Prof. Dr. Christian Jooß
Course frequency: two-year as required, summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5718: Mechanisms and Materials for Renewable Energy: Photovoltaics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of this module students are familiar with physical basics or photo-electric energy conversion, are able to apply fundamental concepts and gained knowledge about important materials systems of photovoltaics. In addition, important experimental methods as well as current and future technological concepts have been reviewed. Students shall independently apply gained knowledge to acquire and present current research in the field.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Mechanismen und Materialien für erneuerbare Energien: Photovoltaik (Lecture)	
Examination: Poster presentation with oral examination (approx. 30 Min.) **Examination requirements:** Beherrschung der grundlegenden Begriffe, Fakten und Methoden. Selbständige Erarbeitung wissenschaftlicher Publikationen und deren Präsentation.	4 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to solid state physics, Introduction to Materials physics
Language: German, English	**Person responsible for module:** apl. Prof. Dr. Michael Seibt
Course frequency: zweijährig im SoSe	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5719: Mechanisms and Materials for Renewable Energy: Solar heat, Thermoelectric, solar fuel**	4 C 2 WLH

Learning outcome, core skills: Physical and chemical basics of light and heat conversion to electrical and chemical energy. • In particular:Mechanisms of solarthermic, thermoelectric, electro- and photochemical energy conversion. • Important model systems and materials. • Outlook in current research activities. Students shall independently apply gained knowledge to acquire and present current research on relevant systems.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Mechanismen und Materialien für erneuerbare Energien: Solarthermie, Thermoelektrik, solarer Treibstoff (Lecture)	
Examination: Posterpresentation with oral examination (approx. 30 Min.) **Examination requirements:** Beherrschung der grundlegenden Begriffe, Fakten und Methoden. Selbständige Erarbeitung wissenschaftlicher Publikationen und deren Präsentation.	4 C

Admission requirements: none	Recommended previous knowledge: Introduction to solid state physics, Introduction to Materials Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Christian Jooß
Course frequency: two-year as required, summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5720: Introduction to Ultrashort Pulses and Nonlinear Optics**	3 C 2 WLH

Learning outcome, core skills: After successful completion of this Module students will be able to work with advanced concepts, phenomena and models of ultrashort pulses and their applications in nonlinear optics.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Introduction to Ultrashort Pulses and Nonlinear Optics (Lecture)	
Examination: Oral (approx. 30 min.) or written (90 min.) **Examination requirements:** Matter-light interaction; rate equations; continuous and pulsed laser operation; mode coupling; properties of ultrashort pulses; nonlinear susceptibility and nonlinear response of bound electrons; frequency doubling; parametric amplification; self-focusing; self-phase modulation; high-harmonic generation	3 C

Admission requirements: none	**Recommended previous knowledge:** • Elektrodynamic (Experimentalphysics II) • Optic and waves (Experimentalphysics III)
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Mathias
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5721: Information and Physics**	6 C 6 WLH

Learning outcome, core skills:	Workload:
Understanding the concept of information in classical physics and quantum physics, in depth understanding of the second law of thermodynamics and its generalizations with the Landauer erasure principle, learning key elements of quantum information theory and quantum computation	Attendance time: 84 h Self-study time: 96 h

Course: Information and Physics (Lecture, Exercise)	
Examination: Written examination (120 minutes) **Examination requirements:** Understanding the concepts of classical and quantum information science, performing calculations in classical and quantum information science and interpreting the results	6 C

Admission requirements: none	Recommended previous knowledge: Analytical Mechanics, Quantum Mechanics and Statistical Physics
Language: English	Person responsible for module: Prof. Dr. Stefan Kehrein
Course frequency: every 4th semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 6; Master: 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5722: Seminar on Topics in Nonlinear Optics**	4 C 2 WLH

Learning outcome, core skills: This seminar adresses some of the most important nonlinear optical phenomena and their application. Exemplary topics will be parametric processes and wave mixing, high harmonic generation, spatial and temporal solitons, supercontinuum generation, optical phase conjugation, stimulated Raman scattering, photorefractive phenomena, optical filamentation and electromagnetically induced transparency.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on Topics in Nonlinear Optics (Seminar)	
Examination: Presentation with discussion (Bachelor approx. 30 min., Master approx. 60 min.) **Examination prerequisites:** compulsory attendance **Examination requirements:** A fundamental understanding of nonlinear optical phenomena and their application.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Claus Ropers
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module B.Phy.5723: Hands-on course on Density-Functional calculations 1**	3 C 3 WLH

Learning outcome, core skills: Students will be able to perform first-principles electronic-structure and ab-initio molecular dynamics simulations, understand the results and judge their accuracy. They will have a basic knowledge of the underlying methods. They will know simple methods of anticipating and describing electronic and atomic structure and chemical bonds.	**Workload:** Attendance time: 40 h Self-study time: 50 h

Course: Hands-on course on Density-Functional calculations 1 (Block course) *Contents*: 1. Theoretical foundation of first-principles calculations (lecture 10 h) 2. Simple concepts of electronic structure and chemical binding (lecture 10 h) 3. Hands on Course with the CP-PAW code (Exercise 20 h)	

Examination: oral (approx 30 min), presentation (30 min) or report **Examination prerequisites:** regular participation **Examination requirements:** The student is able to describe topics from the course and to respond to questions. A presentation or a report will describe a specified home project.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Bloechl
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5724: Hands-on course on Density-Functional calculations 1+2**	6 C 6 WLH

Learning outcome, core skills: Students will be able to perform first-principles electronic-structure and ab-initio molecular dynamics simulations, understand the results and judge their accuracy. They will have a basic knowledge of the underlying methods. They will know simple methods of anticipating and describing electronic and atomic structure and chemical bonds.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Hands-on course on Density-Functional calculations 1+2 (Block course) *Contents*: 1. Theoretical foundation of first-principles calculations (lecture 10 h) 2. Simple concepts of electronic structure and chemical binding (lecture 10 h) 3. Hands on Course with the CP-PAW code (Exercise ~22 h) 4. Advanced topics of first-principles calculations (lecture ~8 h) 5. Hands on Course: guided projects (~26 h) 6. Seminar on guided projects (~12 h)	

Examination: oral (approx 30 min), presentation (30 min) or report **Examination prerequisites:** regular participation **Examination requirements:** The student is able to describe topics from the course and to respond to questions. A presentation or a report will describe a specified project.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Bloechl
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module B.Phy.5725: Renormalization group theory and applications	6 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: After successful completion of the modul students will be able to understand concepts of field theory and renormalization group in classical and quantum systems. **Core skills:** Students will be able to use the basics of field theory, including perturbation theory and renormalization, and be able to apply these tools to physical problems.	Attendance time: 84 h Self-study time: 96 h

Course: Renormalization group theory and applications (Lecture)	4 WLH
Course: Renormalization group theory and applications (Exercise)	2 WLH

Examination: Written or oral exam Written exam (120 min) or oral exam (approx. 30 min) **Examination prerequisites:** None **Examination requirements:** Theoretical concepts of field theory, renormalization techniques, and their physical interpretation.	6 C

Admission requirements: none	**Recommended previous knowledge:** • Thermodynamik und statistische Mechanik • Quantenmechanik I
Language: English, German	**Person responsible for module:** Prof. Dr. Matthias Krüger
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module B.Phy.5802: Symmetries in Quantum Field Theory**	3 C 2 WLH

Learning outcome, core skills: **Lernziele**: Klassische Symmetrien, Gruppen und Darstellungen. Symmetrien in der Quantentheorie, Automorphismen und Derivationen, unitäre Operatoren und Generatoren, Implementierbarkeit und spontane Symmetriebrechung. Anwendungen in der Quantenfeldtheorie. **Kompetenzen**: Differenzierung zwischen unterschiedlichen Symmetrie-Konzepten, Kenntnis der angemessenen mathematischen Begriffsbildungen und übergreifenden Methoden.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung (Blockveranstaltung, eine Semesterhälfte) (Lecture)	2 WLH

Exactly one of the following examinations must be successfully completed:	
Examination: Term Paper (max. 15 pages)	3 C
Examination: Oral examinationMündliche Prüfung (approx. 30 minutes)	3 C

Examination requirements: Behandlung von Aufgaben und Kenntnis grundlegender Zusammenhänge	

Admission requirements: none	**Recommended previous knowledge:** B.Phy.202 Feldtheorie und Quantentheorie
Language: English	**Person responsible for module:** Prof. Dr. Andreas Tilgner
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5805: Quantum field theory I**	6 C 6 WLH

Learning outcome, core skills: **Acquisition of knowledge:** Quantization of free relativistic wave equations (Klein-Gordon and Dirac); General properties of quantum fields; Interaction with external sources; Perturbation theory and basics of renormalization theory; Quantum Electro Dynamics and abelian gauge symmetry. **Competencies:** The students shall be familiar with the basic concepts and methods of Quantum Field Theory. They can apply them to explicit examples.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Quantum field theory I (Lecture)	4 WLH
Course: Quantum field theory I (Exercise)	2 WLH

Exactly one of the following examinations must be successfully completed:	
Examination: Written examination (120 minutes) **Examination requirements:** Solution of concrete problems treated in the lecture course. Explanation of notions and methods of Quantum Field Theory.	6 C
Examination: Oral examination (approx. 30 minutes)	6 C

Admission requirements: none	**Recommended previous knowledge:** Quantum mechanics I, II, Classical Field theory
Language: English	**Person responsible for module:** apl. Prof. Dr. Karl-Henning Rehren
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 6; Master: 1 - 2
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module B.Phy.5807: Physics of particle accelerators**	3 C 3 WLH

Learning outcome, core skills: After successful completion of this module, students should be familiar with the concepts, the physics (mainly electromagnetism) and explicit examples of historic and modern particle accelerators. Ideally, they should be able to simulate beam optics via numerical simulations (MatLab/SciLab).	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Physics of particle accelerator (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Introduction to physics of particle accelerators; synchrotron radiation; linear beam optics; injection and ejection; high-frequency system for particle acceleration; radiation effects; luminosity, wigglers and undulators; modern particle accelerators based on the examples HERA, LEP, Tevatron, LHC, ILC and free electron laser FLASH/XFEL.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: every 4th semester; unregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5808: Interactions between radiation and matter - detector physics**	3 C 3 WLH

Learning outcome, core skills: After successful completion of this module, students should be familiar with a conceptional understanding of different particle detectors and the underlying interactions. They should be familiar with physics processes of particle or radiation detection in high energy physics and related fields and applications.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Interactions between radiation and matter - detector physics (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Mechanism of particle detection; interactions of charged particles and photons with matter; proportional and drift chambers; semiconductor detectors; microstrip and pixel detectors; Cherenkov detectors; transition radiation detectors; scintillation (organic crystals and plastic scintillators); electromagnetic calorimeter; hadron calorimeter.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.Phy.5809: Hadron-Collider-Physics**	3 C 3 WLH

Learning outcome, core skills: Learning Objectives and Competencies: After successful completion of this module, students should be well-versed in the challenges and concepts of experimental physics at modern hadron colliders.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Hadron-Collider-Physics (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Introduction to particle physics; Kinematics at hadron colliders; historical overview and experimental features of hadron colliders such as PS, SPS, Tevatron, HERA, and LHC; Typical detectors and their functionalities for hadron collider physics; Structure of the proton and measurements thereof; Factorization theorem; Total and differential hadron cross sections; Diffraction; Soft underlying event, multiple interactions, and pile-up; QCD and Jet Physics; Angular correlations; Physics of vector bosons; Z-Asymmetry and W mass measurements; W charge asymmetry; W/Z cross sections; Physics of the top quark; Search for supersymmetric particles as candidates of dark matter; Searches for new physics in exotic models; Experimental methods for data analysis.	

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear and Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: every 4th semester; irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5810: Physics of the Higgs boson**	3 C 3 WLH

Learning outcome, core skills: After successful completion of this module, students should possess a deep understanding of the Higgs mechanism, the properties of the Higgs boson, and experimental methods (concepts and concrete examples) used in investigations of the Higgs sector.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Physics of the Higgs boson (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Review of the Standard Model of particle physics; The Higgs mechanism and the Higgs potential; properties of the Standard Model Higgs boson; Experimental methods in the search for the Higgs boson at LEP, Tevatron and LHC; Discovery of the Higgs boson; Measurement of the Higgs boson couplings and other properties; Two Higgs Doublet Modells and extended Higgs sectors (in particular, the MSSM); Searches for Higgs bosons beyond the Standard Model.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: every 4th semester; irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5811: Statistical methods in data analysis**	3 C 3 WLH

Learning outcome, core skills: After successful completion of this module, students should be well-versed in the theoretical foundations of statistical methodology used in data analysis. This is complemented with concrete examples where statistical analysis is performed using the ROOT software package (a free C++ type software package for data analysis, which runs on Linux, Windows, and Mac operating systems).	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Statistical methods in data analysis (Lecture)	
Examination: oral exam (approx. 30 min.) or written exam (120 min.) **Examination requirements:** Concepts, methods, can concrete examples of statistical methods in data analysis: Introduction and description of data; theoretical probability density functions, including Gaussian, Poisson, and multi-dimensional distributions; parameter estimation; maximum likelihood method (and examples); chi^2 method and chi^2-distribution; optimization; hypothesis tests; classification methods; Monte Carlo methods; unfolding.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5812: Physics of the top-quark**	3 C 3 WLH

Learning outcome, core skills: Learning Objectives and Competencies: After successful completion of this module, students should be familiar with the properties and interactions of the top-quark as well as the experimental methods for its studies.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Physics of the top-quark (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Concepts and specific experimental methods for the discovery and studies of the top-quark. Introduction to particle physics of quarks, discovery of the top-quark, top-antitop production (theory and experiment); electroweak production of single-top quarks; top-quark mass; electric charge and spin of top-quarks; W-helicity in top-quark decay; top-quark decay in the standard modell and beyond; sensitivity to new physics; top-quark physics at the ILC, recent results of top-quark physics.	3 C

Admission requirements: keine	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: every 4th semester; irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module B.Phy.5814: Particle Physics 3 - of and with leptons**	6 C 6 WLH

Learning outcome, core skills:	Workload:
Lernziele: Entdeckung der Leptonen, Eigenschaften der Leptonen, schwache Wechselwirkung und V-A Struktur, neutrale Ströme, Standardmodell der Teilchenphysik, e+e- Physik bei LEP, Fermionpaar-Produktion bei verschiedenen Schwerpunktsenergie, Lineshape des Wirkungsquerschnitts am Z-Pol, Anzahl leichter Neutrino-Generationen, Vorwärts-Rückwärts-Asymmetrie, Tau-Polarisation, e+e- Physik bei ILC, (g-2)myon, Netrinos und Neutrinooszillationen, solare Neutrinos, athmosphärische Neutrinos, long-baseline Experimente, Neutrino-Fabriken, Neutrino Masse, neutrinoloser Doppel-Betazerfall der Neutrinos **Kompetenzen**: Die Studierenden sollen die Eigenschaften und Wechselwirkungen der Leptonen erlernen und sich mit den experimentellen Methoden und Experimente zu deren Entdeckung bzw präzisen Untersuchung vertraut machen.	Attendance time: 84 h Self-study time: 96 h

Course: Particle Physics 3 - of and with leptons	4 WLH
Course: Particle Physics 3 - of and with leptons	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Konzepte und Experimente zu Entdeckung, Eigenschaften und Wechselwirkung der Quarks	6 C

Admission requirements: keine	Recommended previous knowledge: Einführung in die Kern-/Teilchenphysik (B.Phy.504)
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 5
Maximum number of students: 30	

Additional notes and regulations: Bachelor/Master ab 5. FS (KT)

Georg-August-Universität Göttingen **Module B.Phy.5815: Seminar on Introductory Topics in Particle Physics**	4 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden anhand von Publikationen oder Buchkapiteln sich in Fragestellungen zu Themen der modernen Elementarteilchenphysik einarbeiten und in einem Seminarvortrag vorstellen können.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar	
Examination: Vortrag (ca. 30 Min.) mit schriflticher Ausarbeitung (max. 20 S.) **Examination prerequisites:** Aktive Teilnahme **Examination requirements:** Selbständige Erarbeitung wissenschaftlicher Sachverhalte und deren Präsentation.	4 C

Admission requirements: keine	**Recommended previous knowledge:** Einführung in die Kern-/Teilchenphysik
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Phy.5816: Phenomenology of Physics Beyond the Standard Model**	3 C 2 WLH

Learning outcome, core skills: After successful completion of this module, students understand the shortcomings and limitations of the Standard Model of Particle Physics. Students also acquire insight into the phenomenology of physics beyond the Standard Model (BSM) at TeV energy scales, particularly from models with Supersymmetry and Extra dimensions. Students will also learn the experimental signatures of BSM phenomenology at colliders along with experimental techniques and statistical methods.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Phenomenology of Physics Beyond the Standard Model (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Review of the Standard Model of particle physics; Limitations and Shortcomings of the Standard Model; Phenomenology of Supersymmetry; Phenomenology of Extra Dimensions; Other Models with New Physics; Collider Signatures of New Physics; Statistics for Experimental Searches	3 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Stanley Lai
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module B.Phy.5901: Advanced Computer Simulation	4 WLH

Learning outcome, core skills:	**Workload:**
The goal of the module is to introduce advanced algorithms and program structures / design, enabling the students to write codes for more advanced tasks in computational physics from scratch (preferably in C++).	Attendance time: 56 h Self-study time: 124 h

Course: Advanced Computer Simulation	
Examination: Oral exam (approx.30 min.) or oral presentation with discussion (approx.30 min.), 2 weeks time for preparation) or project work at home with a final report (max. 15 pages) **Examination requirements:** • Implementation and usage of advanced algorithms to solve problems in computational physics • Understanding of the algorithms • Ability to choose suitable methods for solving a given problem Topics: 1. „Design Patterns": typical programming/design structures and strategies 2. Algorithms for quantum problems, e.g., exact diagonalization approaches, numerical renormalization group and related methods, Quantum Monte Carlo 3. Algorithms used in engineering, e.g., finite element methods 4. Algorithms for and basics of computational finance	6 C

Admission requirements:	**Recommended previous knowledge:**
none	Programming course, course lecture „CWR"
Language:	**Person responsible for module:**
English	Prof. Dr. Marcus Müller
Course frequency:	**Duration:**
every 4th semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	Bachelor: 6; Master: 1 - 4
Maximum number of students:	
40	

Additional notes and regulations:

Georg-August-Universität Göttingen **Module B.Phy.606: Electronic Lab Course for Natural Scientists**	6 C 6 WLH

Learning outcome, core skills: Learning Objectives and Competencies: After successful completion of this module, students should be familiar with • fundamental concepts and terminology of electronics • be able to handle modern electronic devices (simple devices, basic circuits) • be able to work out and conduct a scientific project within a given time window	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: B.Phy.606. Electronic lab course for natural scientists (Internship, Lecture, Exercise) 1. Lecture with excercises 2. Lab (5 Experiments) 3. Praktikum (1 Projekt)	
Examination: Presentation with discussion (approx. 30 minutes) and written elaboration (max. 10 pages) **Examination prerequisites:** At least 50% of problem sets (homework) have to be solved (passed) **Examination requirements:** 1. fundamental concepts and terminology of electronics, 2. handling of simple electronics devices, basic circuits and functional units; 3. conceptual design and realisation of projects in electronics.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 20	

Additional notes and regulations: Block course

Georg-August-Universität Göttingen **Module B.Phy.7601(Bio): Computational Neuroscience: Basics**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
Goals: Introduction to the different fields of Computational Neuroscience: • Models of single neurons, • Small networks, • Implementation of all simple as well as more complex numerical computations with few neurons. • Aspects of sensory signal processing (neurons as ‚filters'), • Development of topographic maps of sensory modalities (e.g. visual, auditory) in the brain, • First models of brain development, • Basics of adaptivity and learning, • Basic models of cognitive processing. **Kompetenzen/Competences:** On completion the students will have gained… • …overview over the different sub-fields of Computational Neuroscience; • …first insights and comprehension of the complexity of brain function ranging across all sub-fields; • …knowledge of the interrelations between mathematical/modelling methods and the to-be-modelled substrate (synapse, neuron, network, etc.); • …access to the different possible model level in Computational Neuroscience.	Attendance time: 28 h Self-study time: 92 h

Course: Vorlesung	

Examination: Written examination (45 minutes) **Examination requirements:** Actual examination requirements: Having gained overview across the different sub-fields of Computational Neuroscience; Having acquired first insights into the complexity of across the whole bandwidth of brain function; Having learned the interrelations between mathematical/modelling methods and the to-be-modelled substrate (synapse, neuron, network, etc.) Being able to realize different level of modelling in Computational Neuroscience.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 2 - 6; Master: 1 - 4

Georg-August-Universität Göttingen	8 C
Module B.Phy.8001: Lecture Series in Physics for Data Scientists	6 WLH

Learning outcome, core skills:	**Workload:**
Practical aspects of data acquisition and analysis in different specializations in physics (for example: astrophysics, biophysics, solid-state physics, statistical physics, and/or particle physics) A short introduction to the motivation of various measurements and simulation techniques should be provided.	Attendance time: 84 h Self-study time: 156 h

Course: Lecture Series in Physics for Data Scientists	
Examination: Oral examination (approx. 30 minutes) or written report (max. 15 S.) **Examination prerequisites:** At least 50% of the homework/exercises must be solved successfully **Examination requirements:** Understanding of concepts and various examples given in the lecture series. One should be able to explain the physical context of data acquisition, simulation, and analysis.	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Stanley Lai
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.Pol.10: Model United Nations**	8 C 3 WLH

Learning outcome, core skills: Die Studierenden reflektieren internationale Beziehungen, transnationale Probleme und deren mögliche Lösungen durch Simulationen von Komitees der Vereinten Nationen (VN). Die Studierenden • lernen die Geschichte Organisation und Funktionsweisen der VN kennen; • wenden theoretische Grundbegriffe der internationalen Politik (beispielsweise Institution, Governance, Krieg, Frieden, Compliance, Hegemonie, kollektive Sicherheit, Souveränität) in einer Simulationsumgebung an; • arbeiten sich in die Außenpolitik und multilateralen Beziehungen des von ihnen vertretenen Nationalstaats ein; • beherrschen vertiefte Kenntnisse im Völkerrecht; • beherrschen Techniken der Rhetorik und der diplomatischen Verhandlung und Moderation in politischen Kontexten in englischer Sprache.	**Workload:** Attendance time: 42 h Self-study time: 198 h

Course: Seminar und Planspiel/Simulation zu den Vereinten Nationen (Seminar)	3 WLH
Examination: Learning journal (max. 20 pages)	8 C

Examination requirements: Die Studierenden erbringen den Nachweis darüber, dass sie in der Lage sind, aktuelle internationale Probleme aus nationalstaatlicher Perspektive zu analysieren und dies in Positions- und Strategiepapiere umzusetzen. Sie können auf Englisch Plenarreden schreiben und halten und an informellen Verhandlungsprozessen aktiv teilnehmen.	

Admission requirements: Keine	**Recommended previous knowledge:** B.Pol.101 und B.Pol.102.2
Language: English	**Person responsible for module:** Prof. Dr. Anja Jetschke
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 35	

Additional notes and regulations: Die aktive Teilnahme an den Lehrveranstaltungen wird dringend empfohlen. Hierzu ist auch *Die gemeinsame Erklärung von Lehrenden und Lernenden* zur Bedeutung der *aktiven und regelmäßigen Teilnahme für dialogorientierte Lernformen* zu beachten.

Georg-August-Universität Göttingen **Module B.SK-Phy.9001: Papers, Proposals, Presentations: Skills of Scientific Communication**	4 C 2 WLH

Learning outcome, core skills: Goals: Handling of different presentation media (written and oral); presenting complex facts to experts and laymen; skills of communication and scientific discussion	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Papers, Proposals, Presentations: Skills of Scientific Communication (Seminar)	2 WLH
Examination: Lecture (approx. 30 minutes) **Examination prerequisites:** Active participation **Examination requirements:** Independent preparation and scientific publications and their presentation Time for preparation 4 weeks	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Ansgar Reiners
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students: 18	

Additional notes and regulations: Einbringbar in den Wahlbereich nicht-physikalisch.

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0052: Logistics Management**	6 C 4 WLH

Learning outcome, core skills: The students • are able to define the term "logistics" and to differentiate the functions and subareas of logistics, • are able to classify the term "supply chain management" and derive the associated goals, • know the objectives and constraints of layout planning, • are able to classify transport and vehicle routing within the logistical context, • are able to use basic algorithms on simple problems of layout and transport planning as well as vehicle routing, • know the basic structures of queuing systems, • are able to use simple calculations for queuing systems, • are familiar with storage requirement, functions, sorts and techniques, • are able to define the procedure of order-picking, know the different requirements and are able to define criteria for order-picking quality, • are able to use methods from Operations Research .	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Logistics Management (Lecture) *Contents*: This lecture provides the fundamentals of logistics and logistics management . The focus is on the model-based decision-support and quantitative methods in logistics. In particular, the areas of layout planning, planning of transport and vehicle routing, queuing theory and storage and picking techniques as well as the planning of the material flow are considered. **Literature:** • Heizer/Render: Operations management, Pearson • Domschke: Logistik. Oldenbourg Wissenschaftsverlag • Gleissner, Femerling: Logistics, Basics-Exercises-Case Studies, Springer-Verlag • Hillier, Lieberman: Introduction to operations research, McGraw-Hill Educatio • Kummer, Grün, Jammernegg: Grundzüge der Beschaffung, Produktion und Logistik. Pearson	2 WLH
Course: Logistics Management (Exercise) *Contents*: Application of above topics and methods with numerical examples. For instance: • Layout planning: Triangulation method • Transportation planning • Vehicle Routing Problems • Queuing theory (- M/M/1 and M/M/c queuing problems) • Storing and order-picking	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements:

In the module exam the students prove knowledge in following areas:

- Fundamentals of logistics management
- Intra-company layout planning
- Transport planning and vehicle routing
- Queuing theory
- Storage and order-picking
- Application of basic algorithms form Operations Research on logistics proble

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-BWL.0004 Production and Logistics B.WIWI-OPH.0002 Mathematics
Language: English	**Person responsible for module:** Prof. Dr. Matthias Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0082: Seminar Corporate Valuation**	6 C 2 WLH

Learning outcome, core skills: After successfully completing this course, the students are familiar with basic theoretical and practical problems in corporate valuation based on capital market models. After an introduction into the topic, students know how to work for themselves on theoretical or practical problems in the field of corporate valuation. Moreover, the students know how to apply their knowledge in real case studies as well as present and critically discuss their results.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar Corporate Valuation (Seminar) *Contents*: 1. Analyzing fundamentals of corporate valuation 2. Financing strategies and cost of capital 3. Valuation methods 4. Case studies	2 WLH
Examination: Term paper (max. 12 pages) and presentation (ca. 50 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: Students are expected to prove their knowledge of scientific methods by writing a thesis as well as presenting their results in groups.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0004 Introduction to Finance, B.WIWI-OPH.0005 Financial Statements, B.WIWI-BWL.0002 Cost and Management Accounting
Language: English	**Person responsible for module:** Prof. Dr. Stefan Dierkes
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0084: Company Taxation in the European Union**	6 C 2 WLH

Learning outcome, core skills: Having attended this lecture the students • know the basic terms and concepts of domestic taxation in Germany and other EU member states, • know the basic terms and concepts of international taxation, especially the alternative forms of foreign business activity and methods to prevent double taxation, • know basics of European legal forms, • know significant ECJ decisions, • know possibilities for further tax harmonization in the European Union, • are able to identify main difficulties of group taxation in the European Union, • are able to sum up the main aspects of corporate taxation in different member states, • are able to differentiate the international taxation of different foreign business activities.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Company Taxation in the European Union (Lecture) *Contents*: The lecture gives an overview of the business tax systems in the EU member states and the basic structures of the relevant European law. It is the aim of this lecture that students understand these tax systems and learn about the impact of EU tax law on tax planning opportunities. Most notably students shall also focus on ways to both ensure fair and effective taxation and enable productive investment and entrepreneurship in the European Union (target solutions) as well as on the European Commission's new framework for income taxation for business in Europe (longer-term business taxation framework).	2 WLH

Examination: Oral examination (approx. 30 minutes)	6 C

Examination requirements: Proof of ability about knowledge regarding company taxation in the EU member states and the basic structures of the relevant European law. Furthermore the proof of ability to understand the ways to both ensure fair and effective taxation enable productive investment and entrepreneurship in the European Union and on the European Commission's new framework for income taxation for business in Europe.	

Admission requirements: none	**Recommended previous knowledge:** Module B.WIWI-BWL.0001: Company Taxes I
Language: English	**Person responsible for module:** Prof. Dr. Andreas Oestreicher
Course frequency: every winter semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	4 - 6

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0087: International Marketing**	6 C 2 WLH

Learning outcome, core skills: After successful attendance the students understand the foundations of international marketing as well as the diverse environments of global markets. They are able to explain and the central elements of the international decision-making process, such as country and entry mode selection. Moreover, they are able to analyze and compare the attractiveness of different countries and recommend tailored marketing program strategies.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: International Marketing (Lecture) *Contents*: • Introduction to international marketing • Social and cultural environments • Political, legal, and regulatory environments • Assessing global marketing opportunities • International marketing strategy (country selection, entry-modes, international marketing mix) • Branding across cultures The course conveys theoretical knowledge which is enriched by case studies. Specific contents are international trade developments, culture and values (incl. approaches by Hofstede, Inglehart, & Schwartz), political risk assessment, legal environments, international marketing research, competitive analysis and strategy (incl. Porter's Five Forces), emerging markets, entry strategy (incl. Uppsala model vs. born global approach), country selection, market entry modes, international marketing mix, and the country-of-origin effect. **Basic literature:** • Ghauri & Cateora: International Marketing. McGraw-Hill. • Keegan & Green: Global Marketing. Pearson. • Keegan: Global Marketing Management. Pearson.	2 WLH

Examination: Written examination (90 minutes)	6 C

Examination requirements: The written exam assesses students' understanding of the course content as well as their ability to apply their knowledge to case studies. **Examples:** • Comparing different approaches of cultural difference assessment • Assessing a country's competitive environment • Recommending entry modes for different countries	

Admission requirements: none	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Yasemin Boztug
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0089: Corporate Financial Management**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the course students should be able to: • understand and analyze different financial instruments (debt, equity, and hybrids) available to a corporation, • describe the debt characteristics and understand the global environment in which debt is issued, • critically assess different financing alternatives, • demonstrate a sound knowledge of different capital structure theories, • understand and critically assess the process of capital structure optimization, • understand the components of the cost of capital and why it might change over time, • critically apply the obtained knowledge to several realistic problem sets.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Corporate Financial Management (Lecture) *Contents*: 1. Introduction to corporate financial management What are the advantages of the corporate form? What is the goal of corporate financial management? What actions can managers take to increase shareholder value? 2. Equity financing Repetition: Dividend discount model for common stocks CAPM Theories about dividend payments and stock repurchases Understanding the IPO process and theories explaining underpricing 3. Debt financing Review: corporate bond valuation Yield to maturity and yield curves Covenants, bond markets and call provisions Securitization, MBS and the financial crisis 4. Capital structure & cost of capital Capital structure theories: MM (w/ taxes), trade-off, pecking-order, etc. Determining the cost of debt (before and after tax, w/ floatation costs) Determining the cost of equity (beta (un-)levering, w/ & w/o taxes Calculating the WACC 5. Hybrid financing Valuation and use of Preferred stock, warrants & convertibles	2 WLH
Course: Corporate Financial Management (Tutorial) (Tutorial) *Contents*: In the accompanying practice sessions students deepen and broaden their knowledge from lectures by applying theories and methods to real-world problem sets.	2 WLH

Examination: Written examination (90 minutes)	6 C

Examination requirements:	
- demonstrate a profound knowledge of equity, debt and hybrid instruments available to corporations, - document an understanding of how strategic financing decisions affect company value, - demonstrate the ability to analyze and evaluate the effect of capital structure changes on the cost of capital and on company value, - show a profound understanding of methods and techniques to manage a company's financing needs and tactical financing decisions.	

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-OPH.0004 Introduction to Finance B.WIWI-BWL.0006 Capital Markets and Valuation
Language: English	**Person responsible for module:** Prof. Dr. Olaf Korn
Course frequency: usually every summer term	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-BWL.0097: Financial Intermediation**	6 C 2 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • understand the underlying mechanisms of financial intermediation, the importance of asymmetric information and moral hazard, • explain and critically discuss the functions and services financial intermediaries provide and the role they play in the financial system, • apply methods to analyze and mitigate the various risks faced and posed by financial intermediaries, • understand the interactions between nonfinancial and financial companies, the financial system's interconnectedness and vulnerabilities, • critically assess and explain the different causes that led to the Great Financial Crisis, • understand and discuss major change drivers to financial intermediation, such as crypto-currencies and green finance, • apply their knowledge to critically take part in related policy discussions.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Financial Intermediation (Lecture) *Contents*: 0. Basic Concepts **1. Theoretical Framework of Financial Intermediation** 1.1 Functions of Financial Intermediaries 1.2 The Variety of Financial Intermediaries 1.3 The Financial System 1.4 Fractional Reserve Banking 1.5 Further Properties of Financial Intermediaries **2. Major Banking Risks** 2.1 Overview 2.2 Interest Rate Risk 2.3 Liquidity Risk 2.4 Credit Risk 2.5 On Balance Sheet Activities **3. The Great Financial Crisis and the Future of Financial Intermediation** 3.1 Securitization 3.2 The Funding of the Bank 3.3 A Brief Historical Overview of Financial Crises 3.4 The 2007 – 2009 Financial Crisis	2 WLH

3.5 Change Drivers	
Course: Financial Intermediation (Exercise) *Contents*: In the accompanying practice sessions students deepen and broaden their knowledge from the lectures. The practice sessions will be integrated into the lecture.	
Examination: Written examination (90 minutes)	6 C

Examination requirements:	
• Demonstrate a profound knowledge of the functions financial intermediaries provide and the underlying reasons for their existence, • document an understanding of viable reasons for the promotion of economic growth through the financial system, • demonstrate the ability to explain the different risks faced by financial intermediaries, • show a profound understanding of methods and techniques used to identify and mitigate these risks, • document an understanding of the different causes that led to the Great Financial Crisis, • demonstrate the ability to critically assess the reactions to the Great Financial Crisis and demonstrate an understanding of major change drivers in financial intermediation.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0004 Introduction to Finance, B.WIWI-BWL.0006 Capital Markets and Valuation
Language: English	**Person responsible for module:** Dr. Paolo Krischak
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-QMW.0004: Meta-Research in Economics**	6 C 4 WLH

Learning outcome, core skills: The students learn to evaluate and discuss the reliability of published empirical findings in economics. Moreover, they gain first insights in the replication of empirical studies using the statistical software R.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Meta-research in economics (Lecture) *Contents*: The lecture discusses the incentive system of academic publishing that favors statistically significant and hypothesis-confirming estimates. Various types of *p*-hacking are analyzed for both experimental and observational research. Moreover, empirical evidence of biases in published findings is presented and discussed. Finally, an overview of replications in economics is given and the students learn why replications are essential to ensure the reliability of published empirical findings. Topics: • 1. Incentives in academic publishing • 2. p-hacking and publication bias • 2.1 Experimental research • 2.2 Observational research • 3. Empirical evidence of biases • 3.1 Discontinuities in published p-values • 3.2 Low power and exaggerated effect sizes • 4. Models of empirical research • 5. Replications in economics **Literature:** Textbooks are not available in this new research field. Instead, the courses are based on key articles from the field of meta-research such as: Camerer, C. F. et al. (2016). Evaluating replicability of laboratory experiments in economics. *Science*, 351(6280), 1433-1436. Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Medicine*, 2(8), e124. Basic econometrics is covered in: Wooldridge, J. M. Introductory Econometrics: A Modern Approach.	2 WLH
Course: Meta-research in economics (Exercise) *Contents*:	2 WLH

The exercise starts with an introduction to the statistical software R. The exercise follows the topics discussed in the lecture and deepens the understanding of these topics by providing and discussing tasks to be solved in R. At the end of the exercise, students replicate published findings of important articles that use quasi-experimental designs.	

Examination: Written examination (90 minutes)	6 C

Examination requirements: The students show that they understand the incentive system of academic publishing resulting in *p*-hacking and publication bias. They demonstrate that they understand the econometric background of p-hacking and they show that they have deep knowledge of the empirical evidence of biases in published findings in economics. Moreover, they show knowledge of characteristics of replications in economics and how replications are conducted.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-VWL.0007: Introduction to Econometrics
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz Dr. Stephan Bruns
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 5

Georg-August-Universität Göttingen Module B.WIWI-VWL.0009: Labor Economics	6 C 3 WLH

Learning outcome, core skills:	**Workload:**
• Know the core economic concepts of labor economics and understand the main drivers of labor supply and demand as well as the concept of labor market equilibrium. • Understand the factors that determine individual wages as well as the overall wage structure in an economy. • Understand the role of human capital and the determinants of human capital investment decisions. • Are able to discuss further selected issues in labor economics, including labor mobility, the role of labor unions, labor market discrimination, incentive pay and unemployment. • Can perform a basic analysis of individual survey data in a statistical program in order to investigate the determinants of individual wages and employment and can interpret its results.	Attendance time: 56 h Self-study time: 124 h

Course: Labor Economics (Lecture)	2 WLH
Contents:	

The course in Labor Economics targets advanced bachelor students of economics. The lecture presents and discusses core concepts of labor economics and introduces students to the analysis of labor markets. It introduces the microeconomic model of the individual labor supply decision as well as the model of firms' labor demand and derives the labor market equilibrium. It also introduces a number of further topics in the realm of labor economics, including the individual decision on human capital investment and schooling, various theoretical reasons for wage differentials, the labor market consequences of migration and the determinants of unemployment. The lecture complements the theoretical concepts by descriptive facts on the German labor market and discusses the models in the light of recent empirical evidence.

Lecture plan:

1. Introduction¿
2. The basics of labor supply
3. Extensions of labor supply
4. Labor demand¿
5. Labor market equilibrium
6. Human capital¿
7. Wage differentials¿
8. Migration¿
9. Unemployment

Textbook:

Borjas, George J., Labor Economics, Princeton, N.J.: Princeton University Press.

The main course content is based on the above textbook and will be extended by examples related to the German labor market as well as recent empirical evidence. Additional slides will be provided; these are also relevant for the exam.	
Course: Labor Economics (Exercise) *Contents*: The lectures are accompanied by blocks of practical sessions that take place in a CIP-pool and aim at introducing students to the analysis of individual labor market data. The CIP-pool exercises will especially focus on determinants of employment and wage differences.	1 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Hand-in of two problem sheets (of pass quality). The problems will refer to the content introduced in the practical sessions.	6 C
Examination requirements: In the exam, students are required to demonstrate an understanding of basic concepts of labor economics and to apply the acquired knowledge to current policy issues. The hand-ins required as examination prerequisites will test the general understanding of the empirical concepts introduced in the practical sessions.	

Admission requirements: none	**Recommended previous knowledge:** Microeconomics, Econometrics and Statistics
Language: English	**Person responsible for module:** Prof. Dr. Krisztina Kis-Katos
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0068: Economic Aspects of European Integration**	6 C 3 WLH

Learning outcome, core skills: The students: • Know the main institutions that are governing the EU single market and their competencies. • Can discuss the economic benefits of European integration in goods, labour and capital markets. • Know the economic rationale and main features of EU competition and state aid policies. • Understand the concepts of potential output and employment. • Can discuss the main arguments in favour and against monetary union. • Know main characteristics of the European Central Bank, its main monetary policy instruments and related transmission channels. • Can discuss the main economic forces behind the recent economic crisis and main related issues in financial, fiscal and macro policies. • Understand the rationale for effective single supervision and resolution mechanism for banks and can discuss the main issues in establishing a "banking union". • Know the key features of the EU fiscal governance system, its strengths and weaknesses. • Know the key features of the "European Semester" economic surveillance cycle.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Economic Aspects of European Integration (Lecture) *Contents*: The first part of the course deals with main institutions, provisions and concepts underpinning the EU single market. It reviews potential static and dynamic gains of product and factor market integration, and considers stylised facts about EU trade integration and migration. It introduces EU competition and state aid policies. It explains the concepts of potential output and output gaps, and their link to macroeconomic and structural policy analysis and EU economic governance. The second part deals with key institutional and policy issues of monetary union and financial markets. It discusses the pros and cons of a single currency and considers the operation of the System of European Central Banks and main characteristics of monetary policy in the euro area. Selective issues in financial market integration are addressed, including essential reform measures taken to establish a „Banking Union". Attention is paid to the main drivers of the financial crisis. The third part is devoted to fiscal policy and governance. It introduces main concepts for fiscal policy assessment, such as structural government balances and the sustainability of government finances, and discusses fiscal policy channels, potential externalities, EU fiscal surveillance and approaches to secure sustainable government finances.	2 WLH

The last part highlights EU economic performance targets and key features of EU economic surveillance and policy coordination.	
Course: Economic Aspects of European Integration (Exercise) *Contents*: This part of the course discusses a set of questions on the Single Market, economic coordination and monetary and fiscal issues. The questions are provided for consideration ahead of the sessions. Also discussed are the questions on the two papers that are prerequisites for participation in the exam. A reading list is provided in the course. Related textbooks are: R. Baldwin and C. Wyplosz (2015), The Economics of European Integration, McGraw-Hill The book covers a broad range of topics. P. de Grauwe (2016), Economics of Monetary Union, Oxford University Press The book focusses on aspects of the common currency area. R. Ohr (2013), Fit für die Prüfung: Europäische Integration, UTB The book considers various fields of integration and th	1 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Submission of written answers on two papers (3 questions each; maximum 2 pages submission each). The references are given in the course.	6 C

Examination requirements:
Students need to demonstrate knowledge and understanding of:

- the relation between the free movement of goods, services, labour and capital and economic efficiency and growth,
- key elements of the European currency union, the main policy instruments of the European Central Bank and transmission channels of monetary policy,
- principles of bank supervision and resolution in the euro area and the EU and their relation to the functioning of the currency union and the Single Market,
- main features of the EU fiscal governance system and associated challenges,
- risks associated with macro-economic imbalances and their surveillance.

Students also need to demonstrate knowledge about main EU institutions and their competences.

Admission requirements:	Recommended previous knowledge:

none	B.WIWI-OPH.0007: Microeconomics I, B.WIWI-OPH.0008: Macroeconomics I
Language: English	**Person responsible for module:** Prof. Dr. Eckhard Wurzel
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0069: Urban Economics**	6 C 3 WLH

Learning outcome, core skills: By the end of the course the students should: • Know the core economic concepts of urban economics and understand the main drivers and challenges of urban development. • Understand the agglomeration forces driving the development of cities. • Understand the main challenges that cities are facing (with respect to land use and zoning, segregation and living conditions, transportation, education, crime, environment, housing and local government, etc.). • Be able to identify problems of urban development and discuss them using basic insights from economic theory, proposing possible policy responses if necessary. • Be familiar with sources for data and policy information that can be used to investigate various dimensions of urban and regional development.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Urban Economics (Lecture) *Contents*: Using basic concepts and modelling tools of urban economics, the lecture discusses the spatial distribution of economic activity and people in general and the challenges faced by cities in particular. It highlights the forces of economic agglomeration, the determinants of location choice and the spatial distribution of cities as well as the determinants of urban population growth and city size. It introduces the concept of land rent and uses it to motivate land-use patterns in general and within cities. It also discusses a number of further policy relevant topics, including the choice of residential neighborhoods, social segregation, the provision of housing, education and urban transportation, the spatial concentration of criminal activities, environmental problems as well as issues of local government. Beyond presenting the theoretical concepts, the lecture also examines related global evidence. 1. Why do cities exist? ¿ 2. The forces of agglomeration ¿ 3. City size ¿ 4. Land rent and land use patterns ¿ 5. Neighborhood choice ¿ 6. Urban growth and labor markets 7. Zoning and growth controls ¿ 8. Urban transportation 9. Urban education and crime ¿ 10. Housing and local government **Required readings:** O'Sulivan, Arthur: *Urban Economics*, McGraw-Hill, New York A set of slides for the lecture will be provided.	2 WLH

Course: Urban Economics (Exercise) *Contents*:	1 WLH

The practical part consists of student presentations on recent issues of city development that should link observed phenomena to theories discussed in the lecture. Student presentations will be based on self-collected material (descriptive evidence or case studies). Sessions aiding student preparation will be offered.	
Examination: Written examination (90 minutes) **Examination prerequisites:** One presentation of a recent problem related to urban development (max. 20 minutes). Depending on class size, presentations may take place in groups.	6 C

Examination requirements: In the exam, students are required to demonstrate an understanding of basic concepts of urban economics and to apply the acquired knowledge to current policy issues. They should be able to reproduce theoretical arguments with the use of diagrams and to use these arguments to describe and discuss the main challenges of city development. The examination prerequisites require students to discuss orally a specific problem of urban development by applying theories and insights from the lecture.

Admission requirements: none	**Recommended previous knowledge:** bachelor courses in Microeconomics bachelor courses in Statistics
Language: English	**Person responsible for module:** Prof. Dr. Krisztina Kis-Katos
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0070: International Economic Policy**	6 C 3 WLH

Learning outcome, core skills: The course introduces core areas of international economic policy. After completing the course, the students will acquire following competences: • they will become familiar with the economic drivers of international cooperation (or the absence of it) in various areas, • they will be able to discuss and evaluate economic arguments with respect to current issues of international economic policy.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: International economic policy (Lecture) *Contents*: The lecture covers a range of issues related to international policy mainly along two dimensions of policy cooperation: international trade policy and international environmental policy. Finally, the course discusses the role of supra-national institutions. ***Course schedule:*** 1. What is globalization? 2. Trade and the income distribution 3. Trade under increasing returns to scale 4. The instruments of trade policy 5. The political economy of trade policy 6. Global environmental policies: The basics 7. International environmental cooperation **Required readings:** Krugman, Obstfeld, Melitz: International Economic, Pearson Education, Boston: Chapters 1-12. Perman, Ma et al.: Natural Resource and Environmental Economics, Pearson Education, Essex: Chapters: 3-7 and 10. Slides for the course will be provided and are part of the required readings.	2 WLH

Course: International economic policy (Exercise) *Contents*: The course is accompanied by 6 practical sessions (of 90 minutes) that discuss issues related to the course material (in form of problem solving and applying the economic models to the discussion of current issues). A block of further practical sessions is organized as a one-day block session with a simulated policy debate where students take part in a simulated international policy discussion and represent specific interest groups in the discussion. Here active student participation is required.	1 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:**	6 C

Hand-in of a short position paper (2 essays of 1 page each) in preparation of the simulated policy debate. Active participation in the simulated policy debate (presence is obligatory).

Examination requirements:

The exam tests the understanding of economic arguments addressing the drivers of international cooperation as well as the arising problems. It requires the replication of theoretical arguments (mostly relying on diagrams) and the application of theories to current problems of international economic policy cooperation.

The examination pre-requisites test the understanding of the theoretical concepts and the students' ability to build economic arguments in form of position papers and oral discussion.

Admission requirements: none	**Recommended previous knowledge:** bachelor courses on Microeconomics and Macroeconomics, International Economics
Language: English	**Person responsible for module:** Prof. Dr. Krisztina Kis-Katos
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0074: Indian Economic Development**	6 C 3 WLH

Learning outcome, core skills: The goal of this course is to provide students with a comprehensive overview of economic development in the context of India. By the end of the course, students will be able to: • give an overview of economic development in India in the second half of the 20thcentury, • critically evaluate policy changes and their impact on economic growth, • develop an in-depth understanding of policies and progress in India's agriculture, industry, foreign trade, population, and human capital.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Indian Economic Development (Lecture or Seminar) *Contents*: The course will introduce students to the main developments in recent Indian economic development and history. It will discuss the impact of colonialism on India's economy and shed light on trends and developments in economic planning, economic growth, population, agriculture, employment and human capital. The course will equip students with a profound understanding of the set-up of India's economy in the second half of the 20th century. Specifically, the course will cover the following topics: • Colonial Legacy in India, • Economic planning, • Economic growth and distribution, • India's demographic transition, • Economic development in the agricultural sector, • Employment trends, • Education and human capital.	2 WLH
Course: Indian Economic Development (Exercise) *Contents*: Each tutorial covers topics discussed in the lecture in more depth and gives students the opportunity to clarify remaining questions.	1 WLH
Examination: Portfolio	6 C

Examination requirements: • Familiarity with major economic policy debates in India, • demonstrate an ability to link the practice with economic theory, • ability to reflect on various policy actions and their implications.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer

Course frequency:	Duration:
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
18	

Additional notes and regulations:

Maximum number of students in the case of a seminar: 18.

In the case of a lecture, there is no limit to the number of students.

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0076: International Trade: Theory and Policy**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • give an overview of the core theoretical concepts explaining international trade patterns by means of various sources of trade flows like different technologies or factor endowments, • understand and apply the concepts of comparative and absolute advantage, • analyze the effects of international trade on the trading partners with respect to (i) their production and overall welfare, (ii) the reallocation of resources in the production process, (iii) the change in nominal factor prices, and (iv) on changes in the purchasing power of consumers, • evaluate and critically reflect the gains and losses of international trade, • evaluate the consequences of different trade policies like tariffs and subsidies.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: International Trade: Theory and Policy (Lecture) *Contents*: **I. The Ricardian model** Analysis of the trade equilibrium in a neoclassical model explaining inter-industry trade with one production factor and two goods. Analysis of the trade effects on production and consumption, wages and overall welfare gains from trade. Extension to continuum of goods. **II. The Specific-Factors model** The welfare effects and distributional effects of international trade in a medium-run model, in which not all factors of production are mobile between sectors. **III. The Heckscher-Ohlin model** Analysis of the trade equilibrium in a neoclassical model with two production factors, both of which are mobile across sectors. Analysis of trade effects on production and consumption, factor prices, and of distributional effects as implied by the Stolper-Samuelson Theorem. Analysis of the effects of changes in resource endowments as implied by the Rybczynski Theorem. Empirical test of the Heckscher-Ohlin model. **IV. International Migration** Graphical analysis of the welfare effects and the distributional effects of international migration in the medium run and in the long run. **V. Imperfect competition in international trade** Mathematical and graphical analysis of the Krugman model with increasing returns to scale and monopolistic competition as an explanation of intra-industry trade. Non-formal extension of the Krugman model to the case of heterogeneous technologies across firms. **VI. Trade policy under perfect competition** Graphical analysis of the introduction of tariffs and quotas to the trade equilibrium under perfect competition on economic welfare. Analysis of partial and general equilibrium effects.	2 WLH

VII. Trade policy under imperfect competition Graphical analysis of the introduction of tariffs and quotas to the trade equilibrium under monopolistic market power on economic welfare.	
Course: International Trade: Theory and Policy (Exercise) *Contents*: In the accompanying practice session students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements:
  • Demonstrate a profound knowledge of the core theoretical concepts in international trade,
  • show the ability to analyze welfare and distributional effects of international trade using graphical and mathematical tools,
  • show the ability to analyze the effects of trade policies.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0007 Microeconomics I, B.WIWI-VWL.0001 Microeconomics II
Language: English	**Person responsible for module:** Prof. Dr. Udo Kreickemeier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0078: Introduction to Health Economics**	6 C 4 WLH

Learning outcome, core skills: The goal of this course is to provide students with a comprehensive understanding of the basic concepts in health economics. By the end of the course, students will be able to: • describe the demand for health and health care, • compare and contrast different measures of health, • motivate the demand for health insurance, • discuss adverse selection and moral hazard in health insurance markets, • discuss the production and supply of health professionals, • discuss the economics of public health externalities, and the role of government in remedying market failures, • describe basic ideas in behavioural health economics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Introduction to Health Economics (Lecture) *Contents*: This course will introduce the students to the basic concepts in health economics. Students will be introduced to the basic models of demand and supply for health and also get an overview of the standard health measures used in international comparisons. Furthermore, it will provide an overview on the latest developments at the intersection between health and behavioural economics. The course will cover: • The demand for health and health care – the Grossman model • Health measurement, determinants and trends • Health insurance (systems and components) • Adverse selection and moral hazard in health insurance • The supply of health care • Externalities and public health • Ideas in behavioural health economics	2 WLH
Course: Introduction to Health Economics (Exercise) *Contents*: The tutorial will deepen and extend the knowledge and skills acquired during the lecture. This includes solving problem sets, reviewing briefing papers and academic articles and hands on exercises calculating health measures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students should demonstrate an understanding of the main concepts in health economics and be able to address questions both intuitively and analytically. They will be required to evaluate and discuss propositions around the key concepts and measures presented during the course.	

Admission requirements:	**Recommended previous knowledge:**

none	B.WIWI-OPH.0007 Microeconomics I, ability to read scientific articles
Language: English	**Person responsible for module:** Jun.-Prof. Renate Hartwig, Ph.D.
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0079: Application of Game Theory to Development Economics**	6 C 2 WLH

Learning outcome, core skills: This lecture aims at examining development issues using elementary game theory. Participants will learn how to apply different solution concepts to explain decision of strategic interaction that affect development outcomes.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Application of Game Theory to Development Economics (Lecture) *Contents*: • Development traps and coordination games, • rural poverty development and the environment, • risk, solidarity networks and reciprocity, • agrarian institutions, • savings, credit and microfinance, • social learning and technology adoption, • property rights, governance and corruption, • conflict, violence and development, • social capital.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students should demonstrate knowledge of solution concepts in game theory. They should be able to model a situation of strategic interaction using game theory.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0080: Economics of Monetary Union**	6 C 2 WLH

Learning outcome, core skills: After this course, the students are able to apply the knowledge they gained from previous macroeconomics courses to the specific situation of monetary unions. They have a deep understanding of potential costs and benefits attached to the formation of a monetary union in general. Furthermore, they gain a deep understanding of the specific situation in which the member states of the European Monetary Union are in at the moment. Especially, the roots and consequences of the so-called "Euro-crisis" have to be understood by the students, so that they are able to explain and discuss them.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Economics of Monetary Union (Lecture) *Contents*: **Part One: Costs and Benefits of Monetary Union** 1: The costs of common currency 2: The theory of optimum currency areas: a critique 3: The benefits of a common currency 4: Costs and benefits compared **Part Two: Monetary Union** 5: The fragility of incomplete monetary union 6: Transition to a monetary union 7: How to complete a monetary union? 8: Leaving a monetary union 9: The European central bank 10: Monetary policy in the Eurozone 11: Fiscal policies in monetary unions 12: The euro and financial markets…	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Ability to apply macroeconomic theory and concepts to monetary unions, • profound understanding of costs and benefits attached to the formation of a monetary union, • deep understanding of the specific situation in which the member states of the European Monetary Union are in at the moment. Especially, the roots and consequences of the so-called Euro-crisis have to be understood by the students, so that they are able to explain and discuss them.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0008 Macroeconomics I

Language:	Person responsible for module:
English	Dr. Markus Ahlborn
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0081: Firms and Workers in International Markets**	6 C 4 WLH

| **Learning outcome, core skills:**
 After a successful completion of the course students are able to:

 • give an overview of different internationalisation strategies of firms,
 • understand and analyse theoretical concepts explaining trade patterns and optimal behavior of firms in international markets,
 • evaluate the implications of globalisation on firm behavior, consumers and welfare,
 • apply and critically assess theoretical concepts and empirical methods to explain trade patterns regarding product differentiation, competition, price effects and market frictions. | **Workload:**
 Attendance time:
 56 h
 Self-study time:
 124 h |

| **Course: Firms and Workers in International Markets** (Lecture)
 Contents:

 1. Introduction to international trade

 Overview of trade theory and empirical facts about patterns of international trade and multinational activity of firms.

 2. Product differentiation in international markets

 Discussion of different types of product differentiation and related market strategies of internationally active firms. Application of microeconomic concepts and evaluation of their empirical relevance to explain trade patterns.

 3. The role of imperfect competition in international trade

 Mathematical and graphical analysis of trade models with imperfect competition. Welfare effects of dumping in international markets and related evidence.

 4. Firm heterogeneity in international markets

 Discussion of empirical patterns on firms' export behavior. Analysis of theoretical concepts to explain the performance of firms in export markets.

 5. Optimal strategies of multinational enterprises

 Empirical and theoretical analysis of internationalisation strategies that might complement or substitute exporting: foreign direct investments (FDI), offshoring and outsourcing.

 6. Product quality and price effects in export markets

 Analysis of theoretical concepts that allow for differences in product quality, and application to pricing behavior in export markets.

 7. The effects of frictions in international markets

 Effects of trade costs, as well as labour market and credit market frictions on the internationalisation strategies of firms. Discussion of related empirical evidence and application to economic shocks. | 2 WLH |
| **Course: Firms and Workers in International Markets** (Exercise) | 2 WLH |

Contents: In the tutorial, students deepen and broaden their knowledge by applying both theoretical concepts and empirical methods developed in the lecture.	
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate a profound knowledge of microeconomic concepts to analyse different internationalisation strategies of firms, • show the ability to evaluate the effects of globalisation on firm behavior, consumers and welfare, using graphical and mathematical tools, • students should be able to apply and critically assess theoretical as well as empirical methods to explain trade patterns.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0007 Microeconomics I, B.WIWI-VWL.0001 Microeconomics II, B.WIWI-VWL.0007 Introduction to Econometrics
Language: English	**Person responsible for module:** Jun.-Prof. Dr. Florian Unger
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0083: Economics of Migration**	6 C 4 WLH
Learning outcome, core skills: Students gain an overview of the economics of migration by learning the micro- and macroeconomic foundations as well as important empirical facts. They will gain basic, applied knowledge of the most important empirical methods used to study the topic, including their strengths and weaknesses, and will thus learn to critically assess research. Students will also gain an understanding how science progresses in economics and how it can be used to inform policy.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Economics of Migration (Lecture) *Contents*: This course provides a basic understanding of the economics of migration in order to better understand the economic impact of migration and the policy challenges that are related. Starting with an introduction and theoretical models of migration, students will receive an introduction into the necessary econometric toolkit. This will then be used to show how theory can be tested and how to study the effects of immigration, emigration, as well as the effects of migration on migrants themselves. Discussing migration policy will be a regular feature throughout the course.	2 WLH
Course: Economics of Migration (Exercise) The tutorial is used to deepen the understanding of concepts and empirical methodsused in the lecture, to learn how to read scientific papers, and to learn how to writepolicy reports.	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Portfolio **Examination requirements:** With the policy report, students are expected to demonstrate their ability to synthesize, present and discuss academic research results for a policy audience. Depending on class size, presentation of the policy report can also take place in groups. Students should be prepared to demonstrate the following: A good understanding of the most important theories of migration, empirical approaches to the analysis of migration, and knowledge of specific topics covered.	6 C

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0008 Macroeconomics I, B.WIWI-VWL.0002 Macroeconomics II, B.WIWI-VWL.0006 Economic Growth and Development (earlier or simultaneous enrolment recommended), B.WIWI-VWL.0007 Introduction to Econometrics (earlier or simultaneous enrolment recommended)
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs

Course frequency:	Duration:
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 6
Maximum number of students:	
not limited	

Additional notes and regulations:

Explanation Portfolio: Policy report (submit a maximum of 3 pages; presentation in the tutorial; discussion of another policy report).

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0084: Introduction to Global Health**	6 C 3 WLH

Learning outcome, core skills:	Workload:
The goal of this course is to give students an overview of the most important topics and concepts in the field of Global Health. Learning goals: • be able to describe key concepts in Global Health, including disease burden, risk factors, and population health measurement, • understand the relationship between health and economic development, • be able to describe major epidemiological patterns and trends across the globe, • understand the importance of public health policies and health system design.	Attendance time: 42 h Self-study time: 138 h

Course: Introduction to Global Health (Lecture) *Contents*: The course provides a broad introduction to Global Health, which is a growing and interdisciplinary field at the intersection of public health and development economics. A key focus of the course will be on epidemiological patterns and trends across the globe as well as relevant public health concepts. Moreover, we will study major drivers for health disparities across countries and discuss the role of public health policies and health system design. While we will make reference to the situation in Germany, low- and middle-income countries will receive most of the attention.	2 WLH
Course: Introduction to Global Health (Tutorial) *Contents*: Each tutorial covers topics discussed in the lecture in more depth and gives students the opportunity to clarify remaining questions.	1 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students should demonstrate their familiarity with key concepts and topics discussed in the lecture. In addition, students will be expected to have read the background literature mentioned in the course.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Sebastian Vollmer
Course frequency: each summer semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 3 - 6
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0085: Poor Economics**	6 C 3 WLH

Learning outcome, core skills: The goal of this course is to provide students with an understanding of poverty and decision-making in a context of poverty from a micro-level perspective. By the end of the course, students will be able to: • describe key concepts of poverty such as poverty traps, • understand problems linked with poverty from a micro-level perspective, • describe potentials solutions to these problems, • understand how randomized controlled trials can be used to study poverty.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Poor Economics (Seminar) *Contents*: The key focus of the course lies on problems that come with poverty and approaches to solve these problems. We will look specifically at the use of field experiments and how these can help us understand and tackle problems linked with poverty. The framework is set by two books by Abhijeet V. Banerjee and Esther Duflo, "Poor Economics – A Radical Rethinking of the Way to Fight Global Poverty" and "Good Economics for Hard Times", which cover diverse topics including nutrition, health, education, fertility, risk and insurance, microfinance and savings, and political issues in low- and middle-income countries. Each topic will then be discussed using recent papers from the development economics literature. While each student will work on a specific topic for the seminar paper, group discussions will ensure each student to get an overview of poverty-related problems in the other fields. The course will mainly focus on low- and middle-income countries.	2 WLH
Course: Poor Economics (Exercise) *Contents*: Practical exercises related to the topics discussed in the seminar give students the opportunity to deepen and enhance their understanding of the seminar's content.	1 WLH
Examination: Term paper (max. 10 pages) and presentation (approx. 20 minutes)	6 C

Examination requirements: In their seminar paper and presentation, students should demonstrate their familiarity with key concepts and topics discussed in the lecture as well as an ability to critically discuss these topics. In addition, students will be expected to have read the background literature mentioned in the course.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: each winter semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	3 - 6
Maximum number of students:	
18	

Georg-August-Universität Göttingen **Module B.WIWI-VWL.0088: Empirical Macroeconomics**	6 C 4 WLH

Learning outcome, core skills: Upon graduation, students acquire the following skills: • estimation and diagnosis of most important time series models,extensions to more complex scenarios, • work with real-world data using the acquired programming skills in MATLAB or a comparable numerical programming language, • verify the robustness of their results by applying statistical test procedures, • present and discuss the research results.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Empirical Macroeconomics (Lecture) *Contents*: 1. Time Series models / Box-Jenkins approach 2. VAR and SVAR 3. Cointegration and VECM 4. Modeling volatility with GARCH	2 WLH
Course: Empirical Macroeconomics (Exercise) *Contents*: In the accompanying practice sessions students deepen and broaden their knowledge from the lectures. Students are introduced to statistical software MATLAB or a comparable numerical programming language and solve programming exercises. Empirical project: writing code to analyze real world data and present the results in class.	2 WLH
Examination: Project work (max. 15 pages) or written examination (90 minutes) **Examination prerequisites:** Up to three submission homework items; length of up to five typewritten pages each (condition for admission to the examination is the achievement of 60% of the total number of attainable points) or group work (30 minutes presentation).	6 C

Examination requirements: • Demonstrate a profound knowledge of the core theoretical concepts in empirical macroeconomics, • differentiate between various econometric models for financial and macroeconomic data, • understand core concepts of time series modeling, • be able to apply learned models and testing procedures to real world data.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-VWL.0007 Introduction to Econometrics oder B.WIWI-QMW.0001 Linear Models
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger

Course frequency:	Duration:
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module B.WIWI-WB.0003: Introduction to Stata**	3 C 2 WLH

Learning outcome, core skills: At the end of the course, students will be able to: • use Stata's basic data manipulation functionalities, • organize their work in an efficient way, • understand and handle different types of data (cross-section, time series, panel etc.), • create nice-looking tables and graphs, • run regression analyses and interpret regression tables.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Computer lab sessions *Contents*: The course covers the main functionalities of Stata: basic syntax, trouble-shooting, loading and examining data, workflow considerations, combining datasets, regressions, and graphs. Depending on time availability, students may also be introduced to somewhat more advanced topics (e.g. the basics of Stata programming).	2 WLH
Examination: Practical examination **Examination requirements:** Students are required to complete a take-home project which will broadly test their ability to conduct basic empirical analyses with the software, with particular emphasis on the following aspects: • ability to manipulate/restructure/merge/reshape datasets, • ability to create graphs and tables, • ability to conduct regression analyses. After the project submission, students will be required to meet with the tutor in order to explain the submitted software code thoroughly.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introductory Econometrics/Statistics
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 20	

Additional notes and regulations:

The course is suitable for advanced BA, who have no or at most limited knowledge of STATA. However, it is strongly recommended that students have acquired a solid knowledge of main ideas in statistics and econometrics.

Georg-August-Universität Göttingen **Module B.WIWI-WIN.0032: Electronic Commerce**	6 C 2 WLH

Learning outcome, core skills: The objective of this course is to familiarize students with the forces driving Electronic Commerce. They understand the impact of technology on the way businesses sell their goods or services through electronic channels. They can assess challenges in business development for such companies and are familiar with appropriate models and theories to address these challenges. The awareness of social and ethical issues attached to technology enables them to make sound strategic decisions in the field of electronic commerce.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Electronic Commerce (Lecture) *Contents*: The course introduces the foundations of Electronic Commerce. Topics covered in this lecture include: • foundations of E-Commerce (E-Commerce infrastructure; Business models for E-Commerce), • relevant issues in E-Commerce (Online consumer behavior; Products and services in E-Commerce; Pricing strategies in E-Commerce; Intelligence and Advertising in E-Commerce), • advanced topics of E-Commerce (B2B E-Commerce; Legally and technically securing E-Commerce; Ethical issues in E-Commerce).	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstration of in-depth knowledge of the foundations of Electronic Commerce, • Proof of an understanding of relevant issues in Electronic Commerce and ability to apply the knowledge to specific problems.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Manuel Trenz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 5
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module B.ÖSM.225: DNA Technologies for Ecosystem Monitoring**	6 C 5 WLH

Learning outcome, core skills: An ability to understand and define what constitutes a population of a given species is of criticial importance if one is to soundly manage and monitor the future of that species. Measures of genetic diversity, gene flow and coalescent theorey are some of the tools that molecular biology can bring to a modern management strategy for a population of interest, and more broadly, to ecosystems. This course will introduce students to some of these basic population genetic methodologies. Integrative key competencies: teamwork; good scientific practice; safety in the lab, learning lab and bioinformatic protocols.	**Workload:** Attendance time: 70 h Self-study time: 110 h

Course: DNA Technologies for Ecosystem Monitoring (Lecture, Practical course) *Contents*: The course includes lectures and a laboratory-based component which will introduce students to molecular techniques such as DNA isolation, PCR, microsatellite amplification and mtDNA haplotype amplification. There will also be a bioinformatic component that will allow students to analyse typical population scale datasets. Students will work in groups of 2-3 on laboratory exercises and present a final lab based report.	5 WLH

Examination: Lab book (max. 15 pages) **Examination prerequisites:** Regular attendance **Examination requirements:** Completed lab book, course participation, evidence of understanding major concepts communicated during the course, completed bioinformatic analyses of your own dataset.	6 C

Examination requirements: Completed lab book, course participation, evidence of understanding major concepts communicated during the course, completed bioinformatic analysis of dataset.	

Admission requirements: none	**Recommended previous knowledge:** A basic understanding of biology
Language: English	**Person responsible for module:** Prof. Dr. Daniel Jackson Dr. Nicolas Cerveau
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Additional notes and regulations:

The course will be held in English, so students should have a basic ability to understand, read and write in English.

Georg-August-Universität Göttingen **Module M.AS.01: Advanced Cultural and Media Studies**	9 C 4 WLH

Learning outcome, core skills: Students • acquire profound knowledge in North American media and cultural studies • are able to approach a text analytically and practically with the systematical-theoretical parameters of the discipline • use diachronic and synchronic approaches to "Advanced American Cultural Studies" and are thus enabled to describe, analyze and assess cultural problems • analyze and interpret non-literary media in North American cultural history from the perspective of cultural and media studies	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Cultural studies seminar "Advanced American Cultural History and Rhetoric" or an equivalent course in another subject (Seminar)	2 WLH
Examination: 2 take home exams (max. 2000 words each) (max. 4000 words) (max. 4000 words)	5 C

Course: Introductory seminar in culture theory or media studies (Seminar)	2 WLH
Examination: Oral Presentation (approx. 30 minutes)	4 C

Examination requirements: Students must be able to analyze and interpret both literary and non-literary texts in an academically complex and elaborate manner; students must be able to develop and present their own ideas for research	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.AS.02: American Literature**	11 C 4 WLH

Learning outcome, core skills: Students	**Workload:** Attendance time: 56 h Self-study time: 274 h
- acquire advanced knowledge in North American literary and cultural theory and history - are able to approach a text analytically and critically with the systematical-theoretical parameters of the discipline in order to analyze complex research problems on an advanced theoretical level - develop, expand and validate their own research theses and assumptions based on literary and cultural theory as well as literature and cultural history pertaining to North American Studies - present and discuss their research results on an advanced academic level, both in oral and in written form	

Course: Advanced Literature and Cultural Theory Analysis (Seminar)	2 WLH
Examination: Term Paper (max. 7500 words)	6 C

Course: Advanced Literature and Cultural Theory Analysis (Seminar)	2 WLH
Examination: 2 essays (max. 2000 words each) (max. 4000 words) (max. 4000 words)	5 C

Examination requirements: Students are familiar with topic-related literary and cultural theory; they are capable of analyzing and interpreting texts in a context- and theory-based manner and of transferring knowledge; they are able to approach and analyze secondary literature independently and critically; they are capable of phrasing complex research theses as well as discussing them critically	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.AS.03a: Cultural History of American Literature I**	12 C 4 WLH

Learning outcome, core skills: Students - acquire comprehensive knowledge in literary and cultural history by studying the major works of seminal periods in North American literary history - critically describe and compare texts, key concepts and theories of epochs - apply advanced methods of text analysis and interpretation	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: 1st lecture on the cultural history of American literature and, addressing one of four epochs (Lecture)	2 WLH
Examination: Written examination (120 minutes)	6 C

Course: 2nd lecture on the cultural history of American literature, addressing one of four epochs (Lecture) If a student registers for module M.AS.03b, it is mandatory that the epochs in module M.AS.03a and module M.AS.03b are not the same.	2 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: Comprehensive knowledge about one epoch in North American cultural history of literature; critical reflection of the aesthetic developments, the major works, and the cultural contexts of the epoch in question	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester; one of the epochs is offerd each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.AS.03b: Cultural History of American Literature II**	6 C 2 WLH

Learning outcome, core skills: Students - acquire comprehensive knowledge in literary and cultural history by studying the major works of seminal periods in North American literary history - critically describe and compare texts, key concepts and theories of epochs - apply advanced methods of text analysis and interpretation	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: lecture on the cultural history of American literature (Lecture) If a student has already completed module M.AS.03a, it is mandatory that the epochs in module M.AS.03a and module M.AS.03b are not the same.	2 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: Students must be able to critically engage with texts and key concepts of the epoch in question; comprehensive knowledge about on epoch in North American cultural history of literature; critical reflection of the aesthetical developments, the major works, and the cultural contexts of the epoch in question.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: jedes Semester (4-semestriger Zyklus: jedes Semester wird eine von vier Epochen angeboten)	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.AS.04: North American Studies (Degree Course)**	6 C 4 WLH

Learning outcome, core skills: Students - acquire comprehensive and profound detailed literary and cultural knowledge in the field of North American Studies - can critically engage with diachronic and synchronic parameters of the discipline; students can employ and assess the tools, discourses, and parameters of North American literary and cultural studies; the can critically reflect on research problems - independently engage with, reflect on as well as apply interdisciplinary methods and questions of research	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced seminar in North American Studies (Seminar)	2 WLH
Course: Colloquium in North American Studies	2 WLH
Examination: Oral examination (approx. 25 minutes)	6 C

Examination requirements: Subject-specific and advanced knowledge of theories, methods and the literary and cultural history of North American Studies; the ability to present research concepts concerning individual authors, texts and key concepts and projects, critically approach and assess authors, texts, and key concepts of an epoch or a field in media/cultural theory.	

Admission requirements: M.AS.01, M.AS.02	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Agr.0005: Crop Production and Grassland Management**	6 C 4 WLH

Learning outcome, core skills:	Workload:
The students learn to analyze and discuss traditional and actual problems in crop and grassland science. In seminars, students critically review articles about on current agronomic research questions and discuss their evaluation report with other students.	Attendance time: 56 h Self-study time: 124 h

Course: Allgemeiner Pflanzenbau und Graslandwirtschaft (Lecture) *Contents*: Principles of sustainable agricultural land use, nutrient supply and soil conservation, crop rotations, plant growthand yield formation, phenological development, water and energy balances in crops and grassland, yield determining factors, crop and pasture management, resource use efficiency, analysis of agricultural systems, competition and symbiosis, quality of harvested productsReview: criteria for evaluating scientific articles, presentation of an own review of a research article and discussion of the reviewwith the other students and the lecturers.	4 WLH
Examination: Written exam (45 minutes; 65%) and term paper (max. 5 pages; 35%) **Examination requirements:** Advanced knowledge of plant development and growth processes, of resource use and resource use efficiencies in plant production systems and of the impacts of abiotic and biotic stress factors on plant canopies, basic knowledge in systems analysis, detailed knowledge of principles of the scientific practice and of criteria for scientificresearch, basic knowledge about article writing and article reviewing. The exam will be bi-lingual (German + English). The term paper can be prepared in either German or English.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Stefan Siebert
Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Agr.0020: Genome Analysis and Application of Markers in Plantbreeding**	6 C 4 WLH

Learning outcome, core skills: Studierende erlernen ihre Kenntnisse in klassischer Genetik auf Problemlösungen in züchterischen Situationen anzuwenden. Studierende erlernen selbständig sich Kenntnisse im Umgang mit großen Datensätzen anzueignen und sich in entsprechende Software einzuarbeiten.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Genome analysis and application of markers in plantbreeding (Lecture, Exercise) *Contents*: Überblick über verschiedene Typen von molekularen Markern. Schätzung von genetischen Distanzen. Grundlagen der klassischen Genetik zur Kopplungsanalyse. Konstruktion von Kopplungskarten. Markergestützte Rückkreuzung. Kartierung von QTL: Theorie und praktische Übungen mit großen Datensätzen aus früheren Experimenten. Grundlagen der Bioinformatik: Vergleich von DNA Sequenzen.	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Abgabe der Lösung von Übungsaufgaben **Examination requirements:** Grundlagenkenntnisse in klassischen und molekularen Methoden der Kartierung von Genen. Basiskenntnisse im Einsatz molekularer Marker in der Pflanzenzüchtung.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Timothy Mathes Beissinger
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Agr.0094: Basics of Molecular Biology in Crop Protection**	6 C 4 WLH

Learning outcome, core skills: Comprehension about important scientific plant pathogen detection methods like ELISA and PCR used in agriculture, knowledge about biochemical and molecular basics in plant breeding and genetic resistance against plant pathogens.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Basics of molecular biology in crop protection (Lecture) *Contents*: In agricultural research and diagnostics there is an increasing use of biochemical and molecular methods and techniques. The lecture conveys the scientific basics that are required for the understanding of these methods and prepares students for further practical courses and lectures. Specific contents are: cytology, cell-wall composition of different organisms, structure and function of different macromolecules (proteins, DNA, carbohydrates), function and regulation of enzymes, DNA-replication, transcription and translation, mechanisms of regulation, intruduction into principles of molecular detection methods, lipids and membranes, phytohormones and selected secondary metabolites.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Composition of macromolecules, output materials, typical molecular binding types, function, regulatory mechanisms on protein and nucleic acid level, phytohormones, secondary metabolism.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Mark Varrelmann
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Agr.0106: China Economic Development: From an Agricultural Economy to an Emerging Economy**	6 C 4 WLH

Learning outcome, core skills: The students learn more about the specificities of China's economic transformation as well as the underlying economic concepts.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: China Economic Development: From an agricultural economy to an emerging economy (Lecture, Seminar) *Contents*: The lecture is designed for master students enrolled at the University of Göttingen. The course covers experiences and lessons to be drawn from China's economic transformation, by explaining the root causes for a shift from an agriculturally dominated to an emerging economy.	4 WLH
Examination: Presentation (about 25 minutes, 50%) and homework (max 15 pages, 50%) **Examination requirements:** Presentation and critical discussion of a scientific aspect of China's economic transformation.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Xiaohua Yu
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.Agr.0111: Applied Equilibrium Models for Agri-Food Markets**	6 C

Learning outcome, core skills: Good background in micro-economic theory; Presentation of scientific results from literature review including technical details of model formulations; Critical analysis and discussion of modeling results; Interest to learn and to apply the economic modeling software GAMS.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Applied Equilibrium Models for Agri-Food Markets (Block course, Exercise, Seminar) *Contents*: The seminar will introduce to the application of partial (PE) and general (GE) equilibrium models for agricultural and food markets. The first part of the course on PE models will provide a stepwise development of a multimarket model for agricultural and processed food products, and will provide the basis for the development of a general equilibrium model in the second part. Models developed in this seminar will be formulated in GAMS. Along with the technical instruction, various policy simulations of the models developed will provide students with hands-on experience. This experience will be extended by a literature review of existing model analyses (AGLINK, FAPRI, ESIM). The seminar will be held in English.	WLH
Examination: Oral Presentation (approx. 20 minutes) **Examination requirements:** Presentation and discussion of modeling results in English. Understanding of principles of equilibrium models for agri-food markets.	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Dr. Martin Banse
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Agr.0118: Applied Microeconometrics**	6 C 4 WLH

Learning outcome, core skills: Learn the basic logics behind each econometric model, understand the tests for model specification, and appropriately explain the model outputs in connection to economic theories.	**Workload:** Attendance time: 40 h Self-study time: 140 h

Course: Applied Microeconometrics" (Internship, Lecture, Seminar) *Contents*: This course mainly teaches how to correctly apply basic econometric models to studying specific research questions for master level students in agricultural economics, agribusiness, and related programs at the University of Goettingen. The main software package used in this course will be STATA.	4 WLH
Examination: Written examination (120 minutes, 70%) and term paper (max. 12 pages, 30%) **Examination requirements:** 1. Understand the econometric models taught in the class 2. Use Stata skillfully	6 C

Admission requirements: Ökonometrie I / Econometrics I	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Xiaohua Yu
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.Agr.0148: Policy Analysis of International Agri-environmental Schemes**	6 C 4 WLH

Learning outcome, core skills: Students gain essential knowledge on the analysis of policy instruments in agri-environmental systems and are capable to apply selected methods and criteria for policy analysis.	**Workload:** Attendance time: 40 h Self-study time: 140 h

Course: Policy analysis of international agri-environmental schemes (Seminar) *Contents*: This module is aimed at analyzing public policies in agri-environmental schemes. The module will • Outline the role of agriculture for positive and negative environmental externalities, e.g. biodiversity loss, climate change, multi-functionality of agriculture • Introduce into governance and policy processes of agri-environmental schemes • Give an overview of policy instruments, such as economic incentives and environmental standards and regulation • Present criteria and methodologies to conduct policy analysis Students will subsequently conduct a small policy analysis of their own interest in the field of agri-environmental policy and incentive instruments (national, EU-level or international level), e.g. EU-CAP, PES schemes, carbon markets in agriculture, sustainability standards, environmental financing, or land-use planning.	4 WLH
Examination: Presentation (approx. 25 min; 30%) and term paper (max. 20 pages; 70%) **Examination requirements:** Students write a seminar paper on the analysis of specific agri-environmental policy measures applying selected evaluation criteria and methods. Subsequently, they present and discuss their findings in class.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Agr.0124: Environmental Economics and Policy
Language: English	**Person responsible for module:** Prof. Dr. Meike Wollni
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 2 - 3
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module M.Agr.0156: Microfinance for the Rural Poor: A Business Class	

Learning outcome, core skills:	**Workload:**
Students learn concepts of different microfinance instruments, such as microcredit, microsaving, and microinsurance. Students can critically evaluate the potentials and drawbacks of microfinance tools for the rural poor. Designing their own business model, students learn how to properly • work in groups • brainstorm an idea • pitch and argue for their business idea • write a business plan	Attendance time: 66 h Self-study time: 114 h

Course: Microfinance for the Rural Poor: A Business Class (Block course, Lecture) *Contents*: This module provides students with an overview of microfinance instruments. In groups, the students will be given case studies involving rural poor from different regions, facing different problems. The challenge is to apply a microfinance instrument to the respective case study, making it a business model. Being supported, the groups will need to create their own business idea, pitch and argue for it and write a business plan to prove it is a thought through idea.	
Examination: Presentation (approx. 20 minutes, 40%) and term paper (max. 12 pages, 60%) **Examination requirements:** Good knowledge about microfinance instruments (definition, criticism, and examples), Applying business ideas in among low-income population (difficulties and chances); Proper writing of a business plan/ argumentation of an idea).	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Mußhoff
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Agr.0195: Resourcing in Entrepreneurship**	6 C 2 WLH
Learning outcome, core skills: The goal of this seminar is to get an overview of diverse theoretical perspectives on resourcing in entrepreneurship based on scientific research papers. Students gain an analytical understanding of typical challenges entrepreneurs face throughout the founding process, focusing on resource acquisition. The strong research focus does not only enable students to identify, understand and see through common challenges, conflicts, and troubles throughout the entrepreneurship process and within entrepreneurial ecosystems, but also to discuss, evaluate, and question research findings and scientific debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h
Course: Resourcing in Entrepreneurship (Seminar) *Contents*: No doubt, Silicon Valley is one of the world's leading hubs for technological innovation. Pioneering companies like Google, Facebook or PayPal were founded by visionary entrepreneurs with growth ambition. Yet, despite the myth of a solitary genius tinkering in her garage, such entrepreneurial activities and innovations are only possible if diverse actors work together in manifold ways. Here, a major challenge becomes apparent: Although such entrepreneurial activities require manifold, comprehensive resources to work on innovative ideas, develop new products and grow an organization, in most cases, entrepreneurs do not have such necessary resources. In this course, we address this challenge from two perspectives. First, we focus on the role of networks during the entrepreneurship process since new ventures highly rely on resources from external actors. What kind of relationships do new ventures form? How do entrepreneurs form such network ties to acquire funding or first customers? How do their networks evolve throughout the founding process? Second, we focus on one relevant type of environment, providing resources for the founding process: entrepreneurial ecosystems. Not only entrepreneurs cluster in regions like Silicon Valley, London or Paris, but also investors, research universities, skilled work forces, mentors, and co-working spaces, creating a dynamic setting for technological innovation and high growth entrepreneurship. How do entrepreneurial ecosystems in different regions look like? How do they promote entrepreneurial activities?	2 WLH
Examination: thesis/anti-thesis presentation (approx. 5 min.), two mini-take-home exams (2 pages each), two reviews of mini-take-home exams **Examination requirements:** Students have to show that they are able to apply the theoretical concepts discussed in the seminar, reflect them	

critically, and develop practical implications rooted in a strong theoretical foundation. Students have to read and critically discuss scientific papers.

Admission requirements:	Recommended previous knowledge:
none	experience with discussing scientific papers or willingness to learn it
Language:	**Person responsible for module:**
English	Prof. Dr. Katharina Scheidgen
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.Agr.0197: Sustainability – Basics and Application**	6 C
Learning outcome, core skills: In this course, students will learn about the fundamental concepts and ideas that underpin sustainability on a global level. It aims at creating a deeper understanding of the fair use of resources and its challenges on local and global scale. Sustainable development is not only a difficult practical challenge but also a conceptual, political and moral problem. How can an understanding of the complexities help to shape approaches to solutions? Students will acquire discursive and reflective competencies. Students will work with local stakeholders and acquire practical insights for implementing sustainability in real-life applications.	**Workload:** Attendance time: 66 h Self-study time: 114 h

Course: **Sustainability – basics and application** (Internship, Lecture, Seminar,) Course: *Part 1 Sustainability basics* (Lectures and self-study) The first module part introduces students to sustainability concepts (environmental, social and economic), and sustainable development (SDGs). Building on these foundations, the main part of the module is practical. *Part 2 Sustainability application* (seminar, practical work and self-study) Students can choose one topic and work on a sustainability-related task in either interdisciplinary teams or local companies, NGOs and university projects. What is a particular sustainability challenge? What measures can help to realize sustainability goals and what trade-offs hinder the success of implementation. A seminar will be organized to present, discuss and reflect the practical work.	
Examination: oral presentation in the seminar (ca. 10min, 30%) and written report for practical part 2 (max. 10 pages, 70%) **Examination prerequisites:** Seminar attendance	6 C

Admission requirements: open for all faculties	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dr. Simone Pfeiffer (CBL, Centre of Biodiversity and Sustainable Land Use) Dr. Michaela Dölle (Faculty of Forest Sciences and Forest Ecology)
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 35	

Georg-August-Universität Göttingen **Module M.Ara.10: Islamic Culture, Past and Present**	8 C 2 WLH

Learning outcome, core skills: Participation in the module enables students to analyze topics from the realm of Islamic Culture independently and in detail. To this aim, they will learn to conduct research on, understand and interpret a given set of Arabic primary sources. They will be introduced to methods of historical, legal, critical and/or philological analysis, which they are to apply to a given set of research questions. The scope of the module encompassed Arabic texts from all historical periods of Islamic culture and all geographic regions of the Islamicate world. These texts will be studied in the context of current scholarly discussions and previous research results. The course will be taught in English.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Islamic Culture in Past and Present (Seminar)	2 WLH
Examination: Term Paper (max. 20 pages) **Examination prerequisites:** Regular participation	5 C

Course: Independent Studies (source work)	
Examination: Oral Presentation (approx. 20 minutes)	3 C

Examination requirements: Individual work and knowledge on a given topic from the fields of Islamic culture, based on Arabic sources and secondary literature.	

Admission requirements: 20 C Arabic or equivalent Arabic language proficiency	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Riem Spielhaus
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: The module can be credited in the area of key competences, especially by students of the Master programmes "Arabic Studies/Islamic Studies" and "Iranian and Persianate Studies".

Georg-August-Universität Göttingen **Module M.Ara.501: Advanced Reading and Discussion**	6 C 4 WLH

Learning outcome, core skills: In this module, students enhance their reading, comprehension, listening and speaking language skills. The course content is focused on reading different kinds of texts, of written expression, listening comprehension and especially active language practice in the form of discussions and presentations. The students are able to communicate orally and in writing. They are capable of analyzing the usage of Modern Standard Arabic and can actively use the language. The course will be taught in Arabic.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Reading Arabic texts	2 WLH
Course: Arabic conversation	2 WLH

Examination: Written examination (120 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Students should be able to understand complex Arabic texts, reproduce Arabic documents in their own words, and write Arabic texts independently.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: Arabisch	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: each winter semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ara.502: Master Colloquium**	4 C 1 WLH

Learning outcome, core skills: Students present and discuss the topic of their Master thesis. Here, both the advice of the instructor and the feedback from the other participants enable them to plan their academic project adequately in term of form, method and content. Special consideration is given to the challenge of demonstrating foreign language proficiency as well as presenting their subject of inquiry at the current state of research in the Master thesis.	**Workload:** Attendance time: 14 h Self-study time: 106 h

Course: Colloquium	1 WLH
Examination: Oral Presentation (approx. 30 minutes), not graded **Examination prerequisites:** regular participation **Examination requirements:** Preparation, presentation and discussion of a concept for the final thesis.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ara.506: Arabic Literature**	8 C 2 WLH

Learning outcome, core skills: In this module, students are taught how to analyze texts from the diverse Arabic literatures independently, consulting and utilizing sources for this purpose. They are introduced to Arabic poetry and prose of the past and the present. Text sources from different fields and genres of Arabic literature are studied, discussed and placed in the context of current scholarly debate. By writing a term paper, the students learn how to formulate an academic question pertaining to the given subject area and to deal with it on their own using sources and specialist literature.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral presentation (approx. 20 minutes) and term paper (max. 20 pages) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject concerning poetry and prose acquired independently by the study of Arabic sources and the secondary literature.	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ara.506a: Arabic Literature**	6 C 2 WLH

Learning outcome, core skills: In this module, students are taught how to analyze texts from the diverse Arabic literatures independently, consulting and utilizing sources for this purpose. They are introduced to Arabic poetry and prose of the past and the present. Text sources from different fields and genres of Arabic literature are studied, discussed and placed in the context of current scholarly debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject concerning poetry and prose acquired independently by the study of Arabic sources and the secondary literature.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ara.509: Advanced Arabic Reading and Writing**	6 C 2 WLH

Learning outcome, core skills: On successful completion of this module, students are able to understand complex Arabic texts, analyze them grammatically and translate them. They also have a good command of written Arabic (e.g. in translating texts from English into Arabic, reproducing or formulating their own texts in writing).	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language exercise	2 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** regular participation	6 C

Examination requirements: The ability to understand and translate complex Arabic texts, enhanced knowledge of Arabic grammar, active use of the written language.	

Admission requirements: M.Ara.501	**Recommended previous knowledge:** none
Language: Arabisch, English	**Person responsible for module:** Prof. Dr. Jens Scheiner
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ara.510: Islamic Culture, Past and Present**	8 C 2 WLH

Learning outcome, core skills: Participation in the module enables students to analyze topics from the realm of Islamic Culture independently and in detail. To this aim, they will learn to conduct research on, understand and interpret a given set of Arabic primary sources. They will be introduced to methods of historical, legal, critical and/or philological analysis, which they are to apply to a given set of research questions. The scope of the module encompassed Arabic texts from all historical periods of Islamic culture and all geographic regions of the Islamicate world. These texts will be studied in the context of current scholarly discussions and previous research results. The course will be taught in English.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Islamic Culture in Past and Present (Seminar)	2 WLH
Examination: Term Paper (max. 20 pages) **Examination prerequisites:** regular participation	5 C

Course: Independent Studies	
Examination: Oral Presentation (approx. 20 minutes)	3 C

Examination requirements: Individual work and knowledge on a given topic from the fields of Islamic culture, based on Arabic sources and secondary literature.	

Admission requirements: 20 C Arabic or equivalent Arabic language proficiency	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Jens Scheiner
Course frequency: Infrequently	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: The module can be credited in the area of key competences, especially by students of the Master programmes "Arabic Studies/Islamic Studies" and "Iranian and Persianate Studies".

Georg-August-Universität Göttingen **Module M.Ara.601: Methods and Theories in Arabic-Islamic Studies**	8 C 2 WLH

Learning outcome, core skills:	Workload:
Students deepen their knowledge of methods and theories used in the current discourses of Arabic and Islamic studies. These research approaches and tools are explored with regard to Arabic primary sources, modern research studies, audiovisual evidence as well as information available on the internet, and will be analyzed in the context of the Middle East. Students will thus be able to reflect critically on the intellectual trajectories and historical dimensions of current political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates. Students write a term paper, by which they demonstrate the ability to deal academically with questions pertaining to the given subject areas, based on their knowledge of Arabic primary sources and the specialist secondary literature.	Attendance time: 28 h Self-study time: 212 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral presentation (approx. 20 minutes) and term paper (max. 20 pages) **Examination prerequisites:** regular participation **Examination requirements:** Students will be able to engage in methodological and theoretical discussions based on the analysis of textual and audiovisual evidence.	8 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations:
Das Modul M.Ara.601 kann nicht gemeinsam mit dem Modul M.Ara.601a belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.601a: Methods and Theories in Arabic-Islamic Studies**	6 C 2 WLH

Learning outcome, core skills: Students deepen their knowledge of methods and theories used in the current discourses of Arabic and Islamic studies. These research approaches and tools are explored with regard to Arabic primary sources, modern research studies, audiovisual evidence as well as information available on the internet, and will be analyzed in the context of the Middle East. Students will thus be able to reflect critically on the intellectual trajectories and historical dimensions of current political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Course: Independent Studies	
Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Students will be able to engage in methodological and theoretical discussions based on the analysis of textual and audiovisual evidence.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.601a kann nicht gemeinsam mit dem Modul M.Ara.601 belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.602: Hadith Studies**	8 C 2 WLH

Learning outcome, core skills:	**Workload:**
Students are familiarized with Hadith studies and learn how to apply the *isnad-cum-matn* analysis. This innovative analytical tool in Islamic Studies combines the investigation of the transmission (*isnads*) and the content (*matns*) of prophetic traditions. Students are introduced to the theoretical foundations, research history and most important Arabic Hadith compendia. Various sources from the field of Hadith and bio-biographical dictionaries are studied and placed in the context of current scholarly debates. Students will thus be able to critically reflect the intellectual trajectories and historical dimensions of political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates. Students write a term paper, by which they demonstrate the ability to deal academically with questions pertaining to the given subject areas, based on their knowledge of Arabic primary sources and the specialist secondary literature.	Attendance time: 28 h Self-study time: 212 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral presentation (approx. 20 minutes) and term paper (max. 20 pages) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject related to Hadith studies and isnad-cum-matn analysis acquired independently by the study of Arabic primary sources and the secondary literature.	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Jens Scheiner
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.602 kann nicht gemeinsam mit dem Modul M.Ara.602a belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.602a: Hadith Studies**	6 C 2 WLH

Learning outcome, core skills: Students are familiarized with Hadith studies and learn how to apply the *isnad-cum-matn* analysis. This innovative analytical tool in Islamic Studies combines the investigation of the transmission (*isnads*) and the content (*matns*) of prophetic traditions. Students are introduced to the theoretical foundations, research history and most important Arabic Hadith compendia. Various sources from the field of Hadith and bio-biographical dictionaries are studied and placed in the context of current scholarly debates. Students will thus be able to critically reflect the intellectual trajectories and historical dimensions of political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject related to Hadith studies and isnad-cum-matn analysis acquired independently by the study of Arabic primary sources and the secondary literature.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Jens Scheiner
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.602a kann nicht gemeinsam mit dem Modul M.Ara.602 belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.603: Ethics and Education in Islam**	8 C 2 WLH

Learning outcome, core skills: Students learn to analyze issues relating to ethics and education in Islam while utilizing an array of Arabic primary sources and modern research studies. They are made familiar with the theoretical framework of research on moral concepts, the perception of knowledge (in its interaction with faith) and learning in Islam, and connect respective thematic questions to philological-historical analysis. Textual sources from different areas of Islam's intellectual history (esp. 7th-15thcentury) are studied in detail and examined in due consideration of current scholarly debates. Students will thus be able to critically reflect the intellectual trajectories and historical dimensions of political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates. Students write a term paper, by which they demonstrate the ability to deal academically with questions pertaining to the given subject areas, based on their knowledge of Arabic primary sources and the specialist secondary literature.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral presentation (approx. 20 minutes) and term paper (max. 20 pages) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject relating to ethics and education in Islam, acquired independently by the study of Arabic primary sources and the secondary literature.	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.603 kann nicht gemeinsam mit dem Modul M.Ara.603a belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.603a: Ethics and Education in Islam**	6 C 2 WLH

Learning outcome, core skills: Students learn to analyze issues relating to ethics and education in Islam while utilizing an array of Arabic primary sources and modern research studies. They are made familiar with the theoretical framework of research on moral concepts, the perception of knowledge (in its interaction with faith) and learning in Islam, and connect respective thematic questions to philological-historical analysis. Textual sources from different areas of Islam's intellectual history (esp. 7th-15th century) are studied in detail and examined in due consideration of current scholarly debates. Students will thus be able to critically reflect the intellectual trajectories and historical dimensions of political, religious, and social discourses in Islamicate societies and productively apply this knowledge to current Islam-related debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject relating to ethics and education in Islam, based on independent study of Arabic primary sources and the secondary literature.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Günther
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.603a kann nicht gemeinsam mit dem Modul M.Ara.603 belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.604: Secular Modernity and Islam**	8 C 2 WLH

Learning outcome, core skills: Students learn how to analyze a subject related to secular modernity in the Arab world independently while consulting and utilizing respective sources for this purpose. They are introduced to the theoretical foundations of research on secular modernity and Islam and combine questions relating to secular modernity with philological analysis. Text sources from different fields of the Arabic intellectual history (from the late 19th century to the present) are studied, discussed and placed in the context of current scholarly debates. The students thus deepen their intercultural competences and acquire a profound understanding of contemporary religious, political and cultural discourses in Islamicate societies, which enables them to critically analyze media discourses on Islam and take an informed approach to respective public debates. Students write a term paper, by which they demonstrate the ability to deal academically with questions pertaining to the given subject areas, based on their knowledge of Arabic primary sources and the specialist secondary literature.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Seminar	2 WLH
Course: Independent Studies	

Examination: Oral presentation (approx. 20 minutes) and term paper (max. 20 pages) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject related to secular modernity in the Arab world acquired independently by the study of Arabic primary sources and the secondary literature.	8 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Das Modul M.Ara.604 kann nicht gemeinsam mit dem Modul M.Ara.604a belegt werden.

Georg-August-Universität Göttingen **Module M.Ara.604a: Secular Modernity and Islam**	6 C 2 WLH

Learning outcome, core skills:	Workload:
Students learn how to analyze a subject related to secular modernity in the Arab world independently while consulting and utilizing respective sources for this purpose. They are introduced to the theoretical foundations of research on secular modernity and Islam and combine questions relating to secular modernity with philological analysis. Text sources from different fields of the Arabic intellectual history (from the late 19th century to the present) are studied, discussed and placed in the context of current scholarly debates. The students thus deepen their intercultural competences and acquire a profound understanding of contemporary religious, political and cultural discourses in Islamicate societies, which enables them to critically analyze media discourses on Islam and take an informed approach to respective public debates.	Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Course: Independent Studies	
Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of a subject related to secular modernity in the Arab world acquired independently by the study of Arabic primary sources and the secondary literature.	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations:
Das Modul M.Ara.604a kann nicht gemeinsam mit dem Modul M.Ara.604 belegt werden.

Georg-August-Universität Göttingen **Module M.Bio.141: General and applied microbiology**	3 C 3 WLH

Learning outcome, core skills:	Workload:
Learning outcome: Evolution and phylogenetic system; morphology and cell biology; communities and biocoenosis of bacteria and archaea; gene expression and molecular control (transcription, translation); posttranslational control, protein stability and proteomics; genetic networks; molecular switches and signal transduction; microbial developmental biology; mechanisms of pathogenicity of important pathogens; development of new antimicrobial agents; diversity of the metabolism in bacteria and archaea as basis for biotechnological applications; industrial microbiology. **Core skills:** Knowledge of microorganisms relevant for biotechnology and medicine, ability to identify these organisms and to analyse them with molecular methods.	Attendance time: 42 h Self-study time: 48 h

Course: lecture: General and applied microbiology (Lecture)	3 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements:	
detailed knowledge in cell biology, biochemistry and genetics of procaryotic microorgansims	

Admission requirements: can't be combined with core module M.Bio.101	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Jörg Stülke
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen	3 C
Module M.Bio.142: Molecular genetics and microbial cell biology	3 WLH

Learning outcome, core skills:	Workload:
Advanced knowledge of Molecular Genetics and microbial cell biology through case studies of model systems of molecular mycology (yeasts and filamentous fungi). Acquisation of knowledge up to the "Review" level in one topic.	Attendance time: 42 h Self-study time: 48 h

Course: **Molecular genetics and microbial cell biology** (Lecture)	3 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements:	
detailed knowledge in cell biology, biochemistry and genetics of eucaryotic microorgansims	

Admission requirements:	Recommended previous knowledge:
Can´t be combined with core module M.Bio.102 or key competence module M.Bio.172.	• Watson, Molecular Biology of the Gene, Pearson, 7th Edition • Alberts, Molecular Biology of the Cell, Garland, 5th Edition
Language: English	**Person responsible for module:** Prof. Dr. Gerhard Braus
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen	3 C
Module M.Bio.144: Cellular and molecular biology of plant-microbe interactions	3 WLH

Learning outcome, core skills:	Workload:
Introduction into theory and methods for the analysis of plant-microbe interactions on the cell biological and molecular level.	Attendance time: 42 h Self-study time: 48 h

Course: lecture: **Plant-microbe-interactions** (Lecture)	3 WLH
Examination: Written examination (54 minutes)	3 C

Examination requirements:	
knowledge of basic concepts in plant-microbe-interactions	

Admission requirements:	Recommended previous knowledge:
Can´t be combined with core module M.Bio.104	none
Language: English	**Person responsible for module:** Prof. Dr. Christiane Gatz Prof. Dr. Volker Lipka
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

| Georg-August-Universität Göttingen | 3 C |
| **Module M.Bio.156: Structural biochemistry** | 3 WLH |

| **Learning outcome, core skills:** | **Workload:** |
| Methods in Structural Biology,structure and function of biological macromolecules. Structure and folding of proteins, structure-function relationships, protein-protein and protein-nucleic acid complexes. Structure-based drug-design | Attendance time: 42 h Self-study time: 48 h |

| **Course: lecture: Structural Biology** (Lecture) | 3 WLH |
| **Examination: Written examination (90 minutes)** | 3 C |

| **Examination requirements:** | |
| The students show that they know the basics of structural biology. They are familiar with biochemical and analytical methods in protein and macromolecular complex- analysis. They have deepened knowledge about selected proteins and protein complexes. The students know the basics in structural resolution and structural characteristics of proteins. | |

Admission requirements: can't be combined with M.Bio.105	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ralf Ficner
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Bio.157: Biochemistry and biophysics**	3 C 3 WLH

Learning outcome, core skills: Molecular biochemistry and biophysics of different classes of biomolecules, plant primary and secondary metabolism, lipid metabolism, lipids as signal molecules and secondary metabolites, biotechnological utilization and modification of storage substances, enzymes of lipid metabolism, modern biophysical methods for analysis of biomolecules Handling of state of the art equipment, critical dealing with current biochemical topics, detailed analysis of experiments and their presentation. Independent acquisition of professional knowledge from publications by active participation in the seminar.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: lecture: Biochemistry and Biophysics (Lecture)	3 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: • basic knowledge of different classes of biomolecules and their metabolism • knowledge about spectroscopy of molecules • biotechnologic techniques using plants	

Admission requirements: can't be combined with M.Bio.106	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ivo Feußner
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Bio.158: Enzyme catalysis and biological chemistry**	3 C 3 WLH

Learning outcome, core skills: Catalytic mechanisms of enzymes, mechanisms of macromolecular complexes, biocatalysis, kinetics und thermodynamics of biochemical reactions, chemical model systems of enzymes, synthesis of biooligomers, synthesis of ligands, ligation techniques, array technologies	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: lecture: Enzyme Catalysis and Chemical Biology (Lecture)	3 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: • knowledge about kinetics and thermodynamics of biochemical reactions • knowledge about different organic synthesis mechanisms • knowledge about catalytic mechanisms of enzyme	

Admission requirements: can't be combined with M.Bio.107	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kai Tittmann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Bio.344: Neurobiology 1 (key competence module)**	3 C 2 WLH

Learning outcome, core skills: Profound knowledge of essential techniques in molecular, cellular and systemic neuroscience and their application.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: From gene to behavior (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements: Theoretical knowledge of the basic methods in neuroscience based on the contents of the lecture.	

Admission requirements: can't be combined with module M.Bio.304	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Martin Göpfert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 27	

Georg-August-Universität Göttingen **Module M.Bio.348: Human genetics (key competence module)**	6 C 4 WLH

Learning outcome, core skills: Profound knowledge of specific human genetic aspects and principles of research in human genetics. Understanding of the methods for identification, analysis and manipulation of genes and gene functions. Basic insights into the structure and function of the human genome. Critical analysis of results from scientific publications. Scientific presentation and discussion of data.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Human genetics (Lecture)	2 WLH

Course: Modern Aspects of Human Genetics (Seminar) *Course frequency:* each semester	1 WLH
Course: Tumor genetics (Seminar) active participation in both seminar series	1 WLH

Examination: written examination (60 min) and two oral presentations (ca. 45 min)	6 C

Examination requirements: Profound knowledge of specific aspects and the basic principles in human genetic research. Analysis and presentation of scientific data.	

Admission requirements: can't be combined with key competence module M.Bio.369	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. rer. nat. Anja Uhmann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Bio.359: Development and plasticity of the nervous system (lecture)**	3 C 2 WLH

Learning outcome, core skills: The basics of the development and plasticity of the vertebrate nervous system are presented. Special emphasis is on the 3 following subjects: i) early development of the nervous system (induction and pattern formation, formation and survival of nerve cells, development of specific axonal projections, synaptogenesis), ii) developmental plasticity (experience- and activity-dependent development of the brain, critical periods) and iii) adult plasticity and regeneration (learning-induced plasticity, cellular mechanisms of plastic changes, neurogenesis, therapies after brain lesions). Deepened knowledge, up-to-date research results and understanding of scientific approaches in the field of the development and plasticity of the nervous system.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: lecture: Development and plasticity of the nervous system (Lecture)	2 WLH
Examination: Oral examination (approx. 15 minutes)	3 C

Examination requirements: Profound knowledge of recent reserach and understanding of scientific methods in the field of development and plasticity of the nervous system.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Siegrid Löwel
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 35	

Georg-August-Universität Göttingen Module M.Bio.360: Development and plasticity of the nervous system (seminar)	3 C 2 WLH

Learning outcome, core skills:	Workload:
The students learn to present up-to-date publications on the development and plasticity of the nervous system and to discuss the results critically in a seminar report. Deepened knowledge, up-to-date research results and understanding of scientific approaches in the field of the development and plasticity of the nervous system. Critical discussion of up-to-date literature, scientific debate, sharpening of critical thought, promotion of multidisciplinarity. Training in presentation techniques and scientific writing.	Attendance time: 28 h Self-study time: 62 h

Course: seminar: Development and plasticity of the nervous system (Seminar)	2 WLH
Examination: oral presentation (~ 20 min) and essay (~ 8 pages)	3 C

Examination requirements:	
Profound knowledge of recent research and scientific methods in the field of development and plasticity of the nervous system.	

Admission requirements: attendance of M.Bio.359	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Siegrid Löwel
Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Bio.366: Introduction to behavioral biology (key competence module)**	3 C 3 WLH

Learning outcome, core skills: Profound knowledge of basic concepts in behavioral biology with special emphasis on behavioral ecology, sociobiology and cognition. Special consideration of the quantitative aspect of behavioral research. Students are able to present and discuss scientific issues in written form.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Introduction to behavioral biology (Lecture)	2 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: Profound knowledge of basic concepts and the quantitative aspect of behavioral research	

Admission requirements: can't be combined with core module M.Bio.306 or key competence module M.Bio.346	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Julia Ostner
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 4	

Georg-August-Universität Göttingen	3 C
Module M.Bio.369: Human genetics (key competence module)	2 WLH

Learning outcome, core skills:	**Workload:**
Profound knowledge of specific human genetic aspects and principles of research in human genetics. Understanding of the methods to identify, analyze and manipulate genes and their function. Basic insights into the structure and function of the human genome.	Attendance time: 28 h Self-study time: 62 h

Course: Human genetics (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements:	
Profound knowledge of specific aspects and the basic principles in human genetic research.	

Admission requirements: can't be combined with key competence module M.Bio.348	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. rer. nat. Anja Uhmann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Bio.392: Current Developmental Biology**	6 C 4 WLH

Learning outcome, core skills: Learning objectives: In depth knowledge of theoretical principles in developmental genetics, biochemistry, and biology as well as of practical methodology in analyzing morphogenetic and pattern formation processes. Understanding of methods to identify and analyze gene function as well as manipulate embryos. Knowledge of databases for *in silico* sequence analysis and model system specific databases. Insights into the evolution of developmental processes.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Developmental biochemistry, genetics, and biology (Lecture)	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** Oral presentation of a publication (ca. 20 min)	6 C

Course: Exercises to and consolidation of lecture contents (tutorial)	1 WLH

Course: Current Topics in Developmental Biology (Seminar)	1 WLH

Examination requirements: Advanced knowledge of principles in developmental genetics, biochemistry, and biology with emphasis on morphogenetic and pattern formation processes as well as focus on signal cascades and gene networks that control developmental processes. Understanding of techniques to identify, analyze, and manipulate the function of developmental genes as well as developmental processes. Knowledge of diverse model organisms with their strength and weaknesses. Application of this knowledge to new scientific questions.	

Admission requirements: cannot be combined with M.Bio.321 or M.Bio.393	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ernst A. Wimmer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 5	

Georg-August-Universität Göttingen **Module M.Bio.393: Current Developmental Biology**	3 C 3 WLH

Learning outcome, core skills:	Workload:
In depth knowledge of theoretical principles in developmental genetics, biochemistry, and biology as well as of practical methodology in analyzing morphogenetic and pattern formation processes. Understanding of methods to identify and analyze gene function as well as manipulate embryos.	Attendance time: 42 h Self-study time: 48 h

Course: Developmental biochemistry, genetics, and biology (Lecture)	2 WLH

Course: Exercises to and consolidation of lecture contents (tutorial)	1 WLH

Examination: Written examination (90 minutes)	3 C

Examination requirements: Advanced knowledge of principles in developmental genetics, biochemistry, and biology with emphasis on morphogenetic and pattern formation processes as well as focus on signal cascades and gene networks that control developmental processes. Understanding of techniques to identify, analyze, and manipulate the function of developmental genes as well as developmental processes. Knowledge of diverse model organisms with their strength and weaknesses. Application of this knowledge to new scientific questions.	

Admission requirements: cannot be combined with M.Bio.321 or M.Bio.392	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Ernst A. Wimmer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 5	

Georg-August-Universität Göttingen **Module M.Bio.394: Frontiers in Neural Development**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: In-depth knowledge of neural development of insects. In-depth knowledge of principles and mechanisms of neural development of vertebrates and insects (among others: regionalization of the neuroectoderm, axon guidance, synaptogenesis, neural stem cells, glia). Knowledge of the most important model systems for neuro-developmental biology. Basic insights into the evolution of neural development. In-depth knowledge of the most important experimental approaches in neuro-developmental biology. **Core skills:** Conception of experiments to answer scientific questions using modern methods.	Attendance time: 50 h Self-study time: 130 h

Course: Development and Evolution of the Nervous system (Lecture)	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** Presentation and discussion of self-developed experimental approaches	6 C

Course: Exercises and consolidation of lecture 'Development and Evolution of the Nervous system' (tutorial)	1 WLH

Course: Conception of experiments with modern methods (Seminar)	1 WLH

Examination requirements:	
Knowledge of the neural development of vertebrates and invertebrates. Knowledge of different model systems and their respective strengths and disadvantages. Knowledge of modern methods for the analysis of neural development. Applying this knowledge to new scientific questions (for example, designing experiments and discussing possible outcomes).	

Admission requirements: can't be combined with M.Bio.322 or M.Bio.395	**Recommended previous knowledge:** Basics in developmental biology (e.g. module M.Bio.321 or respective textbook chapters) Basics of vertebrate neural development (e.g. module M.Bio 359 or respective textbook chapters)
Language: English	**Person responsible for module:** Prof. Dr. Gregor Bucher
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students:	

5	

Georg-August-Universität Göttingen **Module M.Bio.395: Frontiers in Neural Development**	3 C 3 WLH

Learning outcome, core skills: In-depth knowledge of neural development of insects. In-depth knowledge of principles and mechanisms of neural development of vertebrates and insects (among others: regionalization of the neuroectoderm, axon guidance, synaptogenesis, neural stem cells, glia). Knowledge of the most important model systems for neuro-developmental biology. Basic insights into the evolution of neural development. In-depth knowledge of the most important experimental approaches in neuro-developmental biology.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Development and Evolution of the Nervous system (Lecture) can't be combined with M.Bio.322 or M.Bio.392	2 WLH
Course: Exercises and consolidation of lecture ‚Development and Evolution of the Nervous system' (tutorial)	1 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: Knowledge of the neural development of vertebrates and invertebrates. Knowledge of different model systems and their respective strengths and disadvantages. Knowledge of modern methods for the analysis of neural development.	

Admission requirements: can't be combined with M.Bio.322 or M.Bio.394	**Recommended previous knowledge:** Basics in developmental biology (e.g. module M.Bio.321 or respective textbook chapters) Basics of vertebrate neural development (e.g. module M.Bio 359 or respective textbook chapters)
Language: English	**Person responsible for module:** Prof. Dr. Gregor Bucher
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 5	

Georg-August-Universität Göttingen	6 C
Module M.Biodiv.402: Plant ecology and ecosystems research	4 WLH

Learning outcome, core skills:	**Workload:**
The students • acquire an overview of the most important habitats all over the world and their respective vegetation and ecology • acquire a global overview of the anthropogenous causes of ecosystem burdens • acquire profound knowledge of the habitats of exemplarily selected climate zones and their ecology • know basic correlations between climate, soil and vegetation on different continents • acquire profound knowledge on how the global change of land use and the global warming influence vegetation and ecosystem processes • are able to analyze topics of ecosystematic and global aspects of plant ecology independently and prepare a presentation of their findings	Attendance time: 56 h Self-study time: 124 h

Course: Plant ecology and ecosystems research (Lecture)	2 WLH
One lecture from following options: • M.Biodiv.402.1: Vegetation & ecology of the world • M.Biodiv.402.8: Ecosystems research, C-balance & global warming	

Course: Plant ecology and ecosystems research (Seminar)	2 WLH
One seminar from following options: • M.Biodiv.402.4: Current topics in plant ecology and nature conservation • M.Biodiv.402.6: Aut-and synecology of plants: The tropics • M.Biodiv.402.7: Influence of global change on ecosystem processes and diversity from temperate and boreal forests to tundra	

Examination: Written examination (90 minutes) **Examination prerequisites:** Oral presentation (max. 25 minutes)	6 C

Examination requirements: Understanding of the ecosystem and global perspectives of plant ecology and of consequences of climate change on ecosystems. Comprehension of the effects of land use change on species composition in the different vegetation zones of the earth.	

Admission requirements:	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Christoph Leuschner
Course frequency: each winter semester; 402.7 each summer semester	**Duration:** 1 - 2 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	
Maximum number of students: not limited	
	511

Georg-August-Universität Göttingen **Module M.Biodiv.403: Vegetation ecology and vegetation history**	6 C 4 WLH

Learning outcome, core skills: The students acquire knowledge and a profound understanding of temporal and spatial vegetation patterns; one focus lies on biomes, climate zones and other large-scale vegetation areas, another focus lies on biological and geobotanical principles and basics on different scale levels and in different natural environments. Perception and knowledge in basic and applied fields of advanced vegetation ecology, vegetation history, sociology and chorology of plants, conception and reception of scientific papers; presentation skills.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vegetation ecology and vegetation history (Lecture) One lecture from following options: • M.Biodiv.402.1 Vegetation & ecology of the earth • M.Biodiv.403.1 General and plant sociological vegetation ecology • M.Biodiv.403.2 General vegetation history of the earth	
Course: Vegetation ecology and vegetation history (Seminar) One seminar from following optionsl: • M.Biodiv.403.3: Applied vegetation ecology of the Mediterranean • M.Biodiv.403.4: Modern issues of vegetation science in agricultural landscapes • M.Biodiv.402.7: Influence of global change on ecosystem processes, matter fluxes and diversity in temperate and boreal forests towards the subarctic tundra	2 WLH
Examination: Seminar talk (ca. 30 minutes)	6 C

Examination requirements: Knowledge of temporal and spatial vegetation patterns with focus on biomes, climate zones and other large-scale vegetation areas.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Erwin Bergmeier Prof. Dr. Hermann Behling
Course frequency: each winter semester; 403.2 and 402.7 each summer semester	**Duration:** 1 - 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 16	

Georg-August-Universität Göttingen **Module M.Biodiv.404: Animal ecology**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
The lecture presents principles and theories of ecology and introduces current topics of ecological research. Topics include population ecology, interactions in animal communities, food webs, biodiversity and ecological theories. The seminar covers current topics of ecological and evolutionary research. In the seminar the students acquire advanced knowledge of methods and strategies to analyze ecological communities. Knowledge of ecological theories and modelling. Principles of animal populations and food webs. Experimental and statistical methods for the analysis of animal communities. Knowledge of current topics of animal ecological and evolutionary biology research.	Attendance time: 56 h Self-study time: 124 h

Course: Animal ecology (Lecture)	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** Oral presentation (ca. 20 minutes) **Examination requirements:** Knowledge of ecological principles and theories, population models. Functional responses, analysis and modelling of biotic interactions and food webs. Biodiversity and ecosystem functioning.	6 C

Course: Topics of animal ecology and evolution (Seminar)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Scheu
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.Biodiv.408: Primate ecology	8 WLH

Learning outcome, core skills:	**Workload:**
Lernziele:	Attendance time:
Kennenlernen ökologischer Prinzipien und Arbeitsweisen mit nicht-menschlichen	112 h
Primates als Modellorganismen	Self-study time:
Kompetenzen:	68 h
Planung und Durchführung ökologischer Studien; kritische Sichtung und Bewertung relevanter Literatur; kompetenter Umgang mit empfindlichen Geräten (Telemetrie)	

Course: Primate ecology (Lecture)	2 WLH

Examination: Written examination (90 minutes)	6 C
Examination prerequisites:	
Oral presentation (ca. 15 minutes)	
Examination requirements:	
Ökologische Kenntnisse, insbesondere von Primaten in ihren Wechselbeziehungen mit der Umwelt.; Kenntnis ökologischer Studien an Primaten; wissenschaftliche Darstellung von Untersuchungsergebnissen.	

Course: Primate ecology (Exercise)	6 WLH

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English, German	Prof. Dr. Eckhard W. Heymann
Course frequency:	**Duration:**
each summer semester; letztmalig im SoSe 23	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
12	

Georg-August-Universität Göttingen **Module M.Biodiv.412: Conservation biology**	6 C 4 WLH

Learning outcome, core skills: The module imparts the basic knowledge necessary to complete the advanced modules in Nature Conservation. Detailed knowledge is provided on the development of Conservation Biology as a scientific field (M.Biodiv.412-2), on current questions in Conservation biology on a global scale (M.Biodiv.412-1, 412-3, M. Agr 0089) and on Conservation Politics (M.Forst.1512). Core skills: Professional skills at the interface between conservation research, the development of conservation strategies and their realization under socio-political conditions. Knowledge of political decision-making under scientific and economical operation guidelines.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Conservation biology (Lecture) One lecture from the following options: • M.Biodiv.412-1: International nature conservation • M.Biodiv.412-2: The song of the Dodo - Origins of Conservation biology	2 WLH

Course: Conservation biology (Seminar) One seminar from the following options: • M.Biodiv.412-3: Botanischer Natur- und Umweltschutz • M.Forst.1512: Global environmental and forest policy • M.Agr.0089: Ökologisches Seminar	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** Seminar talk (max. 30 minutes)	6 C

Examination requirements: Knowledge from the scientific fields which form the basis of Conservation Biology, its history, Conservation Politics on a national and international scale and the political dimensions of Nature Conservation.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Johannes Kamp
Course frequency: each winter semester; 412-3 each summer	**Duration:** 1 - 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

The lecture 412-1 is open for students of the double degree programme at the partner universities. The sessions of this lecture might be conducted in a remote format like online video conference.

Georg-August-Universität Göttingen **Module M.Biodiv.415: Evolution: Evolutionary biology**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
The lecture "Evolutionary Biology" introduces the basics of the different elements of the theory of evolution, the mechanisms of evolution as well as the methods of evolutionary biology. The lecture is given by docents from the departments participating in the module "Evolutionary Biology". Therefore the lecture also provides insight into the working areas and research interests of the individual departments. The lecture "Phylogenetic Systematics" introduces the basics of the theory and methods of cladistics beginning with a historical insight into the biological classification approaches prior to Hennig. To this, adequate case examples are presented and contradictory hypotheses on the phylogeny of individual taxa are discussed. The lecture "Phylogeography" considers the relation between biogeography, population biology and ecology and the phylogeny of primates. Biogeographical aspects (adaptive radiations, isolations etc.) as codeterminants for the origin of species are highlighted. Acquisition of an overview of the mechanisms underlying the evolution of organisms and of the current state of knowledge of the origin of the biological diversity on earth.	Attendance time: 56 h Self-study time: 124 h

Course: M.Biodiv.415.1: Evolutionary biology (Lecture) You have to attend the lecture M.Biodiv.415.1 and one lecture of the following two: *Course frequency:* each winter semester	2 WLH
Course: M.Biodiv.415.3: Phylogeography (Lecture) *Course frequency:* each summer semester	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of the theory of evolution, the principles and mechanisms of evolution as well as of the methods of botanical and zoological evolutionary biological research.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basics in phylogenetic systematics are expected.
Language: German	**Person responsible for module:** Prof. Dr. Thomas Friedl
Course frequency: each winter semester: 415.1, 415.2; each summer semester: 415.3	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.Biodiv.419: Pro- and eucaryotic algae: Algae and lichens**	6 C 7 WLH

Learning outcome, core skills: The students have deepened knowledge of the diversity of eukaryotic algae and cyanobacteria as well as an overview of the structure and function of lichen symbiosis. They know the groups of organisms involved in lichen symbiosis as well as important morphological and anatomical characteristics of lichens, algae and cyanobacteria and they are able to identify selected mid-European foliose lichen through their shape. The students have basic knowledge of the gas, water and mineral metabolism of lichens as well as basic knowledge of the diversity and function of the secondary metabolites produced by lichens (lichen substances). They acquire knowledge of habitat ecology, of the endangerment of lichens and of the indicators of air quality through lichens. The students have practical experience with the microscopic study of freshwater algae from different types of waters. They have an overview of current topics of phycology and are able to present a current topic from the literature.	**Workload:** Attendance time: 98 h Self-study time: 82 h

Course: M.Biodiv.419-1 Biology of lichens (Lecture)	2 WLH
Course: M.Biodiv.419-2 Current topics in phykology (Seminar)	1 WLH
Course: M.Biodiv.419-3 Algae and lichens of the pre-Alps area (Excursion)	4 WLH

Examination: Written examination (60 minutes) **Examination prerequisites:** Oral presentation (max. 25 minutes) **Examination requirements:** Knowledge of the structure of lichen symbiosis and its ecology; overview of the diversity of foliose lichen and their role as an indicator for air quality: functions of lichen substances; endangerment of lichen biodiversity.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Thomas Friedl
Course frequency: each winter semester 419-1, 419-2; each summer semester 419-3	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.421: Plant ecology: Project course plant ecology**	6 C 8 WLH

Learning outcome, core skills:	Workload:
This module is meant for students who plan to write their master thesis on an ecological or vegetation scientific field. It is the aim of the module to impart the basics of scientific working, presenting and publishing in ecology. The module introduces to crucial aspects of experimental design, statistical analysis and graphical presentation of results as well as to the oral and written presentation of these results. The students acquire skills for scientific work in the field of plant ecology from the beginning of data analysis until the drafting of a scientific publication in English. Additionally, the oral presentation in English is practiced through presentation of a scientific paper.	Attendance time: 112 h Self-study time: 68 h

Course: Basics of the design, realization and interpretation of ecological research projectsand basics of writing scientific publications (Lecture)	1 WLH
Course: Scientific analysis and publication of plant ecological project data (Exercise)	7 WLH

Examination: Oral Presentationwritten report in form of a scientific manuscript based on project data (max. 15 pages) **Examination requirements:** Knowledge of the essential aspects of scientific working in plant ecology from the experimental design to a publication.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: German	**Person responsible for module:** Dr. Dietrich Hertel
Course frequency: each winter semester; Block course	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.422: Plant ecology: Carbondioxide and water balance of trees**	6 C 8 WLH

Learning outcome, core skills:	Workload:
The students • have deepened knowledge of the theoretical basis of the gas exchange and water balance of plants and how these processes depend on the environment • have theoretical and practical knowledge of modern measuring techniques used in the field of tree ecophysiology • have deepened knowledge of how global warming affects the ecophysiology of trees • are able to measure the photosynthetic capacity, leaf conductance, xylem sap flux, leaf water status and the microclimate of old and young trees outdoors • have practical experiences in conducting ecophysiological and microclimatic measurements on the Göttingen Canopy Walkway within the new botanical garden • can differentiate functional types of various tree species • are able to present the results of measurements on the carbon and water balance of plants in accordance with scientific standards in written and oral form	Attendance time: 112 h Self-study time: 68 h

Course: **Carbondioxide and water balance of trees** (Lecture)	2 WLH

Examination: Minutes / Lab report (max. 10 pages) **Examination prerequisites:** Oral presentation (max. 25 minutes) **Examination requirements:** Knowledge of the ecophysiology of trees with focus on carbon and water balance. Basics of the gas exchange of plants, especially photosynthesis and respiration. Knowledge of transpiration and the role of plants in the "soil-plant-atmosphere" continuum. Knowledge of xylem sap flux, leaf conductance and the driving abiotic climatic and edaphic variables.	6 C

Course: **Photosynthesis, respiration und transpiration** (Exercise)	6 WLH

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	Person responsible for module: Prof. Dr. Christoph Leuschner
Course frequency: each summer semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.423: Plant ecology: Study of habitats**	6 C 8 WLH

Learning outcome, core skills:	**Workload:**
The students • learn the most important theoretical and methodical basics of the modern plant ecological study of habitat. Focus lies on European beech forest communities which are ecologically most important in Central Europe • get an overview of the scientific vegetation classification of beech forests and get to know important abiotic habitat factors such as microclimate and morphological and chemical soil characteristics • learn different techniques for the assessment of vegetation composition and for the analysis of various habitat factors using the example of beech forests of different habitats. Several parameters for the ecological characterization of soil conditions (e.g. morphological characterization of different soil horizons, determination of soil type) as well as various microclimate factors will be analyzed and related with the respective vegetation • get to know modern lab methods (ion emission spectrometry (ICP), gas chromatography, etc.) for the physicochemical analysis of soil samples (pH value, carbon and nitrogen contents, concentration of plant available cations). • get to know techniques for the electronic data analysis and subsequent scientific interpretation and presentation. The protocol covers a partial topic of the course. Core skills: scientific plant ecological field work and in the lab including written and oral presentation of results.	Attendance time: 112 h Self-study time: 68 h

Course: Plant ecology: study of habitats (Lecture)	2 WLH
Examination: Minutes / Lab report (max. 20 pages) **Examination prerequisites:** Oral presentation (ca. 15 Min.) **Examination requirements:** Theoretical and methodical knowledge of modern plant ecological study of habitats with focus on beech forests in Central Europe. Scientific vegetation classification of beech forests as well as characterization of microclimatic, soil morphological and chemical properties.	6 C

Course: Habitat ecology of various forest societies in the surroundings of Goettingen (Exercise)	6 WLH

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English, German	Dr. Dietrich Hertel
Course frequency:	**Duration:**

each summer semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

each summer semester | 1 semester[s]

Number of repeat examinations permitted: | **Recommended semester:**

Georg-August-Universität Göttingen **Module M.Biodiv.425: Evolution of embryophyta**	6 C 4 WLH

Learning outcome, core skills: The students get to know the current state of research in the field of the organismic evolution of embryophyta through study, presentation and discussion of latest case studies concerning speciation, history of evolution, chromosomal and genomic evolution, reproduction biology, evolution of traits and coevolution. They get an overview of novel theoretical and methodical research approaches to the comprehension of plant evolution. They acquire the ability to develop evolutionary hypotheses and are able to choose appropriate model systems and methods for their validation. The students acquire practical skills in presentation, interpretation and discussion of results (in scientific English). They are able to describe and understand evolutionary processes, hypotheses and methods and to give examples for case studies on terrestrial plants. They can discuss scientific results in English.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Speciation and evolution of land plants (Lecture) *Course frequency:* each winter semester	2 WLH
Course: Plant systematics and phycology (Seminar) *Course frequency:* each semester	2 WLH

Examination: Oral examinationabout the contents of the lecture (approx. 15 minutes) **Examination prerequisites:** participation in the seminar and oral presentation (45 minutes) **Examination requirements:** In the oral examination the students demonstrate their ability to understand and discuss evolutionary processes and hypotheses as well as their knowledge of case studies on terrestrial plants. In the seminar the students shall give talks in scientific English and present research results – preferably those of their master thesis.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Elvira Hörandl
Course frequency: lecture: each winter semester, seminar: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Biodiv.426: Reproduction and evolution of flowering plants**	6 C 4 WLH

Learning outcome, core skills: The students acquire intimate knowledge of the reproduction strategies and the developmental biology of flowering plants. They acquire a broad comprehension of the relevance of reproduction biology for the evolution and ecology pf plants, for general evolutionary biological problems (e.g. the paradox of sex) as well as for applications in plant breeding. Specific method skills for active research are acquired through experimental work, karyological and embryological analyses (experimental work, microscopic observation, seed flow cytometry) and statistical analyses. The students are able to answer questions concerning reproduction and developmental biology of plants and evolutionary biological hypotheses and know practical applications. They are able to plan, conduct and present scientific studies in the field of reproduction biology of plants.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Reproduction and evolution biology of flowering plants (Exercise)	3 WLH
Course: Reproduction strategies of flowering plants (Lecture)	1 WLH

Examination: Oral examinationabout the lecture contents (approx. 15 minutes) **Examination prerequisites:** Protocol (max. 12 pages) **Examination requirements:** In the oral examination the students demonstrate their competences in reproduction and developmental biology of flowering plants, in evolutionary biological hypotheses and in practical applications. The protocol of the practical shows their skills to plan, conduct and present a scientific study in the field of reproduction biology of plants.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Elvira Hörandl
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.430: Vegetation history: Project study in palaeoecology and palynology**	6 C 8 WLH

Learning outcome, core skills: Consolidation of pollen analytical or dendroecological/dendrochronological working methods, independent identification and documentation of pollen and spore types, preparation, presentation and analysis of palaeoecological data, use of software, induction into current palaeoecological topics. Independent problem and research oriented pollen analytical studies as part of a small research project in the field of vegetation history, dendroecology/dendrochronology or climate and environmental history as well as scientific examination of palaeoecological topics; written and oral presentation of results.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Current topics in palynology and climate dynamics (Seminar)	2 WLH
Course: Palaeoecology and palynology (Exercise)	6 WLH

Examination: Minutes / Lab report (max. 10 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes) **Examination requirements:** Knowledge of pollen and spore types; pollen analytical and dendrochronological working methods. Basics of dendrochronology and dendroecology and basics of the reconstruction of climate events in the Quaternary period based on pollen diagrams and dendrochronological series.	6 C

Admission requirements: Palynology/vegetation history/dendrochronology and/or pollen analytical exercises or an equivalent course.	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hermann Behling
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Biodiv.431: Vegetation ecology: Applied vegetation ecology and multivariate analysis**	6 C 8 WLH

Learning outcome, core skills: Problem oriented project management, practicing methods of data collection and multivariate data analysis in vegetation ecology, vegetation sampling in grasslands, determination of plants even in their vegetative state, induction into current topics on the diversity and dynamics of grassland ecosystems. Gaining experience in the identification of vegetative and generative grassland plants, analysis and interpretation of multivariate data sets, ability to use software for the input and processing of vegetation ecological data and for ordination, studying in small groups and individually, preparation and presentation of posters, written presentation of scientific problems and results.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Lecture "Basics and methods of data collection and multivariate data analysis in vegetation ecology" (Lecture)	2 WLH
Examination: Minutes / Lab report (max. 15 pages) **Examination prerequisites:** Poster presentation	6 C

Course: Exercise "Grassland vegetation and multivariate vegetation analysis"	6 WLH

Examination requirements: Knowledge of vegetation ecological data collection and multivariate data analysis. Assessment and classification of grassland vegetation . Knowledge of current vegetation ecological topics on the diversity and dynamics of grassland ecosystems. Presentation of results in the form of a scientific publication.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Erwin Bergmeier
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen	6 C
Module M.Biodiv.437: Vegetation history: Methods in palaeoecology	8 WLH

Learning outcome, core skills:	Workload:
The students learn various palaeoecological methods: analysis of annual rings, charcoal, algae, diatoms, ostracods, dinoflagellates, non-pollen palynomorphs (NPPs), amoebae, sediment parameters etc.. They acquire knowledge of different palaeoecological parameters regarding environment, vegetation, climate and human settlement history and their evaluation in the context of the global change research. They learn presentation and analysis methods and how to use modern software. The students get to know the broadness of possible applications using examples from current palaeoecological topics. Skills for the assessment of applications of palaeoecological analyses during environmental, vegetation and climate historical as well as archaeological studies. Independent realization of small problem and research oriented palaeoecological studies in the field of environmental, vegetation or climate history. Scientific examination of palaeoecological topics from global change research, presentation of results.	Attendance time: 112 h Self-study time: 68 h

Course: Methods in palaeoecology (Lecture)	1 WLH
Course: Methods in palaeoecology (Exercise)	5 WLH
Course: Current research results in palaeoecology and palynology (Seminar)	2 WLH
Examination: Lecture (approx. 20 minutes) **Examination requirements:** Presentation of results of a practical work.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Hermann Behling
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Biodiv.441: Animal ecology: Evolutionary ecology**	6 C 8 WLH

Learning outcome, core skills: The students learn basic techniques for the analysis of phylogenetic relations. Armored mites (Oribatida, Chelicerata) with possible Precambrian origin serve as a model group. Phylogenetic relations and biogeographical distribution patterns are analyzed by means of various molecular markers (18S rDNA, 28S rDNA, elongation factor 1 alpha, cytochrome oxidase I). In addition, the age of various taxa of armored mites is studied. Besides phylogenetic and biogeographical patterns the intraspecific variance of sexual and parthenogenetic species of armored mites which presumably survived for hundreds of millions of years is analyzed. The programs used for the analyses include PAUP*, RAxML, MrBayes, BEAST, Bioedit, Clustal X and Treeview. Basid knowledge of molecular biology and bioinformatics is helpful but not mandatory to attend this course. Core skills: Modern techniques and procedures including statistical analyses for the discovery of phylogenetic relations and biogeographical distribution patterns of animal groups. Knowledge of the intraspecific variance of sexual and parthenogenetic species.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Evolutionary ecology (Lecture)	2 WLH
Course: Evolutionary ecology - experiments (Exercise)	6 WLH

Examination: Minutes / Lab report (max. 15 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes)	6 C

Examination requirements: Knowledge of phylogenetic relations and biogeographical distribution patterns of animal groups using the example of armored mites. Phylogenetic dating of animal species and determination of the intraspecific variance of sexual and parthenogenetic species.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Mark Maraun Dr. Marina Schäfer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.442: Animal ecology: Synecology of animals**	6 C 8 WLH

Learning outcome, core skills:
The students learn:
 	
  • the collection and statistical analysis of data for animal communities from different habitats (forests, meadows); selected animal groups (earthworms, spiders, ground beetles, rove beetles, springtails and mites) are classified and counted. Environment and vegetation data are collected for each habitat and the relations between the distribution of species and the environmental conditions are analyzed
  • the determination of density, biomass and diversity of animal groups using different techniques (soil traps, heat extraction, insect vacuum)
  • statistical methods (analysis of variance, discriminant analysis and canonical correspondence analysis) for the analysis of the composition of animal communities from different habitats and its relations with environmental factors
  • the preparation of a scientific publication using the obtained data
  • the oral presentation of scientific data and perceptions
  • methods for the assessment of the ground-dwelling and above-ground fauna
  • knowledge of statistical procedures for the analysis of animal communities
  • analysis of control quantities of animal communities (abiotic and biotic factors)
  • knowledge of the nutritive organization of animal communities
	Workload:
	Attendance time:
	112 h
	Self-study time:
	68 h

Course: Synecology of Animals (Lecture)	2 WLH
Course: Synecology of Animals - Experiments (Exercise)	6 WLH

Examination: Minutes / Lab report (max. 15 pages) **Examination prerequisites:** Oral presentation (ca. 15 min.) **Examination requirements:** Knowledge of indigenous animal communities of forests and meadows (especially arthropods, clitellates, insects etc. that live at or in the ground) and their ecological requirements in the respective biotopes. Methods for the quantification of animal communities and their dependence on environmental parameters.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Mark Maraun
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.445: Animal ecology: Molecular analysis of trophic interactions in soil food webs**	6 C 8 WLH

Learning outcome, core skills: The students learn: • Techniques for the molecular analysis of tropic interactions in soil food webs. The prey spectra of ground-dwelling arthropods (collembolans, mites) from forests are determined by using PCR based gut content analysis with specific DNA markers. • Design and realization of laboratory feeding experiments. • Methods of field sampling of soil animals, DNA extraction, PCR, gel electrophoresis, capillary electrophoresis, lipid analysis. • Statistical analysis with R. Core skills: Theoretical and practical knowledge on the structure of food webs and trophic interactions. Structure of soil animal communities.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Molecular analysis of trophic interactions in soil food webs - experiments (Exercise)	6 WLH

Course: Molecular analysis of trophic interactions in soil food webs (Lecture)	2 WLH
Examination: Minutes / Lab report (max. 15 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes) **Examination requirements:** Protocol	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in molecular biology
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Scheu
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:**
Maximum number of students: 12	

| Georg-August-Universität Göttingen | 6 C |
| Module M.Biodiv.446: Molecular zoology and insect-biotechnology | 8 WLH |

Learning outcome, core skills:	**Workload:**
The module is aimed at students who want to gain in-depth knowledge of molecular genetic work in theory and practice. Relevant methods and experimental planning are taught theoretically and practically. Selected topics of molecular zoology are treated in depth in lectures and on the basis of current publications. Current developments of molecular methods in pest control and insect biotechnology will be covered. Learning objectives: • Application, experimental strategies and evaluation of different molecular biological methods. • Gene function analysis in zoology: how to identify relevant genes and how to study their function in model and non-model organisms? (including genetic screens, reverse genetics (RNAi), genome editing (CRISPR/Cas9), transgenesis) • Knowledge of databases of DNA, protein and gene function • Identification of orthologous genes in different species • Establishment of new molecular genetic model systems for zoological questions • Advanced discussion of current research topics in molecular zoology • Advanced discussion of recent approaches in insect biotechnology using molecular genetic methods (including pest control). Students should be able to: • design experimental strategies for the identification and analysis of gene function in non-model organisms • design the establishment of new molecular genetic model systems • be able to present and assess scientific questions on selected topics of molecular zoology.	Attendance time: 112 h Self-study time: 68 h

Course: Gene function analysis in diverse animals and applications in pest control (Lecture) *Contents*: molecular genetic methods; gene fuction analysis; selected topics from molecular zoology; most recent developments in insect biotechnology	2 WLH
Course: Topics of molecular zoology and insect biotechnology (Seminar)	2 WLH
Course: Molecular zoology and insect biotechnology (Exercise)	4 WLH
Examination: Oral Presentation (approx. 15 minutes)	6 C

Examination requirements:
The students should be able to apply the contents and methods listed as "core skills" to new questions.

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**

English	Prof. Dr. Gregor Bucher
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 8	

Additional notes and regulations:
Das Modul kann nicht in Kombination mit B.Biodiv.370 belegt werden.

English | Prof. Dr. Gregor Bucher

Georg-August-Universität Göttingen **Module M.Biodiv.450: Plant ecology: Impact of global climate change on plant communities and their functional traits**	6 C 8 WLH

Learning outcome, core skills: The students • have profound knowledge of interactions between plants • have an overview of completion research • understand the concept of "functional traits" of species and communities • are able to analyze the reaction of plants to the main factors of global climate change experimentally • have profound knowledge of the design and statistical (variance analytical) analysis of ecological experiments • are able to present the results of ecological experiments in accordance with scientific standards in written and oral form.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Impact of global climate change on plant communities (Lecture)	2 WLH
Course: Impact of global climate change on plant communities (Exercise)	6 WLH
Examination: Minutes / Lab report (max. 10 pages) **Examination prerequisites:** Oral presentation (max. 25 minutes) **Examination requirements:**	6 C

Examination requirements: Knowledge of plant interactions and of the concept of "functional traits". Knowledge of experimental methods and statistical procedures in botanical (population) ecology. Knowledge of strategies for the adaption of plants to climate change.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Christoph Leuschner Dr. Robert Weigel
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Biodiv.480: Conservation biology: Nature conservation inventories**	6 C 8 WLH

Learning outcome, core skills:	**Workload:**
A valid, objective and reliable provision of data for preparing and making decisions is indispensable for an adaptive management in nature conservation. Strategic and operational nature conservation design, the realization of nature conservation measures as well as the controlling in nature conservation depend crucially on the quality of the available data. Introductory, the students learn various inventory procedures used in practical nature conservation, use them to collect data in a small model area and evaluate the methods concerning the validity, objectivity and reliability of the results of their inventory. Subsequently, the students get to know inventory procedures with lower risk and less error from the design over the realization to the processing and analysis of data using the same model area. The available data pool comprises time series from a multi-year monitoring that the students complement for specific areas and time points. The lecture covers both the theoretical background and approaches and examples for nature conservation inventories on different spatial and content-related levels. Learning objective of the module are the development • of skills for the critical analysis and evaluation of data stocks and inventory methods in nature conservation • of skills to plan, realize and analyze goal-oriented and statistically validated nature conservation inventories • of skills to use geographic information systems, databanks and statistics during nature conservation inventories • of skills to map habitats and species (use of remote sensing, GPS, laser rangefinder and other equipment as well as selected methods such as plot sampling, plotless sampling and distance sampling) The module shall impart skills to • understand, structure and realize planning-related processes • systematically question and critically evaluate information that serves as the basis for decision-making in the light of the projected outcome • develop and realize objective, reliable and valid study and inventory designs • deposit, manage and statistically process obtained information in spread sheets, databanks and geographical information systems • apply statistical procedures – especially from the non-parametric section – in inventory design and data analysis	Attendance time: 112 h Self-study time: 68 h

Course: Nature conservation inventories (Lecture)	2 WLH
Examination: Minutes / Lab report (max. 20 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes)	6 C

Examination requirements:	
Strategic and operational nature conservation design, realization of nature conservation measures and controlling. Knowledge concerning the evaluation of data stocks and inventory methods in nature conservation. Knowledge of GIS, databanks and statistics for nature conservation inventories.	535

Course: Nature conservation inventories (Exercise)	6 WLH

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
German	Dr. rer. nat. Hermann Hondong
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
12	

Additional notes and regulations:
Course in summer semester: in German; max.12 students;
course in winter semester (together with MINC): in English, max. 7 students

Georg-August-Universität Göttingen **Module M.Biodiv.481: Conservation biology: Population biology in nature conservation**	6 C 8 WLH

Learning outcome, core skills: Study the methodology of a population viability analysis (PVA) of animal species. The students transfer empirically collected data from the literature into a population model and develop a model of an endangered animal population. This is initially done together using two examples. Afterwards, the students choose their own examples for which they research literature and transfer the data into their own population model. Competences: Use of population models, development of a population biology perspective on endangered populations with regard to population sizes, growth rates, environmental fluctuations and exchange between fragmented habitats; development of management options for an endangered species.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Population viability analysis (Lecture)	2 WLH

Examination: Minutes / Lab report (max. 20 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes)	6 C

Course: Population viability analysis (Exercise)	6 WLH

Examination requirements: Knowledge of the potential endangerment of specific animal species and measures for their protection in the cultural landscape. Modeling of endangered animal populations.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Eckhard Gottschalk
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 8	

Georg-August-Universität Göttingen **Module M.Biodiv.483: Conservation biology: Assessment of wildlife species for nature conservation**	6 C 8 WLH

Learning outcome, core skills: Population monitoring of endangered species is an essential component of adaptive conservation management. Graduates of the course should be able to design surveys that allow precise and reliable population estimates. In the module, theoretical basics for quantitative surveys are taught, and practical experience in designing and conducting wildlife surveys is presented. In the exercise part, concrete data will be analysed and interpreted. The understanding of concepts such as strip width, cluster size, encounter rate, detection probability, as well as the influence of these variables on the estimation of population density/abundance and their variance will be taught. Line transect data of vertebrates (birds, primates, large mammals) from tropical habitats (forest and savannah) will be used as model examples. Course participants will make intensive use of the software DISTANCE. Students will acquire basic theoretical and practical knowledge of population assessment and monitoring of animal populations for conservation management.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Theoretical background of population assessment (Lecture)	2 WLH
Examination: Minutes / Lab report (max. 20 pages) **Examination prerequisites:** Oral presentation (ca. 15 minutes) **Examination requirements:** Basics of adaptive conservation management and knowledge of the realization of wildlife surveys. Basics on survey design and practice-oriented estimation of wildlife populations.	6 C

Course: Analysis, interpretation and management of stand data (Exercise)	6 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. rer. nat. Matthias Waltert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.Biodiv.488: Conservation biology: Ornithology**	6 C 8 WLH

Learning outcome, core skills: Students acquire knowledge on the recording and biology of native bird species. This includes knowledge of species characteristics (optical, acoustic), habitat requirements, food, breeding biology, wintering, population trends and causes of endangerment. An overview of bird orders, special sensory abilities of birds and a first insight into their social systems are also part of this. The nationwide and Europe-wide monitoring of breeding birds is taught. Students learn the visual and acoustic identification of bird species in the field and mapping methods. The method of territory mapping is deepened in the exercises and includes field surveys, data evaluation and presentation of the results on maps. The use of a digital tool for recording is taught. The students acquire knowledge to compare different habitats with regard to their avifauna. Competences: Knowledge of the biodiversity of the native avifauna and its ecology as well as field methods for its quantitative survey.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Biology of selected bird species (Lecture)	2 WLH
Course: Identification of birds in the field and methods in ornithology (Exercise)	6 WLH
Examination: Minutes / Lab report (max. 20 pages)	6 C

Examination requirements: Biodiversity of the indigenous avifauna as well as of field methods for its identification and evaluation of the endangerment potential on species and population level.	

Admission requirements: none	**Recommended previous knowledge:** Knowledge of the songs of the most common bird species
Language: English	**Person responsible for module:** Eckhard Gottschalk
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 18	

Georg-August-Universität Göttingen **Module M.Biodiv.491: Next generation sequencing for evolutionary biology**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
The students acquire knowledge of the various systems and techniques for "next generation sequencing". The focus of the module lies on the fast developing field of bioinformatics and data analysis. Lab methods are explained and discussed. The students learn the different possible applications for "next generation sequencing" data in evolutionary biology of animals and plants, for example biodiversity, evolution of traits, adaption, phylogeography, population genetics, hybridization, genotyping and QTL (quantitative trait locus) analyses. They get an overview of the theory and gain practical experiences in this new research area. They acquire the competence to choose suitable methods for evolutionary questions and to test hypotheses on non-model organisms. The students are able to list the differences and (dis)advantages of various "next generation sequencing" methods and to select suitable methods to analyze specific evolutionary questions by use of non-model organisms. They are able to compare and analyze the raw data of "next generation sequencing" and to annotate genes of a compared genome or transcriptome. The students shall present and discuss case studies from the field of "next generation sequencing" during the seminar in scientific English.	Attendance time: 56 h Self-study time: 124 h

Course: M.Biodiv.491-2 Next generation sequencing: examples of botanical and zoological studies (Seminar)	0,5 WLH

Course: M.Biodiv.491-3 Analysis of next generation sequencing data (Exercise)	3 WLH

Course: M.Biodiv.491-1 Next generation sequencing: methods, data analysis and applications (Lecture)	0,5 WLH

Examination: Minutes / Lab report (max. 12 pages) **Examination prerequisites:** Oral presentation (max. 20 min.) **Examination requirements:** Knowledge of the various applications of „next generation sequencing" in evolutionary biology of animals and plants. Overview of the theory and practical experiences in this new research area.	6 C

Admission requirements: none	**Recommended previous knowledge:** Speciation and evolution of land plants (Lecture: M.Biodiv.425). Basic knowledge about programs that deal with DNA conting assembly and multiple sequence alignment (e.g. Geneious) are advantageous
Language: English	**Person responsible for module:** Dr. Marc Appelhans
Course frequency:	**Duration:**

each summer semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Che.1135: Special Topics in NMR Spectroscopy**	3 C 2 WLH

Learning outcome, core skills: Die Absolvent*innen dieses Moduls haben Kenntnisse über Entkopplung-, Editing-, sowie die wichtigsten 2D NMR-Methoden und den Nuclear-Overhauser-Effekt, Dynamische Effekte, Feldgradienten, Diffusion ortsaufgelöste NMR-Spektroskopie und Magnetresonanz-Imaging, NMR in anisotroper Umgebung und Festkörper-NMR sowie NMR-Spektroskopie an paramagnetischen Verbindungen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Special Topics in NMR Spectroscopy	2 WLH

Examination: Oral examination (approx. 20 minutes)	

Examination requirements: Kompetente Darstellung des eigenen Forschungsthemas mit Bezug zur NMR-Spektroskopie oder eines ausgewählten NMR-Themas, Diskussionskompetenz	

Admission requirements: keine	**Recommended previous knowledge:** Grundkenntnisse der NMR-Spektroskopie (entsprechend Modul B.Che.1004).
Language: English	**Person responsible for module:** Dr. Michael John
Course frequency: each summer semester1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 3
Maximum number of students: 24	

Additional notes and regulations: Bei der Platzvergabe für das Lehrangebot haben Promovierende Vorrang.

Georg-August-Universität Göttingen **Module M.Che.1315: Chemical Dynamics at Surfaces**	6 C 4 WLH

Learning outcome, core skills: The students of this module will achieve a deeper theoretical knowledge of chemical dynamics on surfaces as well as their influence on other fields in natural science, in order that they will be able to approach and solve problems regarding the quantitative questions in this field.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture Combined with Tutorial: Chemical Dynamics at Surfaces	
Examination: Written examination (180 minutes)	6 C

Examination requirements: By Understanding and solving exemplary questions regarding this research field with the help of limited reference material in predetermined time will count as minimum 50 % of the required score	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Alec Wodtke
Course frequency: normally every 2 years	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 2
Maximum number of students: 64	

Additional notes and regulations: Active participation in provided tutorial is recommanded.

Georg-August-Universität Göttingen **Module M.Cp.0004: Plant diseases and pests in temperate climate zones**	6 C 4 WLH

Learning outcome, core skills: Students will be able to recognize and identify the main pests and diseases, understand the origin, distribution and dynamics of diseases and pests in the field as a basis for the development of control methods.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Plant Diseases and Pests in Temperate Climate Zones (Lecture, Excursion, Exercise) *Contents*: The main diseases and pests (fungi, viruses, bacteria, nematodes, mites, and insects) of crops (arable crops, vegetables, fruit crops) in temperate climate zones will be presented. The symptoms, diagnosis, biology and life cycles, economic importance, possible control methods will be studied in lectures, practicals and field trips. The economic damage, prognosis, possible control methods using economic thresholds will be presented.	4 WLH
Examination: Written examination (45 minutes) **Examination prerequisites:** regular attendance at field practical and excursion **Examination requirements:** Identification and diagnosis of plant pests and diseases of crops of the temperate climate zones, knowledge of the life cycle, distribution, and population dynamics.	6 C

Admission requirements: Only for students in the study programmes "Crop Protection", EMJMD PlantHealth and "Sustainable international Agriculture".	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Birger Koopmann
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0005: Integrated management of pests and diseases**	6 C 4 WLH

Learning outcome, core skills: Students will be able to understand and develop plant protection strategies to control plant pathogens and insect pests while observing the sustainability of the whole crop production system.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Integrated Management of Pests and Diseases (Lecture) *Contents*: The integrated pest management concept and its main components are presented with regard to the management of fungal plant pathogens and insect pests in temperate zones: preventive methods, selective use pesticides, effect of cultural methods (sowing date, soil preparation, fertilization, crop rotation, varieties) on occurrence, distribution and damage of plant pathogens and insect pests.The diagnostics and quantification of damage symptoms; prognosis systems are discussed.	4 WLH
Examination: Oral examination (approx. 20 minutes) **Examination requirements:** Knowledge of the relationship between crop production methods and the occurrence of plant diseases and insect pests in temperate zones, concept of integrated pest management.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Andreas von Tiedemann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 1
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0006: Pesticides I: Mode of action and application techniques, resistance to pesticides**	6 C 4 WLH

Learning outcome, core skills: Students will know the pesticide compounds used in agriculture, their mode of action, application techniques and understand the development of resistance and resistance management strategies.	Workload: Attendance time: 56 h Self-study time: 124 h

Course: Pesticides I: Mode of Action and Application Techniques, Resistance to Pesticides (Lecture, Excursion) *Contents*: Mode of action and application techniques of plant protection products (fungicides, insecticides, acaricides, herbicides), the characeristics of active ingredients are presented. Technical and technological possibilities of modern crop protection, requirements and pesticide resistance management is discussed.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of pesticides, their mode of action, targets, side effects, application techniques; important factors for resistance development and possibilities for prevention and reduction.	6 C

Admission requirements: Only for students from the study programme "Crop Protection" and "Sustainable International Agriculture"	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Andreas von Tiedemann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 1
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module M.Cp.0007: Pesticides II: Toxicology, Ecotoxicology, Environmental Metabolism, Regulation and Registration	4 WLH

Learning outcome, core skills:	**Workload:**
Students will understand the basic and applied pesticide toxicology and ecotoxicology, the development of pesticides and risk assessment, and the regularory framework of pesticide registration and pesticide risks (Germany, EU)	Attendance time: 56 h Self-study time: 124 h

Course: Pesticides II: Toxicology, Ecotoxicology, Environmental Metabolism, Regulation and Registration (Lecture) *Contents*: This unique module gives an overview of all aspects of pesticide science, presented by Several lecturers, being specialists. Basic and applied toxicology of pesticides , ecotoxicology of pesticides, environmental fate and metabolism of compounds in different environments, development of pesticides, regulation of pesticide use and registration.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of the toxicology of pesticides, ecotoxicology, fate and metabolism in the environment, regulation and registration of pesticides in Germany and the EU.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Andreas von Tiedemann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 3
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0010: Plant Pathology and Plant Protection seminar**	3 C 2 WLH

Learning outcome, core skills: Students will learn, to present, discuss and defend their own individual research project. They will be able to critically discuss scientific results and provide suggestions for improvement.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Plant Pathology and Plant Protection Seminar (Seminar) *Contents*: In this seminar scientific projects, targets of research and results of research projects will be presented and discussed by the MSc students and members of the research staff. Techniques of presentation and the ability to critically review and discuss research results will be practiced which will suggest and lead to new thoughts for further research projects. *Course frequency:* each winter semester	2 WLH
Examination: Presentation (ca. 20 minutes) **Examination prerequisites:** Participation in 12 seminars **Examination requirements:** Very good knowledge of own area of research and good ways of presentation of own results. Participation in discussion.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Birger Koopmann
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0011: Agricultural entomology seminar**	3 C 2 WLH

Course: Agricultural Entomology Seminar (Seminar) *Contents*: In this seminar scientific projects, targets of research and results of research projects in Agricultural Entomology will be presented and discussed by the MSc students. Techniques of presentation and the ability to critically review and discuss research results will be practiced which will suggest and lead to new thoughts for further research projects.	2 WLH
Examination: Presentation (ca. 20 minutes) **Examination prerequisites:** Participation in 12 seminars **Examination requirements:** Very good knowledge of own area of research and good ways of presentation of own results. Participation in discussion.	3 C

Learning outcome, core skills:
Students will learn, to present, discuss and defend their own individual research project. They will be able to critically discuss scientific results and provide suggestions for improvement.

Workload:
Attendance time:
28 h
Self-study time:
62 h

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Michael Georg Rostás
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0012: Weed biology and weed management**	6 C 4 WLH

Learning outcome, core skills: Understanding the biology and control of local and globally important weeds, their taxonomy, life-forms and habitat requirements, as well as their evolution, 30 h distribution, ecology, population dynamics and genetics. Endangered, as well as invasive species, the interactions of weeds and crops (allelopathy and competition) and weed control with direct and indirect measures will be taught.	**Workload:** Attendance time: 30 h Self-study time: 150 h

Course: Weed Biology and Weed Management (Lecture, Excursion, Seminar) *Contents*: The module consists of a lecture, the visit of a field trial and the creation of a herbarium in own work according to instructions. In the lecuture knowledge about sustainable weed control and the biology of plant species and their potential as weeds is imparted. Direct and indirect control strategies to regulate weeds, considering economic and ecological aspects, are presented. The lecture deals with solutions for individual production systems and their transferability discussed. Advantages and disadvantages of weed control for health, economy, society and ecology are covered. For the herbarium 30 plant species that occur in the agricultural landscape are to be collected in bloom (20-25 dicots and 5-10 monocot species). The plants must be identified correctly. Information about their relevance in the agricultural landscape should also be provided in short form (ecological values, aspects of crop competition and peculiarities).	4 WLH
Examination: Written exam (60%; 60 minutes) and a herbarium prepared in home work (40%) **Examination requirements:** Basic knowledge on the biology and ecology of arable weeds and knowledge about direct and indirect measures of weed control as well as the ability to identify key weed species.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Jean Wagner
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.Cp.0013: Applied weed science**	6 C 4 WLH

Learning outcome, core skills: Knowledge of the main weed species, their characteristics, ecology, competition and damage. Students will be able to identify the main weed species. Understanding weed population dynamics. Knowledge of possibilities and limitations of weed control. Knowledge of the mode of action of chemical and non chemical weed control. Students will be able to diagnose and explain weed problems in the field and develop problem solving competences.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Weeds and Herbicides/Applied Weed Science (Lecture, Excursion, Exercise) *Contents*: The module deals with practical aspects of weed biology and weed management strategies. The botanical weed characteristics will be presented in the field and in the greenhouse. The main weeds species of Europe and their characteristics for identification will be studied. Weed management strategies in use today and difficulties in weed control will be shown and discussed on field trips. In the practical students will prepare a herbarium of weeds collected in the field.	4 WLH
Examination: Oral examination (ca. 20 minutes, 66%), written paper (max. 10 pages, 34%) **Examination prerequisites:** Participation in the practical and excursions, preparation of a herbarium. **Examination requirements:** Basic knowledge of the main weed species and characteristics for identification. Knowledge of the mode of action of the main control methods including examples. Ability to recognize weed populations of respective crop production systems in the field and to develop control strategies. Preparation of a written paper (excursion or practical protocol) and a herbarium.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Horst-Henning Steinmann
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Cp.0014: Plant Nutrition and Plant Health**	3 C 2 WLH

Learning outcome, core skills: Understanding the relationship between plant nutrition and plant health and its significance in the value-added food chain.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Plant Nutrition and Plant Health (Lecture, Seminar) *Contents*: Nutrient uptake and transport in the plant; function of different nutrients in the plant especially with respect to plant health (susceptibility, tolerance, resistance); mechanisms to increase the efficiency of nutrient availability, uptake and use; characteristics of plant health, effect of nutrient imbalances on plant metabolism and development of plant harvest products, the nutrient concentrations and processing quality.	2 WLH
Examination: Written exam (90 minutes) **Examination requirements:** Knowledge of and ability to present the presented topics in their context: development of nutritional and processing quality in different crop plants; quality requirements and ways of realization by crop production methods.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Klaus Dittert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.Cp.0015: Molecular Weed Science**	6 C 4 WLH

Learning outcome, core skills: Understanding the basic principles of the interactions between herbicides and the target plant and herbicide selectivity. Resistance mechanisms in weeds and mechanisms of tolerance in cultivated plants are understood, can be distinguished and practical consequences be drawn. Students have a fundamental understanding of the development and distribution of herbicide resistance in weeds.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Molecular Weed Science (Lecture, Practical course) *Contents*: Lecture: In the lecture the application of molecular methods in weed science and weed management is presented, focusing on the naturally occurring herbicide resistance in weeds. The genetic basis will be taught with regard to transgenic and non transgenic herbicide tolerance in cultivated plants. The possibilities of the use of molecular techniques for the detection of herbicide resistance in weeds will be discussed. New findings by the so called –omics (genomics, proteomics and metabolomics) on the interaction of weeds with their environment are of importance in the development of new herbicides and will be discussed as well as alternative transgenic approaches in weed management. Practical: A one week practical will be held after the lecture. In the practical actual resistance problems in weeds are presented. Resistance detection methods will be presented and carried out on the protein level (target assay) and on the genetic level (SNP-analysis') and the possible use for a sustainable herbicide weed management will be discussed.	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Regular participation in the laboratory practical **Examination requirements:** Knowledge of the interaction between herbicide and target, the selectivity of herbicides, mechanisms of resistance in weeds, mechanisms of development of tolerance in cultivated plants. Basic knowledge of development and distribution of herbicide resistance in weeds	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Jean Wagner
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students:	

20	

Georg-August-Universität Göttingen **Module M.Cp.0016: Practical statistics and experimental design in agriculture**	6 C 4 WLH

Learning outcome, core skills: The aim of the course is to familiarize students with the basic concepts of statistics and their application in agricultural science. The second goal is to learn the use of software packages like SAS.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Statistics and Experimental Design in Agriculture (Lecture, Exercise) *Contents*: In the beginning of the course, students are introduced to the basic concepts of statistics like frequency distributions, the normal distribution and hypothesis testing. They are also introduced to software packages like SAS, that are used for the practical exercises. Regression and correlation analysis are then introduced. Different experimental designs like randomized block, latin square, and split plot are described and analyzed by one-way analysis of variance or as factorial experiments. Generalized Linear Models will be used and multivariate data will by analyzed by cluster and principal component methods. A large amount of examples and exercises constitute an important aspect of the course, enabling the students to understand and assimilate the theoretical content. Practical analyses of example data sets also provide the students with the required experience and skills for future statistical tasks in the context of Mastertheses.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of the basic concepts of statistics and their application in agricultural science and in the use of software packages like SAS.	6 C

Admission requirements: none	**Recommended previous knowledge:** Mathematics, statistics
Language: English	**Person responsible for module:** Dr. Christian Kluth
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Additional notes and regulations: This module and M.Agr.0036 "Methodisches Arbeiten: Versuchsplanung und -auswertung" are mutually exclusive.

Georg-August-Universität Göttingen **Module M.DH.01: Advanced Topics in Digital Humanities**	6 C 4 WLH

Learning outcome, core skills: The students • have an overview of central methods and theories from one or more subject areas of the Digital Humanities; • are able to comprehend and discuss the scientific discussions about it; • are familiar with the complexity, heterogeneity or fuzziness of data in the humanities and the specific characteristics of the Digital Humanities; • know typical examples for the scientific categorisation of texts, persons, images and objects, ideas and processes and can relate them to each other; • can discuss, test and, if necessary, modify these approaches with regard to their applicability.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture	2 WLH
Course: Seminar	2 WLH

Examination: Presentation (approx. 20 min.) with written elaboration (max. 10 pages) **Examination prerequisites:** Regular participation in the seminar **Examination requirements:** The students discuss research results of the Digital Humanities and have the ability to evaluate methods and theories and to modify them in approaches.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Martin Langner
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.EP.015a: Peer-to-Peer Assistantship in Anglophone Literature and Culture**	6 C

Learning outcome, core skills: Advanced students revise basic knowledge of literary and cultural theories and deepen their understanding by explaining and critically discussing them with other students. They reflect on possible approaches in literary analysis[BS1] . They revise basic knowledge of academic writing and deepen it by explaining several features, e.g. bibliography, research paper, methodological chapters, to other students, providing guidance for each other.	**Workload:** Attendance time: 0 h Self-study time: 180 h
Course: Peer-to-peer meetings *Contents*: The student tutors one up to three first-semester master student(s) in literary and cultural courses with a special focus on the understanding and usage of literary and cultural theories under academic aspects. The sessions take place regularly upon consultation, at least 6 times during the semester. The mentoring is supervised by a lecturer of the department.	
Examination: Learning journal (max. 3500 words), not graded **Examination requirements:** Proof of at least 6 regular meetings with the assigned mentees. Proof of counselling on the following areas: Understanding of literary and theoretical texts; working with secondary literature; applying theoretical frameworks to a text/texts of a certain topic; feedback about approaches. Reflecting on learning progress of mentees.	6 C

Admission requirements: Obligatory counselling with lecturer of the theory-based lecture in module M.EP.01c to prove a high-enough level of knowledge of theories and approaches.	**Recommended previous knowledge:** Successful attendance of a master module finishing with a term paper in Anglophone literary and cultural studies; successful attendance of mentoring training.
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 7	

Additional notes and regulations: The aim of this module is to assist first-semester master students to understand the methods and mindsets of the British Literature and Culture department through peer-to-peer mentoring.

Georg-August-Universität Göttingen **Module M.EP.01a: Anglophone Literature and Culture**	6 C 2 WLH

Learning outcome, core skills:	**Workload:**
• To deepen and consolidate the content and methodology of literature and cultural studies previously acquired in the BA programme in British Studies. • A competency of synergetic use of literature and cultural studies methodologies through the combination of diachronic and synchronic approaches in the courses listed below.	Attendance time: 56 h Self-study time: 124 h

Course: Lectures on English literature and Cultural Studies	2 WLH
Course: Independent Study on British Cultural Studies *Contents*: For the Independent Study portion of the module the instructor will suggest a thematically focused research topic for theory- and method-based self study. The student will make use of relevant research methods, primary and secondary sources, and outline potential theses which result from scholarly dialogue with the instructor. Students will develop the competence to work independently and scientifically, and thereby learn to reflect critically upon their work. During this part, which consists of 60 hours of the 124 hours of self study required in total, students will deepen their methodological competency and theoretical knowledge. Instruction will take place during the instructor's office hours; the assessment of progress during the semester will be done by means of an ungraded portfolio.	
Examination: Final Written Exam (90 min.) or Oral Exam (20 min.) **Examination prerequisites:** Regular participation with no more than two excused absences (in case Independent Study is not selected); for an Independent Study, three meetings with the instructor are required.	6 C

Examination requirements:	
• basic knowledge of a literature- and cultural-history epoch • a secure survey- and contextual knowledge of the topics, texts and literature- and cultural history methods worked on in the lectures	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.01b: North American Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: • To broaden and consolidate the content and methodology of literature and cultural studies previously acquired in the BA program in North American Studies. • A competency of synergetic use of literature and cultural studies methodologies through the combination of diachronic and synchronic approaches in literature or lectures on literary-, cultural-, or media- theory and "Advanced American Cultural History and Rhetoric."	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Lecture on American literature and cultural studies, or lecture on literary, cultural, or media theory (Lecture)	2 WLH
Course: Independent Study () *Contents*: deepens and broadens the contents of the lecture through a close study of primary and secondary texts; aims at a more profound preparation of the final exam; takes up about 100 hours of the self-study time allotted for the module in total	WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: Students show that they have a good survey knowledge and can successfully complete transfer tasks on topics, primary and secondary texts that are discussed in the lecture and which they have deepened during their independent studies.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder Prof. Dr. Andrew Gross
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module M.EP.01c: Anglophone Literature and Culture: Theoretical Foundations**	12 C 4 WLH

Learning outcome, core skills: • Deepening of basic knowledge of Anglophone history of literature from the Renaissance to the present • Deepening and broadening of knowledge of literary and cultural theory • Competence of independent critical comparative analysis of core texts by applying appropriate theories • Competence of critically reflection on epochal and thematic developments of Anglophone literature and cultural history.	**Workload:** Attendance time: 84 h Self-study time: 276 h

Course: Course Practising Advanced Literary Analysis (for MA Students) (Seminar) *Contents*: In this course students review their knowledge of analytical terms and approaches and deepen their understanding of them. They sharpen their skills on academically writing about analytical results.	1 WLH
Course: Course on literature and cultural theory (Seminar) *Contents*: Students review or acquire overview knowledge on literary and cultural theories. They practise using theoretical approaches on literary texts or literary topics. They deepen their knowledge on academic writing on literary analysis and hone their research and assessment skills on secondary sources.	2 WLH
Course: Tutorial or self-study (Tutorial,) *Contents*: This course accompanies the course "Literary and Cultural Theories in Use".	1 WLH
Examination: Learning journal (max. 5000 words) **Examination prerequisites:** Regular participation in the seminars with no more than two excused absences. **Examination requirements:** The exam is taken in the course on literature and cultural theory.	12 C

Examination requirements: Students must demonstrate that they • have a basic knowledge of an epoch or a thematic area of Anglophone literature and cultural history • can critically reflect and comment on this basic knowledge • have a basic knowledge of literary and cultural theories • can apply this knowledge to a text, topic, or genre within an epoch of Anglophone literature and cultural history	

Admission requirements: Obligatory Advisement	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Barbara Schaff
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2
Maximum number of students:	
not limited	

Additional notes and regulations:

- This module is designed for students with little knowledge of the areas of the theory-based literature analysis and literary and cultural theory.
- The exam is taken in the course "Literary and Cultural Theories in Use".
- Students have to prove the successful participation in the course "Practising Literary Analysis (for MA Students)" separately through a close reading (ungraded) and registration in FlexNow.

Georg-August-Universität Göttingen **Module M.EP.020: English Linguistics (A)**	6 C 2 WLH

Learning outcome, core skills: • Deepening and broadening of BA-level linguistic knowledge and competence with regard to speech systems (phonology, morphology, syntax, semantics) and linguistic usage (pragmatics, socio-linguistics, psycho-linguistics) • Ability to apply linguistic methods and hypotheses in key fields of research in modern linguistics • Knowledge of and ability to critically analyze strategies of argumentation as well as make structured description of linguistic content.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Course on basic knowledge of English linguistics	2 WLH
Course: Independent Study on topics of advanced linguistics *Contents*: The qualification goals are: a) competence in developing specialized theoretical statements from research publications; b) competence in corresponding and correct application of linguistic theories on given speech phenomena in the prescribed field of study; c) advanced knowledge of the subject, as necessary for meaningful class participation, and as is necessary to acquire if not present prior to the beginning of the course. Independent studies comprise 75 hours of the total self-study and will generally require a minimum of three meetings with the instructor during the semester. Progress will be assessed in interviews and/or through written assignments, subject to prior agreement.	
Examination: Learning journal (max. 8000 words) **Examination prerequisites:** Regular participation with no more than two excused absences.	

Examination requirements: The students must demonstrate knowledge of the structural units and structural relationships of English, mastery of linguistic methods of analysis, and be able to give a structured representation of linguistics.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 80	

Additional notes and regulations:

This module is designed exclusively for students with a basic knowledge of linguistics. This course cannot be taken if you have already taken or plan to take Module M.EP.021.

Georg-August-Universität Göttingen Module M.EP.021: English Linguistics (B)	6 C 4 WLH

Learning outcome, core skills:	Workload:
• Deepening and broadening of BA-level linguistic knowledge and competence with regard to speech systems (phonology, morphology, syntax, semantics) and linguistic usage (pragmatics, socio-linguistics, psycho-linguistics)	Attendance time: 56 h Self-study time: 124 h
• Ability to apply linguistic methods and hypotheses in key fields of research in modern linguistics	
• Knowledge of and ability to critically analyze strategies of argumentation as well as make structured description of linguistic content.	

Course: Course: "English Linguistics: An Overview"	2 WLH
Course: Main Seminar: Advanced Linguistics	2 WLH

Examination: Term Paper (max. 7500 words) Examination prerequisites: Regular participation with no more than two excused absences.	

Examination requirements: Demonstration of the ability to research and absorb relevant research on a linguistics-relevant subject, to extract relevant research questions, to analyze differentiated linguistic objects, and to select and evaluate an appropriate theory.	

Admission requirements: none	Recommended previous knowledge: Fundierte sprachwissenschaftliche Vorkenntnisse
Language: English	Person responsible for module: Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 2
Maximum number of students: 80	

Additional notes and regulations: This module is designed for students with an advanced knowledge of linguistics. This course cannot be taken if you have already taken or plan to take Module M.EP.020.	

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| **Module M.EP.021 (AS): Linguistics (Advanced)** | 4 WLH |

Learning outcome, core skills:	Workload:
This module aims at students with a basic knowledge of linguistics.	Attendance time:
	56 h
Students consolidate and expand on their knowledge of English linguistics concerning linguistics and their competences concerning the language system (mainly semantics) and the linguistic usage (pragmatics, sociolinguistics, psycholinguistics), as acquired in the bachelor programme. They learn to apply linguistic methods and hypotheses in modern linguistics' core field of research. They become acquainted with argumentation strategies and learn how to critically analyze them. They learn how to present linguistic contents in a well-structured manner.	Self-study time: 184 h

Course: Course "English Linguistics: An Overview"	2 WLH
Course: Linguistic advanced seminar	2 WLH
Examination: Presentation (approx. 20 min.) and written assignment (approx. 6000 words)	8 C

Examination requirements:	
Students have to prove their ability to find research literature which is relevant for linguistically relevant subjects, to extract the relevant research questions, to scrupulously analyze the linguistic item, and to choose and evaluate an appropriate theory.	

Admission requirements:	Recommended previous knowledge:
keine; empfohlen werden linguistische Grundkenntnisse	none
Language: English	**Person responsible for module:** Prof. Dr. Regine Eckardt
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.EP.022: English Linguistics (C)**	12 C 4 WLH

Learning outcome, core skills: • Deepening of BA-level linguistic knowledge and competence with regard to formal syntax and formal semantics and pragmatics, • improving the ability to apply linguistic methods and hypotheses in key fields of research in modern linguistics, • extending the ability to critically analyze strategies of linguistic argumentation.	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Introduction to Syntactic Theory (lecture/seminar) (Lecture, Seminar) *Contents*: This part of the module focuses on the formalization of syntactic knowledge and the implementation of syntactic theories. We focus on empirical phenomena such as sentence formation, questions, passives etc. and see how they are analyzed in a principled and theoretical way. Optional lab classes and tutorials put an emphasis on the practical application of the material covered in the lecture course.	2 WLH
Examination: Examination-like term paper (max. 3500 words) **Examination requirements:** The student must demonstrate knowledge of the syntactic relations of English, mastery of applying linguistic methods of analysis, and be able to give a formal representation of syntactic phenomena.	6 C

Course: Introduction to Semantic and Pragmatic Theory (lecture/seminar) (Lecture, Seminar) *Contents*: This part of the module focuses on the formalization of semantic and pragmatic knowledge and the implementation of semantic and pragmatic theories. We focus on empirical phenomena such as the meaning of questions, negation, quantification etc. and see how they are analyzed in a principled and theoretical way. Optional lab classes and tutorials put an emphasis on the practical application of the material covered in the lecture course.	2 WLH
Examination: Examination-like term paper (max. 3500 words) **Examination requirements:** The student must demonstrate knowledge of the semantic and pragmatic relations of English, mastery of applying linguistic methods of analysis, and be able to give a formal representation of semantic and pragmatic phenomena.	6 C

Admission requirements: none	**Recommended previous knowledge:** Knowledge of the terms and modern linguistic concepts.
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2
Maximum number of students: 80	

Additional notes and regulations:
This module is designed for students with little knowledge of the areas of theoretical syntax or semantics and pragmatics who wish to specialize in English linguistics. They can take additional lab classes which focus on the practical side of the syntactic and semantic and pragmatic theories.   The module can take the form of either   • a lecture series on syntax and semantics and pragmatics "Linguistic Theory – an overview" (4 hours, offered every WS) or   • two seminars (2 hours "Introduction to Syntactic Theory" offered every SS, and 2 hours "Introduction to Semantic and Pragmatic Theory" offered every WS).

Georg-August-Universität Göttingen **Module M.EP.02b: Medieval English Studies**	6 C 4 WLH

Learning outcome, core skills: After successful participation in the course, students should be able to • demonstrate text competence with regard to the chief works of medieval English literature • understand important literary theoretical questions and apply them with regard to medieval English texts • demonstrate a good knowledge of the materiality of medieval English manuscript transmission • utilize a good competence in English on an advanced academic level • recognize aspects of the alterity of medieval texts as a didactic stimulus for an encounter with the Middle Ages as an alien culture	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture series: Medieval Studies (Lecture) *Contents*: The lectures offer - in alternating semesters - a survey of the medieval literature of England, the historical development of English and selected subjects in the area of paleography, important language landmarks, and the cultural history of the English Middle Ages.	2 WLH
Examination: Written examination (30 minutes) **Examination requirements:** Successful candidates will demonstrate a good knowledge of the linguistic and literary/ poetical aspects of important works of the English Middle Ages, as well as a good knowledge of their historical and material contexts.	2 C

Course: Course: Medieval Studies (Seminar) *Contents*: The seminar offers a survey of the medieval literature of England, the historical development of English and selected subjects in the area of paleography, important language landmarks, and the cultural history of the English Middle Ages.	2 WLH
Examination: Term Paper (max. 3000 words) **Examination prerequisites:** The regular participation with no more than two excused absences is STRONGLY RECOMMENDED but NOT OBLIGATORY. **Examination requirements:** Successful candidates will demonstrate a good knowledge of the linguistic and literary/ poetical aspects of important works of the English Middle Ages, as well as a good knowledge of their historical and material contexts, on the basis of which they will be able to develop a creative approach to an understanding of these texts.	4 C

Admission requirements: B.EP.204 or an alternative to B.EP.204	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Winfried Rudolf
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2
Maximum number of students:	
30	

Additional notes and regulations:
This module is aimed exclusively at students who already have taken courses on English Medieval Studies. Students who do not are required to take M.EP.02c instead.

Georg-August-Universität Göttingen **Module M.EP.02c: Medieval English Studies 2**	6 C 4 WLH

Learning outcome, core skills: The successful participant will be able to demonstrate a good basic knowledge of medieval English literature, its genres and formal features as well as its historical context by way of key literary works of the period. He/She will gain competence in the field of historical English and will provide more end more refined translations of historical texts made with the help of suitable works of reference. He/She will be able to provide a close commentary on the relationship between form and function in selected medieval English works in writing and will have a first experience of medieval textual transmission in manuscript form.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Survey Lecture Medieval English Studies (Lecture) *Contents*: The lecture offers a survey of medieval English literature, English historical linguistics as well as of topics as far afield palaeography and codicology, literary theory, important individual works and medieval English culture. The focus varies every term.	2 WLH
Examination: Written examination (30 minutes) **Examination requirements:** Successful candidates will demonstrate a good knowledge of the linguistic and literary/ poetical aspects of important works of the English Middle Ages, as well as a good knowledge of their historical and material contexts.	2 C

Course: Introduction to Medieval English Literature and Culture (Seminar) *Contents*: This course enables students to deepen their knowledge of historical English and of historical texts by way of translation and it introduces students to ananlysing form-function relationships by way of close commentaries.	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regular participation with no more than two missed meetings **Examination requirements:** A good knowledge of English historical linguistics and translation techniques; providing a close commentary on the relationship of form and function	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2

Maximum number of students:	
30	

Additional notes and regulations:
This module especially addresses students with little knowledge in the fields of English historical linguistics and medieval English literature (cf. B.EP.204) who choose a specialization in medieval English studies. It serves as a substitute for module M.EP.02b.

Georg-August-Universität Göttingen **Module M.EP.031-N: Comprehensive English Language Skills**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the course, the student should be able to: • demonstrate optimized, practical linguistic knowledge and techniques learned in the selected area of study (e.g., writing essays, aural/reading comprehension, translation, public speaking) • use and apply this knowledge, above all in the context of their field of study (e.g., writing papers and giving presentations)	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Course: Post-CLC-Course (Advanced Essay Training or Aural/ Reading comprehension or Advanced Translation or Vocabulary Training or Discussion and Essay Writing) *Contents*: depending on the results of the diagnostic test: on e.g. English grammar; reading comprehension; listening comprehension; text production; academic writing; pronunciation One of these courses may be taken as an online course or online training if the supervisor agrees.	4 WLH

Examination: Learning journal (max. 3500 words) **Examination prerequisites:** Regular participation with no more than two excused absences. **Examination requirements:** Students show that they have considerably improved their skills in those areas where the diagnostic test results pointed to a substandard level of competence; this includes that they can cope with tasks pertaining to those areas well and within a specific time period.	6 C

Admission requirements: • Participation in a diagnostic test offered by the Department of English that covers those areas relevant for a MA degree programme (grammar, listening comprehension, reading comprehension, text production) • Result of this diagnostic test point to a substandard competence in some of those areas • Participation in an appraisal meeting in which students are advised about strategies and measures to be taken to support students in these areas	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra

	Dr. Frauke Reitemeier
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Additional notes and regulations:

This module is aimed at students whose diagnostic test results point to a substandard competence in some key areas of using English (e.g. grammar, listening comprehension, reading comprehension, text production) so that measures should be taken to improve their skills.

Georg-August-Universität Göttingen **Module M.EP.032-N: Advanced English Language Skills**	6 C 2 WLH

Learning outcome, core skills: After successful completion of the course, the student should be able to: • demonstrate optimized, practical linguistic knowledge and techniques learned in the selected area of study (e. g. writing essays, translation, public speaking, recitation, and vocabulary training); • they should use and apply this knowledge, above all in the context of their field of study (e. g. writing papers and giving presentations). The independent study unit of the module provides students with a further opportunity to practice acquired skills.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Advanced Practical English Language Course with an Emphasis on Oral Skills: Advanced Public Speaking or Recitation or CLC for International Students (Exercise)	2 WLH

Examination: Talk or Presentation with critical reflection (20 to 30 mins) **Examination prerequisites:** Regular active participation with no more than two excused absences. **Examination requirements:** Familiarity with conventions of language use in formal speech contexts; the ability to choose and present a subject in an appropriate manner, using rhetorical strategies discussed in class.	3 C

Course: Advanced Practical English Language Course with an Emphasis on Written Skills: Vocabulary Training, Academic Writing or Advanced Translation (Exercise)	2 WLH

Examination: End-of-term test (90 mins) or portfolio (max. 2200 words) **Examination prerequisites:** Regular participation with no more than two excused absences. **Examination requirements:** Students acquired and applied writing skills and techniques imparted to them in their chosen area of writing; they optimized their writing skills, so that they can perform complex tasks both thematically and practically at a high academic level. Familiarity with written academic texts and their characteristics as well as the ability to write such texts (Academic Writing); mastery of academic / non-academic vocabulary, style and formalities (Vocabulary Training).	3 C

Course: Advanced Practical English Language Course with an Emphasis on Creative Writing: Creative Writing (Exercise)	2 WLH

Examination: Reading Log (max. 2200 words) **Examination requirements:**	3 C

Students are familiar with the genre-specific characteristics of creative and literary texts including poems, short stories or limericks, and are able to identify, reflect on and use these features in their own creative texts.	
Course: Independent-Study Unit according to Chosen Practical Course *Contents*: Students should be able to apply the acquired knowledge and techniques in their chosen field of linguistic study, so that they can complete situational and complex tasks. The independent-study unit comprises 75 hours of self-study and must be taken alongside one of the language practice courses listed above.	
Examination: Learning journal (max. 2200 words) **Examination requirements:** The students expand and optimize their knowledge by applying the skills and techniques imparted in class, so that they are able to cope with complex tasks at a high linguistic level. The independent-study unit requires a portfolio that is produced during the term and that varies depending on the specific course that was attended. • For the independent-study unit in **Advanced Public Speaking** and **Recitation**, students broaden their knowledge of relevant oral communication techniques and skills, such as text structure, rhyming schemes, prosody, and body language, and apply them to the texts to be presented in the course. • For the **CLC for International MA Students**, students extend their knowledge and skills in areas relevant to their presentation. The portfolio, which is due at the end of the course, can include an annotated bibliography of works that were either used for the presentation or excluded from it because of time constraints. • For **Academic Writing**, students apply the acquired skills to conduct research and to independently write scholarly texts (e. g. a term paper), using adequate methods to write on an assigned topic (e. g. a literary analysis of a short story or novella). • For **Vocabulary Training**, students expand their vocabulary in English by reflecting on some aspects of the course content. This, for example, is done through a summary of a text (e. g. a newspaper article), which contains words that were not covered during the course; or they analyse an essay or short story in English with regard to an aspect of the course (e.g. idioms), and learn new words and use them in the correct context. • For **Advanced Translation**, students apply the translation techniques that they acquired to produce an independent translation of a longer work accompanied by annotations, which examine and justify their translatory choices. • For **Creative Writing**, students complement and build on their creative writing skills. They produce short stories or poems, or improve those produced in the course and reflect on them (e.g. structure and choice of stylistic devices) with reference to the course content. At the end of the course, students submit a portfolio of their own poems and / or short stories, which also reflects on their own works and their editing process.	3 C

Admission requirements:	**Recommended previous knowledge:**
• Participation in a diagnostic test offered by the Department of English that covers those	none

areas relevant for an MA degree programme (grammar, listening comprehension, reading comprehension, text production)
- Result of this diagnostic test point to a standard or above-standard competence in those areas
- Participation in an appraisal meeting in which students are advised about strategies and measures to be taken to support students in further improving their language skills

Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Canpolat, Seda, Dr.
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Additional notes and regulations:

The Independent Study Unit should be completed in tandem with the selected language practice course and should build on an aspect taught in the selected course

Georg-August-Universität Göttingen	6 C
Georg-August-Universität Göttingen **Module M.EP.04a: Advanced Anglophone Literature and Culture**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Learning outcome, core skills: • A deeper and broader understanding of literary and cultural studies • The competence to synthesize textual analysis and the systematic parameters of the field by means of a sample research problem.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture series on English literature and cultural history	2 WLH
Course: Seminar on English literature and cultural studies	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused absences.	6 C

Examination requirements: • Demonstration of knowledge of textual analysis and systematic theoretical competence with regard to a sample research problem • Research competence and a critical approach to secondary sources	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.04b: Advanced North American Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: • Research-oriented subject-specific deepening of "North American Studies". • Understanding of the problems of theoretical textual analysis (mainly literary texts) through the use of sample research problems • The competence to self-reflect with regard to subject-specific and interdisciplinary methodologies • The competence to synergistically use literary and cultural studies methodologies	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: American Studies Seminar In this course students will acquire a foundational knowledge of the questions and positions of literary and cultural theory. They will develop an informed competence to analyze and critique literary and non-literary texts. Moreover they will investigate and compare different theories critically and develop their own research theses and discuss them at a scholarly level.	2 WLH
Course: Independent Study: "Literary Theory" For an Independent Study (60 hours of the total self-study), the student will work on a subject in the field of literary theory agreed upon with the instructor in advance. The goal is a thematically-focused, theoretically and methodologically supported self-study supported by relevant literary and cultural-theoretical primary and secondary texts in field-specific research publications and databanks. The student should develop the ability to reflect upon their approach to the subject, to have a scholarly dialog with the instructor regarding their term paper with regard to establishing and placing the paper in the context of the field. Through the Independent Study, the student should deepen their understanding of methodology and theory. The student should gain an understanding of research-oriented work and an informed analysis and critique of literary and non-literary texts. Progress will be assessed through a minimum of three meetings with the instructor.	
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused absences; for an independent study three meetings with the instructor.	6 C

Examination requirements: Literary research; critical approach to secondary literature; formulation of a research thesis; independent scholarly research.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester: 2 - 3
Maximum number of students: 60	

Georg-August-Universität Göttingen **Module M.EP.05a: Advanced English Linguistics**	6 C 2 WLH

Learning outcome, core skills: • The competence to verify linguistic theories and to apply argumentation strategies to a specific research project • Knowledge of alternative approaches to the core material as well as the ability to critically assess and grasp new theoretical developments	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Linguistic seminar	2 WLH
Course: Independent Study *Contents*: The goals are: a) competency in assessing scholarly research in the field, b) competence in a meaningful and correct application of linguistic theories regarding linguistic phenomena in the area of study, c) advanced knowledge of the subject, as necessary for meaningful class participation, and as is necessary to acquire if not present prior to the beginning of the course. Independent studies comprise 60 hours of the total self-study and will generally require a minimum of three meetings with the instructor during the semester. Progress will be assessed in interviews and/or through written assignments, subject to prior agreement.	
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused absences	
Examination requirements: Demonstration of the ability to research and absorb relevant research on a linguistics-relevant subject, to extract relevant research questions, to analyze differentiated linguistic objects, and to select and evaluate an appropriate theory.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.05b: Encountering the Medieval Text**	6 C 2 WLH

Learning outcome, core skills:	**Workload:**
• An understanding of selected texts of medieval English literature in their linguistic and literary contexts through intensive textual study • To approach texts with a meaningful understanding of historical context, textuality and provenance • The application of selected aspects of medieval and contemporary literary theories to specific texts • The application of editing techniques with regard to modern media	Attendance time: 28 h Self-study time: 152 h

Course: Course: Medieval Studies (Seminar)	2 WLH
Course: Independent Study *Contents*: Independent research of a topic; application of research methods, e.g., catalogues, databases, or text corpus; a minimum of two tutorials per semester offering instruction, feedback, and supervision; 75 hours of the entire self-study.	
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused absences. **Examination requirements:** Familiarity with important currents of literary and cultural theory; application of theoretical knowledge on texts with a view of provenance; a confident encounter with relevant research publications, databases, and text corpora.	

Admission requirements: M.EP.02b or M.EP.02c	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module M.EP.05c: Advanced English Linguistics 2	2 WLH

Learning outcome, core skills:	Workload:
• The competence to verify linguistic theories and to apply argumentation strategies to a specific research project • Knowledge of alternative approaches to the core material as well as the ability to critically assess and grasp new theoretical developments	Attendance time: 28 h Self-study time: 152 h

Course: Linguistic seminar	2 WLH

Course: Independent Study

Contents:

The goals are: a) competency in assessing scholarly research in the field, b) competence in a meaningful and correct application of linguistic theories regarding linguistic phenomena in the area of study, c) advanced knowledge of the subject, as necessary for meaningful class participation, and as is necessary to acquire if not present prior to the beginning of the course.

Independent studies comprise 60 hours of the total self-study and will generally require a minimum of three meetings with the instructor during the semester. Progress will be assessed in interviews and/or through written assignments, subject to prior agreement.

Examination: Term Paper (max. 7500 words)	6 C

Examination requirements:
Demonstration of the ability to research and absorb relevant research on a linguistics-relevant subject, to extract relevant research questions, to analyze differentiated linguistic objects, and to select and evaluate an appropriate theory.

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra Dr. Hildegard Farke
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Additional notes and regulations:
The module is meant to allow students to explore a second area of linguistic expertise, in continuation of module M.EP.05a. It may also be used for the Schlüsselkompetenzbereich, viz. as an optional module outside the core curriculum.

Georg-August-Universität Göttingen	6 C
Module M.EP.05d: Advanced Medieval English Studies 2	2 WLH

Learning outcome, core skills:	Workload:
- An understanding of selected texts of medieval English literature in their linguistic and literary contexts through intensive textual study - To approach texts with a meaningful understanding of historical context, textuality and provenance - The application of selected aspects of medieval and contemporary literary theories to specific texts - The application of editing techniques with regard to modern media	Attendance time: 28 h Self-study time: 152 h

Course: Course: Medieval Studies (Seminar)	2 WLH
Course: Independent Study *Contents*: Independent research of a topic; application of research methods, e.g., catalogues, databases, or text corpus; a minimum of two tutorials per semester offering instruction, feedback, and supervision; 75 hours of the entire self-study.	
Examination: Term Paper (max. 7500 words) **Examination requirements:** Familiarity with important currents of literary and cultural theory; application of theoretical knowledge on texts with a view of provenance; a confident encounter with relevant research publications, databases, and text corpora.	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 30	

Additional notes and regulations:
The module mirrors M.EP.05b and allows students to acquire knowledge about an additional area of Medieval English Studies. The module can be used for the soft skills part of the degree programme

Georg-August-Universität Göttingen **Module M.EP.06a: Degree Course: Anglophone Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: • Research-oriented, field-specific deepening of the subject; understanding of the problems of theoretical textual analysis (above all with literary texts) with regard to a specific sample problem • The competence of field-specific and interdisciplinary self-reflection • The competence of a synthetic use of literary and cultural studies methodology	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Colloquium	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Regular participation with no more than two excused absences.	6 C

Examination requirements: • Demonstration of a fundamental knowledge of the field as well as competence of theoretical and textual analysis • An informed demonstration of an understanding of different theoretical and research approaches • A synergetic use of literary and cultural studies methodologies	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: not limited	

Additional notes and regulations: This module is aimed at students writing their MA thesis on a topic from Anglophone Literature and Culture.

Georg-August-Universität Göttingen	6 C
Module M.EP.06b: Degree Course: North American Literature and Culture	4 WLH

Learning outcome, core skills:	Workload:
• Deepening of the knowledge of cultural- and literary- historical analysis of American studies through a research-oriented focus on a textual analysis of a sample research question (with the possibility of developing a master's thesis) • Application of said methodology • Review of the unity and exceptionality of the subject North American Studies and field-specific knowledge of the same (in colloquium)	Attendance time: 56 h Self-study time: 124 h

Course: Seminar: American Studies	2 WLH
Course: Colloquium: American Studies	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Regular participation with no more than two excused absences.	6 C

Examination requirements:	
A method-based presentation of research positions; review of the unity and exceptionality of the subject North American Studies and field-specific knowledge of the same.	

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module M.EP.07a: Degree Course: English Linguistics**	6 C 2 WLH
Learning outcome, core skills: • Deepening and specialization in an area of study • Research-oriented focus on a linguistic problem (with the possibility of developing a master's thesis) • Competence in linguistic discourse • To enable the student (with the colloquium) toward an interdisciplinary embedding and reflection upon linguistic problems and subject area within the context of specific research paradigms as well as the explication of field-specific-scholarly relevance	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Colloquium: Linguistics	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Regular participation with no more than two excused absences.	
Examination requirements: Demonstration of interdisciplinary embedding and reflection upon linguistic problems and subject area within the context of specific research paradigms as well as the explication of field-specific-scholarly relevance.	

Admission requirements: Successful completion of M.EP.05a OR M.EP.09c.	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.07b: Degree Course: Medieval English Studies**	6 C 2 WLH

Learning outcome, core skills: After successful completion, students will be able to: • Present their own research using appropriate forms of presentation • Demonstrate test-oriented, comprehensive knowledge of English Medieval Studies • Lead academic dialogue with graduates and formulate research questions independently • Undertake in-depth analysis of the latest literature	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Independent Study *Contents*: Independent work on a research topic; Practice of research techniques, for example, with catalogs, databases or corpora; at least two tutorials per semester in which instruction, feedback and monitoring of results take place; Scope of the Independent Study: 75 hours of total self-study	

Course: Colloquium *Contents*: • Exposure to current research topics in dialogue with graduates • Presentation and evaluation of independent research work • Exam Preparation / repeat	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Regular participation with no more than two excused missed sessions; 1 research presentation **Examination requirements:** Sound knowledge in several areas of English Medieval Studies; critical analysis of current issues in teaching and research on the English Middle Ages.	6 C

Admission requirements: M.EP.05b	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Winfried Rudolf
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.EP.08a: American Culture and Institutions / British Culture and Institutions (for MA Students)**	6 C 2 WLH

Learning outcome, core skills: • Training of advanced cultural and intercultural skills • Comparison of various Anglophone / North American cultural areas, as well as cultural practices amongst each other • Autonomous development of in-depth knowledge in the field of regional history and specific culture-bound practices	**Workload:** Attendance time: 28 h Self-study time: 152 h

Special examination regulations: Prüfungsleistung wird vor Kursbeginn im Vorlesungskommentar/UniVZ bekannt gegeben	

Course: Advanced American Area Studies / American Culture and Institutions or Advanced British Area Studies /British Culture and Institutions	2 WLH

Course: Independent Study *Contents*: As part of the Independent Study which comprises 75 hours of the total self-study students deepen and broaden their skills in cultural studies by reflecting on some of the course content whilst carrying out various tasks. This is done, for example, by students designing a game that helps learners to better understand aspects of British culture and to have fun at the same time; by creating an annotated bibliography of books, which, although on the course book list, cannot be dealt with in depth due to lack of time during the course; by writing an essay or a 'survival guide', a poem, etc. on an aspect of the course, in which the main focus should be placed on how students would react to selected situations in Great Britain. At the end of the course, students submit appropriate work. There will be opportunity for consultation and supervision in the seminar.	

Exactly one of the following examinations must be successfully completed:	
Examination: Essay (max. 3000 words) **Examination prerequisites:** Regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen.	6 C
Examination: Written examination (90 minutes) **Examination prerequisites:** Regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen.	6 C
Examination: Oral Presentation (approx. 30 minutes) **Examination prerequisites:** Regelmäßige Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen.	6 C

Examination requirements: Sound knowledge of the culture, history and specific culture-bound practices of the country and the ability to compare different Anglophone / North American culture areas.	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen Module M.EP.08b: Landeskunde (B)	6 C 4 WLH

Learning outcome, core skills:	Workload:
Zielgruppe: Dieses Modul richtet sich an Studierende, die im Rahmen ihres BA-Studiengangs bislang entweder kaum landeskundliche Kenntnisse erworben haben oder deren landeskundliche Kenntnisse sich auf eine andere Region beziehen. Diese Studierenden profitieren von einer Einführung in die Landeskunde des bislang noch nicht studierten Kulturbereichs, indem sie Grundlagenkenntnisse erwerben; gleichzeitig sind sie aufgefordert, diese über die vertiefende Lehrveranstaltung zu vertiefen und kritisch zu reflektieren. Lernziele und Kompetenzen: Erwerb grundlegender landeskundlicher Kompetenzen in einem bislang nicht studierten Bereich; Ausbildung vertiefter landeskundlicher und interkultureller Kompetenzen; Vergleich verschiedener anglophoner/nordamerikanischer Kulturbereiche und Kulturpraktiken untereinander	Attendance time: 56 h Self-study time: 124 h

Course: American Landeskunde/ American Culture and Institutions (Beginner's Course) or British Landeskunde/British Culture and Institutions (Beginner's Course)	2 WLH
Course: Advanced American Landeskunde/ American Culture and Institutions or Advanced British Landeskunde/British Culture and Institutions	2 WLH
Examination: Klausur (90 Min.) oder Essay (ca. 8 Seiten) oder Präsentation mit anschließender Diskussionsleitung (ca. 30 Min.) [Prüfungsleistung wird vor Kursbeginn im Vorlesungskommentar/UniVZ bekannt gegeben] **Examination prerequisites:** Regelmäßige aktive Teilnahme mit nicht mehr als zwei entschuldigten Fehlsitzungen	

Examination requirements:	
Erwerb grundlegender landeskundlicher Kompetenzen in einem bislang nicht studierten Bereich; Ausbildung vertiefter landeskundlicher und interkultureller Kompetenzen; Vergleich verschiedener anglophoner/nordamerikanischer Kulturbereiche und Kulturpraktiken untereinander	

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Regine Eckardt
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 3
Maximum number of students: 80	

Additional notes and regulations:

Die Prüfungsleistung ist im Kurs Advanced American Landeskunde/ American Culture and Institutions bzw. im Kurs Advanced British Landeskunde/British Culture and Institutions abzulegen.

Georg-August-Universität Göttingen **Module M.EP.09a: Research Course: Anglophone Literature and Culture**	12 C 2 WLH
Learning outcome, core skills: • Deepening and consolidation of the knowledge of literary studies attained in the Bachelor's degree program in the sub-discipline of Anglophone Literature and Cultural Studies. • Ability to create a synopsis of the text-analytical, practical and systematic-theoretical parameters of the discipline by using the theory-based investigation of a research problem selected by the students themselves. • Deepening of academic autonomy through guided research, bibliography and critical analysis of research approaches. • Discussion and analysis of literary / cultural theory approaches to ascertain their applicability to a specific topic. • Developing autonomy in terms of research and critical assessment of secondary literature through feedback sessions and regular discussions to present the chosen research area.	**Workload:** Attendance time: 28 h Self-study time: 332 h
Course: Colloquium In the colloquium students get an insight into the methodology and approaches of other students. They deepen their knowledge about how theories and methodologies can be used by discussing and reflecting on what others do, and they hone their analytical skills in discussing the state of research with respect to other projects.	2 WLH
Course: Independent Study *Contents*: For the Independent Study part comprising 332 self-study hours, a thematically focused research topic will be agreed with the teacher of the accompanying class which will be developed in theoretical and methods-based self-study. In addition, relevant research methods are practiced, primary and secondary texts compiled and research theses drawn up which will be discussed with the teacher in academic dialogue. Students develop the ability to work independently and in a scientifically research-oriented manner and thereby reflect critically on their own approaches. In the Independent Study parts, students develop their methodological skills and their appreciation of theory. Instruction, feedback and review of progress take place in at least three meetings distributed over the lecture period.	
Examination: Learning journal (max. 6000 words), not graded **Examination prerequisites:** Regular participation with no more than two excused absences **Examination requirements:** • Methodologically-sound and critical account of theories and research positions	12 C

- Reliable research skills and critical approach to the research literature. The work put into the portfolio may include, but is not limited to, a presentation of a research project and / or a critical outline of the literature on a research project.

The portfolio can include, among other things, the presentation of a research project and/or a critical outline of the literature on a research project. The presentation (PPT or, if available, a recording of the lecture) as well as handouts and working sketches presented in the colloquium are in any case part of the portfolio.

Admission requirements: M.EP.04a proof of an obligatory counselling meeting according to § 6 (4) of the regulations	Recommended previous knowledge: M.EP.01a
Language: English	Person responsible for module: Prof. Dr. Barbara Schaff
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 2 - 3
Maximum number of students: not limited	

Additional notes and regulations:
This module is exclusively designed to help students conceptualize and prepare a research project that leads into a draft master's thesis. Students should have already contracted a supervisor for their thesis.

Georg-August-Universität Göttingen **Module M.EP.09b: Research Course: North American Literature and Culture**	6 C 2 WLH

Learning outcome, core skills: • Deepening and consolidation of the literary knowledge obtained during the Bachelor's program in the area of North American Studies • Ability to create a synopsis of the text-analytical, practical and systematic-theoretical parameters of the discipline by using a theory-based investigation of a research problem selected by the students themselves. • Deepening of academic autonomy through guided research, bibliography and critical analysis of research approaches. Main contents: • Advanced text-analytical skills • Intensive critical examination of a range of literary / cultural, or theoretical positions • Self-critical observation of one's own approaches, techniques and analysis results • Enhancement of independence in terms of research and critical assessment of the secondary literature through feedback sessions and in regular meetings in oder to present the chosen research area	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: 1. Research and research-focused course for 2 hours per week on North American culture and literature	2 WLH
Course: Independent Study *Contents*: For the Independent Study component, which comprises 75 hours of the total self-study part, a topic in the field of American Studies previously agreed with a teacher will be worked on independently. The learning objective is a thematically focused, theory and methods-based self-study for which relevant primary and secondary texts are researched in technically relevant scientific databases and publications, and research theses designed. Students learn to develop the ability to critically reflect on their own approaches, to substantiate them in academic dialogue with the teacher on the basis of thesis papers and to define their place in a professional context. In the Independent Study parts of the American Studies modules, students extend their methodological skills and appreciation of theory. They build up their ability to work independently and in a scientifically research-oriented fashion. Instruction, feedback and review of progress take place in at least three meetings distributed over the lecture period.	
Examination: Term paper or research report (max. 7500 words) **Examination prerequisites:** Regular participation; Short presentation of a research project. **Examination requirements:** Demonstration of ability to comprehensively research the literature; critical approach to secondary literature; ability to formulate own research theses; ability to work independently and scientifically.	6 C

Admission requirements:	**Recommended previous knowledge:**

M.EP.01b	M.EP.04b
The proof of the obligatory advisement according to § 6 (4) of the the regulations.	
Language: English	**Person responsible for module:** Prof. Dr. Babette B. Tischleder
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.EP.09c: Research Course: English Linguistics**	12 C 4 WLH
Learning outcome, core skills: - Deepening and consolidation of linguistic knowledge attained during the Bachelor's degree in the area of Modern English. - Ability to create a synopsis of the text-analytical, practical and systematic-theoretical parameters of the discipline by using a theory-based investigation of a research problem selected by the students themselves. - Deepening of academic autonomy through guided research, bibliography and critical analysis of research approaches. - Competence in carrying out an intense critical analysis of various linguistic positions.	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Research oriented Cours	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation in both classes with no more than two excused classes missed; ungraded research report (max. 5000 words)	

Course: Linguistic Colloquium *Contents*: The qualification aim of this part of the module is the acquisition of skills in extrapolation of subject-specific and theoretical positions from the research literature, as well as presentations on current issues and research topics in linguistics. These should be commented and reflected on, and classified in a research outline.	2 WLH
Examination: Research report (max. 1500 words), not graded **Examination prerequisites:** Regular participation with no more than two excused classes missed	

Examination requirements: Students must demonstrate that they can deal with methods and modes of practice in linguistic research in a generic area under guidance that they can independently evaluate analysis results and evaluate these critically. They must demonstrate that they can research the relevant literature independently and can critically assess the secondary literature. They must demonstrate that they can present their chosen field of research.	

Admission requirements: none	**Recommended previous knowledge:** Students should have successfully completed M.EP.05a.
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	3
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.EP.09e: Research Course: English Linguistics - Peer-to-Peer Assistantship**	12 C 2 WLH

Learning outcome, core skills: - Deepening and consolidation of linguistic knowledge attained during the Bachelor's degree in the area of Modern English. - Ability to create a synopsis of the text-analytical, practical and systematic-theoretical parameters of the discipline by using a theory-based investigation of a research problem selected by the students themselves. - Deepening the academic engagement with the linguistic subject matter through the principle of "learning by teaching", i.e. advanced students repeat basic concepts and formal knowledge by imparting them to other students who are not familiar or confident with them through peer-to-peer assistantship. The ability to engage in critical debate is supported and practised through the 1-1 relation on the one hand, and the independence of argumentation is deepened on the other.	**Workload:** Attendance time: 28 h Self-study time: 332 h

Course: Advanced / Research-focused course *Contents*: The qualification aim of this part of the module is the acquisition of skills in extrapolation of subject-specific and theoretical positions from the research literature, as well as presentations on current issues and research topics in linguistics. These should be commented and reflected on, and classified in a research outline.	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation in both classes with no more than two excused classes missed; ungraded research report (max. 5000 words)	6 C

Course: Peer-to-peer meeting *Contents*: Students perform a support for peer students with a different linguistic background. They are expected to tutor one or two students to enable them to attend an advanced linguistic course esp. with reference to theoretical and/or formal concepts required for successful completion. The peer company is established and supervised by the instructor. Peer meetings should be on a weekly basis to follow the course's progression.	2 WLH
Examination: Learning journal (max. 3500 words), not graded	6 C

Examination requirements: 1. The students prove that they can deal with methods and working practices of linguistic research, that they can independently research the relevant literature and critically assess the secondary literature. 2. Proof of at least 8 meetings with the mentees conducted at regular intervals, documentation of the concepts and skills developed, reflection on the learning progress as well as evaluation of the peer-to-peer assistance.	

Admission requirements:	Recommended previous knowledge:
by individual call / address by instructor	advanced linguistic course and term paper
Language:	Person responsible for module:
English	Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency:	Duration:
each semester	1 semester[s]
Number of repeat examinations permitted:	Recommended semester:
twice	3
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.EP.10a: Historical Aspects of Anglophone Literature and Culture**	6 C 4 WLH

Learning outcome, core skills: • Deepening of general knowledge of Anglophone literary history from the Renaissance to the present day (main focus: general overview and critical reflection thereupon) • Subject / structure-based independent analytical and comparative treatment of core texts of Anglophone literary history	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lecture on Anglophone literature (Lecture)	2 WLH
Course: Tutorial or Independent Study *Contents*: For the Independent Study part, which comprises 60 hours of the total self-study component, a thematically focused research subject agreed with the teacher of the accompanying course will be worked on in theoretical and methods-based self-study. In addition, relevant research methods are practiced; primary and secondary texts studied and research theses drawn up in academic dialogue with the teacher. Students develop the ability to work independently in a scientifically research-oriented manner, and thereby to reflect on their own approaches critically. In the Independent Study parts, students develop their methodological skills and their appreciation of theory. Instruction, feedback and review of progress take place in at least three meetings distributed over the lecture period.	2 WLH
Examination: 2 Reading Logs to reflect on primary and secondary literature (up to a maximum of 5000 words) **Examination prerequisites:** Regular participation with no more than two excused classes missed; three meetings with a teacher are a prerequisite for the Independent Study part.	6 C

Examination requirements: • Proof of sound general knowledge of literature and cultural history • Demonstration of the ability to critically reflect on methodology	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.10b: Anglophone Literature in Focus**	6 C 2 WLH

Learning outcome, core skills: • Autonomous analytical and comparative study of core texts in Anglophone literary history and its academic representation, treatment and reception • Deepening of analytical and presentation skills in the field of Anglophone literary history from the Renaissance to the present day (main focus: general knowledge / cross-linking of texts)	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar on History of Anglophone Literature (Seminar)	2 WLH
Course: Independent Study *Contents*: For the Independent Study part, which comprises 75 hours of the total self-study component, a thematically focused research topic will be agreed with the teacher of the accompanying class which will be developed in theoretical and methods-based self-study. In addition, relevant research methods are practiced, primary and secondary texts compiled and research theses drawn up to be discussed with the teacher in academic dialogue. Students develop the ability to work independently and in a scientifically research-oriented manner and thereby reflect critically on their own approaches. In the Independent Study parts, students develop their methodological skills and their appreciation of theory. Instruction, feedback and review of progress take place in at least three meetings distributed over the lecture period.	
Examination: Presentation (approx. 15 min.) with written elaboration (max. 4000 words); alternatively poster presentation (approx. 15 min.) **Examination prerequisites:** Regular participation with no more than two excused classes missed; at least one meeting with a teacher is a prerequisite for the Independent Study part.	6 C

Examination requirements: • Proof of general knowledge overview of literary history and historical reception, as well as of theory-led, text-analytical competencies • Methodologically sound presentation of theories and research positions • Ability to critically compare core texts of different eras	

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Barbara Schaff
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 3
Maximum number of students:	

not limited	

Georg-August-Universität Göttingen **Module M.EP.10c: Anglophone Literature(s) - Developments and Contrasts**	12 C 4 WLH

Learning outcome, core skills: • Deepening of general knowledge of Anglophone literary history from the Renaissance to the present day (main focus: general overview and critical reflection thereupon) • Autonomous critical and comparative analysis of core texts of various eras taking into account the current literature and historical research-related reception	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Class (e.g. lecture) on Anglophone literary history	2 WLH
Course: Class (e.g. lecture, reading seminar)	2 WLH

Course: Independent Study *Contents*: In the Independent Study part (135 hours of the total self-study component), the themes and texts dealt with in class will be deepened in theory and methods-based self-study and literary and cultural critical skills extended. In addition, relevant research methods are practiced; primary and secondary texts studied and research theses drawn up in academic dialogue with the teacher. Students develop the ability to work independently in a scientifically research-oriented manner, and thereby to reflect on their own approaches critically. In the Independent Study parts, students develop their methodological skills and their appreciation of theory.	
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Unless two lectures are brought in: Regular participation with no more than two excused meetings missed.	12 C

Examination requirements: In the exam, students furnish proof of an overall appreciation of literary historical, cultural historical and reception history either on the basis of a thesis paper on both classes, or on the basis of a reading list from both classes, as well as proof of theory-driven text analytical skills. They show that they can present methodologically sound theories and research positions and that they can recognize, outline and critically reflect on lines of development within individual eras.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.10d: Topics in Anglophone Literature**	6 C 2 WLH

Learning outcome, core skills:	Workload:
• Autonomous analytical and comparative study of core texts in Anglophone literary history and its scientific representation, treatment and reception • Deepening of research-oriented analysis expertise in a group themes related to Anglophone literary history	Attendance time: 28 h Self-study time: 152 h

Course: Course on History of Anglophone Literature In addition to concentrating on the course contents the self-study part of the module also includes further in-depth reading and the preparation of contexts and further secondary literature independently, e.g. based on a detailed reading list.	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused classes missed; at least one meeting with a teacher are a prerequisite for the Independent Study part.	6 C

Examination requirements:	
• Proof of sound scientific knowledge of literature • Proof of sound text-analytical skills • Demonstration of ability to reflect on research positions • Sound research skills and critical approach to the research literature.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.10e: English Literature(s) in the Global Context**	6 C 2 WLH

Learning outcome, core skills: • Deepening of research-oriented analysis expertise in a group of themes in the non-core subjects of British / English Literatures (e.g. Caribbean, Canadian, Indian, South African literature) • Cross-linking of knowledge between (canonical) British / English and English-language literature outside of the British Isles • Autonomous study of analytical and comparative core texts in Anglophone literary history and their scientific representation, treatment and reception, also taking intercultural contexts into account	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Course on History of Anglophone Literature In addition to concentrating on the course contents the self-study part of the module also includes further in-depth reading and the preparation of contexts and further secondary literature independently, e.g. based on a detailed reading list.	2 WLH
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular active participation with no more than two excused meetings missed; For the Independent Study part, participation in three meetings with the teacher is required.	6 C

Examination requirements: • Proof of sound knowledge of the literature and cultural context of the selected Anglophone branch • Sound research skills and critical approach to the research literature • Demonstration of comparative text-analysis skills in dealing with canonical texts in British literature	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.EP.10f: Anglophone Literature and Culture: A Critical Survey**	12 C

Learning outcome, core skills: The aim of this module is to impart to students in independent study an in-depth knowledge of a literary / cultural-historical era. After successful completion, students prepare, present and successfully defend a subject for a short academic presentation in a professional academic discussion. After successful participation: • Students will know the core texts and core events of the chosen period and be able to outline them in their development. • Students will be able to show differences and parallels in structure, functionality and subject matter using core texts of the chosen period selected by the students themselves, and be able to critically assess them. • Students will have an overview of non-literary forms of publication in this period (e.g., periodical literature, broadsides, cartoons, ...) and be able to assess their relevance to the literary / cultural-historical context. • Students will have an overview of other cultural forms of representation (art, music, architecture) of the chosen period and be able to name major works and producers (artists, musicians). • Students will have an overview of differing representations of this period in literary and cultural histories and be able to critically evaluate them. • Students will be familiar with and have a general overview of the current state of literary-critical research of the chosen period. • Students will be able to outline a general overview of the current state of literary-critical research on a core study area chosen by the students themselves and evaluate the approaches critically. • Students will be able to approach various literary / cultural theory approaches to the texts or key events of the chosen period, name their strengths and weaknesses, and critically evaluate them in the analysis results. • Students will know the central databases (primary / secondary texts) for the chosen period, assess their utility, and be able to use them systematically for research.	**Workload:** Attendance time: 0 h Self-study time: 360 h

Course: Online unit *Contents*: With the online unit, coupled with about 360 hours of self-study time, students gradually and independently deepen their knowledge of a literary /cultural-theoretical period. The module expands the knowledge of students in the following areas: • Overall knowledge of text, both literary and non-literary • Text analysis and text comparison, both literary and non-literary • Literary / cultural-historical overview • State of research / secondary literature	

- Literary / cultural-theoretical approaches
- Research tools
- (self-management, time management)

Course frequency: each semester

Examination: Lecture (approx. 45 minutes) **Examination prerequisites:** Successful completion of an online learning module with separate work on individual chapters **Examination requirements:** Short presentation (15 mins.) on a core area from the chosen period (e.g. text comparison, research question, presentation of overview) with subsequent discussion. Students demonstrate that they can: - summarize an independently chosen core area in a short lecture which includes the key aspects relevant for a scientific presentation (embedding, methodology, research situation, argumentation, thesis) - present their theses in a sound and coherent way - defend and argue these in a discussion on the subject.	12 C
Examination: Learning journal (max. 9000 words) **Examination prerequisites:** Successful completion of an online learning module with separate work on individual chapters **Examination requirements:** The portfolio can be chosen as an **alternative type of exam**. It contains the results of several tasks that accompany the key chapters in the online unit. In addition, the portfolio contains the written version of a talk of about 20-25mins in length on a core area from the chosen period (e.g. text comparison, research question, presentation of overview). Students demonstrate that they can: - summarize an independently chosen core area in a short lecture which includes the key aspects relevant for a scientific presentation (embedding, methodology, research situation, argumentation, thesis); - present their theses in a sound and coherent way.	12 C

Examination requirements: - Proof of general knowledge of literary and cultural history - Proof of capacity for critical reflection on methodology	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:**

Number of repeat examinations permitted:	Recommended semester:
twice	1 - 3

Additional notes and regulations:
The module cannot be taken simultaneously with module M.EP.01a.

Georg-August-Universität Göttingen **Module M.EP.10g: Non-European Backgrounds**	6 C 2 WLH

Learning outcome, core skills: Students have a basic knowledge of the historical, political and social background of a region in which Anglophone literature is produced and received (e.g., India, South Africa, Australia, New Zealand). They know key aspects of the development of economic and social structures. They have enough basic theoretical knowledge to grasp and describe the developments in each case. They know key events and can explain their significance in wider contexts. They know sources for research on additional literature, and possess the appropriate skills to deal with them.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Course	2 WLH
Course: Independent Study or practice *Contents*: For the Independent Study part, which comprises 75 hours of the total self-study component, a thematically focused research topic will be agreed with the teacher of the accompanying class and be developed in theoretical and methods-based self-study. In addition, relevant research methods are practiced, primary and secondary texts compiled and research theses drawn up to be discussed with the teacher in academic dialogue. Students develop the ability to work independently and in a scientifically research-oriented manner and thereby reflect critically on their own approaches. In the Independent Study parts, students develop their methodological skills and their appreciation of theory. Instruction, feedback and review of progress take place in at least three meetings distributed over the lecture period.	
Examination: Written examination (90 min.) or term paper (max. 5000 words) **Examination prerequisites:** At least one meeting with a teacher are a prerequisite for the Independent Study part. **Examination requirements:** Basic knowledge of the specific historical, political and societal idiosyncrasies of a region producing Anglophone literature (depending on the chosen course); general knowledge of events and developments that particularly characterize the respective society / history of this region; ability to contextualize this knowledge.	6 C

Admission requirements: none	**Recommended previous knowledge:** Knowledge of the anglophone authors as well of the English texts from the non-European cultural areas is recommended.
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Maximum number of students:	
not limited	

Additional notes and regulations:
This module is intended to provide students who have a focus of interest in the field of post-colonial literature with background knowledge on the respective region. If credits are required for external work (e.g. courses at other universities, or summer school courses), graded certificates must be provided as evidence.

Georg-August-Universität Göttingen **Module M.EP.10h: Periods in English Literary History**	6 C

Learning outcome, core skills: After the successful completion of this module, • students have firm knowledge of two periods of Anglophone literary and cultural history and their central developments; • they know the most important canonic authors of two periods of Anglophone literary and cultural history, can locate them within the period and can name their key works; • students know the major canonic texts of the three big genres (novel, drama, poetry) of Anglophone literary and cultural history, can locate them within the period and can connect them to authors; • students know the crucial social developments of two of the periods in Anglophone literary and cultural history in its basics and know about approximate important dates; • students are able to roughly define periods of Anglophone literary and cultural history and can contrast them against each other and successfully justify their answers.	**Workload:** Attendance time: 0 h Self-study time: 180 h

Course: Self-Study Unit Periods in English Literary History () *Course frequency:* once a year	

Examination: Written examination (90 minutes) **Examination requirements:** The part-tests are timed differently: 2x 14mins (closed questions); 2x 18mins (closed and one open question); 1x 26mins (short essay), in total 90 mins. The exam is about overviews of two periods of Anglophone literary and cultural history based on the independent study of two to three literary histories. Students show: • Knowledge of periods and their margins including reasons for structuralizing periods; • naming of periods' key authors and works (knowledge of canon); • knowledge of main social and literary-cultural development. Periods covered: Early Modern Period; the 'Long' Eighteenth Century; Victorian Period; Twentieth-Century Literature; Contemporary Literature	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: 1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Maximum number of students: 25	
Additional notes and regulations:	

Additional notes and regulations:
Students who have completed B.EP.203a in their BA degree programme cannot choose this module.

Georg-August-Universität Göttingen **Module M.EP.11: The Medieval Text in Manuscript, Archive and Media**	12 C 4 WLH

Learning outcome, core skills: After successful completion, students will be able to: • Reliably read, transcribe and date medieval texts from England • Understand fundamental aspects of the study of books in the context of literary scientific theories; and apply edition methods • Describe original medieval manuscripts and understand methods of their cataloging, digitization, preservation and restoration • Practice medial presentation in print media, exhibitions and on the Internet • Become familiar with practical work contexts in archives on excursions	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Medieval studies (Seminar) *Contents*: Practicing making facsimiles; securing of precise textual knowledge	2 WLH
Course: Independent Study *Contents*: Independent work on a research topic; Practice of research techniques, e.g. with catalogs, databases or corpora; at least two tutorials per semester in which instruction, feedback and review progress take place; Scope of the Independent Study part: 280 hours of the total self-study period.	
Examination: Term Paper (max. 7500 words) **Examination prerequisites:** Regular participation with no more than two excused meetings missed; Excursion preparation; adopting a manuscript; presentation **Examination requirements:** Term paper: familiarity with important literary and cultural theory trends; application of theoretical knowledge of the text including a look at its tradition history; working confidently with the relevant research literature, databases and scientific corpora; presentation: good use of relevant presentation techniques; ability to present complex information clearly	6 C

Course: Excursion *Contents*: • Excursion to a European manuscript library • Transcription exercises on real substantive text • Practice of identifying text and edition • Learning archiving techniques • Medial presentation in team *Course frequency:* each winter semester	2 WLH
Examination: Excursion report (max. 2000 words) **Examination prerequisites:**	6 C

Regular participation with no more than two excused meetings missed; presentation
Examination requirements:
Summary of excursion results using diverse media.

Admission requirements:	Recommended previous knowledge:
M.EP.05b	Note that students should have successfully completed M.EP.05a <u>before registering</u> for the excursion.
Language:	**Person responsible for module:**
English	Prof. Dr. Winfried Rudolf
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.EP.11a: Investigating Language: Tools and Skills**	12 C 4 WLH

Learning outcome, core skills: Acquisition of practical methods for investigating English and its historical stages, namely: • Competency to work with current and historical corpora • Skills for empirical data collection (children / adults) • Skills for discursive development of linguistic structures • Competences for the development of historical vocabularies and holdings • Skills for historical comparative linguistics	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Various Tools and Skills: Advanced Course on Formal Linguistic Theories	2 WLH
Examination: Examination-like term paper or term paper (max. 4000 words) **Examination prerequisites:** Regular participation with no more than two excused meetings missed.	6 C

Course: Various Tools and Skills: Advanced Course on Topics on General Linguistics *Contents*: Two courses must be taken from the following option subject areas: • Seminar / lecture in Statistics / Logic • Seminar in the field of Psycholinguistics / Corpus Linguistics • Seminar in the field of Paleography • Seminar in Latin Philology / Old German Studies / Old Romance Studies / Old Scandinavian Studies As an alternative to one of these classes, a tutorial may be offered that accompanies an introductory undergraduate seminar in Medieval Studies or Linguistics.	2 WLH
Examination: Written examination (90 min.) or examination-like term paper or term paper (max. 4000 words) **Examination prerequisites:** Regular participation with no more than two excused meetings missed.	6 C

Examination requirements: • Appropriate use of practical methods for determining and analyzing data relating to English • Review of the adequacy of an analytical method for a given issue • Presentation of methods and results	

Admission requirements: M.EP.020, M.EP.021, M.EP.02b, M.EP.02c	**Recommended previous knowledge:** M.EP.022
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra

	Prof. Dr. Winfried Rudolf; Dr. Hildegard Farke
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 25	

Additional notes and regulations:
In order to take the module, successful completion of either of the basic modules in Linguistics (M.EP.020/M.EP.021), **or** the basic Medieval Studies module (M.EP.02b/M.EP.02c) is required.

Georg-August-Universität Göttingen **Module M.EP.12a: Forms of Literary Reception**	6 C 1 WLH

Learning outcome, core skills: Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	**Workload:** Attendance time: 14 h Self-study time: 166 h

Course: Attendance at two lectures on topics from the field of Anglophone Literature and Culture	
Course: Attendance at two readings on texts in the field of Anglophone Literature and Culture	
Course: Visit to a theater or opera production on a text in Anglophone literature	

Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format **Content of Portfolio:** Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; Short presentation (about 10 min.)	6 C

Course: Block seminar or self-study unit *Contents*: Brief presentation of subject matter, as well as critical reflection on the events attended; work on literary-sociological issues and theories.	1 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.EP.12b: Perspectives on the Literature and Culture Industries**	12 C 1 WLH

Learning outcome, core skills: Students enhance their knowledge about the approach to different areas of the literary and cultural industry. They reflect the specific approaches of the literary and cultural industry for non-scientific recipients. They acquire an overview of which texts and authors are absorbed by society. They improve their understanding of what target groups literary events aim at and learn to critically reflect on those events. In cooperation with the host institution, an internship may be utilized for a research-based master thesis.	**Workload:** Attendance time: 14 h Self-study time: 346 h

Course: Internship in a "Literary Business" (8-12 weeks, domestic or abroad) (e.g with a publishing company; for instance the Literarisches Zentrum, Göttingen, the Literaturherbst, a "literary business" outside Göttingen; in a museum (also non literary); in the area of cultural management with a cultural organisation; with a theatre)	

Course: Block Seminar or self-study unit *Contents*: Activity brief as well as a critical reflection on the marketing of English-speaking writers and their works in the literary scene; development of topics and theories concerning the sociology of literature	1 WLH

Examination: Internship report (max. 4000 words), not graded **Examination prerequisites:** Students have to prove knowledge of theories of the sociology of literature **Examination requirements:** The internship report helps students to systematically document and reflect upon their internship experiences, and allows them to show that they know the specific challenges of the literature and culture industry, especially with regard to authors and publishing houses. Secondly, it allows them to show that they can critically reflect upon the realisation of the different formats, which they encounter. Furthermore, they show their abilities to adapt to the typical and untypical situations of the literature and culture industry and present their copying strategies, which they have developed for these situations. Foci of the internship report: • documentation of the internship: Students describe the most important experiences and situations of their internship. • reflections of the practical insights gained In the second part of the internship report students analyse and reflect upon their new findings and experiences. Further, they critically think about and evaluate their findings with regard to their distinct role during their internship, as well as their studies, the literature and culture industry and their later potential field of work.	12 C

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English, German	Prof. Dr. Barbara Schaff
Course frequency:	**Duration:**
winter or summer semester, on demand	1-2 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3

Georg-August-Universität Göttingen **Module M.EP.12c: Literary Museums and Literary Tourism**	12 C 2 WLH

Learning outcome, core skills: Students enhance their knowledge about the theoretical and practical background of museums and become acquainted with the general, political, economic, and the internal as well as the external parameters of museums in general and literary museums in particular. They study the history and the practice of literary tourism. They acquire knowledge about the materiality of the exhibits and learn how to handle museum objects and concepts theoretically and practically. In cooperation with the host institution, an internship may be utilized for a research-based master thesis.	**Workload:** Attendance time: 28 h Self-study time: 332 h

Course: Course/Lecture: Literature Industry Can be attended before or after the internship.	2 WLH
Course: Practical Project Work Internship, domestic or abroad, in the field of literary museums or literary institutions (8-12 weeks)	

Examination: Internship report (max. 4000 words), not graded **Examination requirements:** • students must be capable of presenting the application for as well as the accomplishment of their internships, both orally and in writing • critical reflection about the approach to literature with regard to public reception	12 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1-2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3

Georg-August-Universität Göttingen **Module M.EP.12d: Forms of Literary Reception/s: Edinburgh Festivals**	6 C 2 WLH

Learning outcome, core skills: Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Visit to two or three literary museums or places of literary importance in or around Edinburgh *Contents*: e.g. Writers' Museum; Abbotsford House; Lewis Grassic Gibbon Centre; Burns' House	
Course: Attendance at/participation in one or two guided tours with a or on a literary topic *Contents*: e.g. City of Literature Tour; Rebus Tour; 44 Scotland Street Tour; if only one two places/museums are chosen, students must take part in two tours	
Course: Visit to three events at the Edinburgh International Book Festival After consulting with the person responsible for the module, one of these events may be exchanged for an Edinburgh Fringe Festival event or an Edinburgh International Festival event.	
Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format **Content of Portfolio:** Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; short presentation (about 10 min.)	6 C
Course: Summer School course on aspects of cultural history or cultural theory *Contents*: aspects of the cultural specifics of Edinburgh, with a focus on the literature and culture industries in and around Edinburgh	2 WLH

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	1 - 3

Georg-August-Universität Göttingen **Module M.EP.15b: American Culture and Institutions / British Culture and Institutions (for MA Students)**	6 C 2 WLH

Learning outcome, core skills: • Training of advanced cultural and intercultural skills • Comparison of various Anglophone / North American cultural areas, as well as cultural practices amongst each other • Autonomous development of in-depth knowledge in the field of regional history and specific culture-bound practices	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Advanced American Area Studies / American Culture and Institutions or Advanced British Area Studies /British Culture and Institutions	2 WLH
Course: Independent Study *Contents*: As part of the Independent Study which comprises 75 hours of the total self-study students deepen and broaden their skills in cultural studies by reflecting on some of the course content whilst carrying out various tasks. This is done, for example, by students designing a game that helps learners to better understand aspects of British culture and to have fun at the same time; by creating an annotated bibliography of books, which, although on the course book list, cannot be dealt with in depth due to lack of time during the course; by writing an essay or a 'survival guide', a poem, etc. on an aspect of the course, in which the main focus should be placed on how students would react to selected situations in Great Britain. At the end of the course, students submit appropriate work. There will be opportunity for consultation and supervision in the seminar.	
Examination: Written Exam (90 Min.) or Essay (about 3000 words) or Presentation with the additional Discussion (about 30 Min.) [The mode of the examination will be set at the beginning of the course in UniVZ] **Examination prerequisites:** Regular participation with no more than two excused classes missed.	6 C

Examination requirements: Sound knowledge of the culture, history and specific culture-bound practices of the country and the ability to compare different Anglophone / North American culture areas.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hedzer Hugo Zeijlstra
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

| Maximum number of students:
not limited | |

Georg-August-Universität Göttingen **Module M.EuCu.11: Political Construction of Europe**	6 C 2 WLH

Learning outcome, core skills: Within the "Core Fields of European Society, Politics and Culture", this module is meant for students to develop a thorough knowledge of political and legal aspects of (European) governance. The students acquire and demonstrate a thorough historical understanding of the European integration process. They refine their understanding of the complex cultural, political and historical interrelations and structures on the basis of current debates about European integration. Furthermore, students acquire competencies for a better understanding of the relevant readings about European history and current debates in Europe.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: "Political Construction of Europe" (Seminar)	2 WLH
Examination: Term Paper (max. 15 pages)	6 C

Examination requirements: The students • develop knowledge of the debates about the European integration. • develop text comprehension of research in the related academic field • demonstrate that they have the ability to discuss the interrelations of the European integration process and put it into context in a well-structured way.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Simon Fink
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.EuCu.13: Cultural Construction of Social Order**	5 C 2 WLH

Learning outcome, core skills:	**Workload:**
Within the "Core Fields of European Society, Politics and Culture", this module is meant for students to develop an overview of the core concepts of a socio-cultural approach to Europe in a Global Context. The seminar develops key concepts of the complex "identification - belonging - participation" and applies them to the current situation in Europe. It will do so from an international as well as interdisciplinary perspective. The focus in this module will thus be on an active examination of the relevant ideas and theories. Students will be challenged to formulate and critically reflect upon their own approaches towards the complex at hand.	Attendance time: 28 h Self-study time: 122 h

Course: "Cultural Construction of Social Order" (Seminar)	2 WLH
Examination: Four Reading Logs (max. 3 pages each)	5 C

Examination requirements: • Students aquire and demonstrate a thorough knowledge of interdisciplinary, theoretical approaches to the complex of identity-belonging-participation • They are able to analyse and critically engage with theoretical texts	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Simon Fink
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.EuCu.23: Research Seminar: Europe in a Global Context**	10 C 4 WLH

Learning outcome, core skills: The students learn to reflect critically on recent debates in European Studies from a transnational perspective. they acquire the competence to discuss relevant historical and political issues critically and identify core controversies. The course scrutinizes Europe's role in the world from different theoretical and methodical perspectives. The students analyse and evaluate it in various historical contexts (such as transregional relations with a special focus on transatlantic relations, postcolonial constellations, globalisation). Methods of the participating disciplines are used in order to discuss, analyse and evaluate Europe's role and position in a research oriented and scientific context.	**Workload:** Attendance time: 56 h Self-study time: 244 h

Course: "Europe in a Global Context I" (Seminar) *Course frequency:* each summer semester	2 WLH
Course: "Europe in a Global Context II" (Seminar) *Course frequency:* each summer semester	2 WLH
Examination: Term Paper (max. 20 pages)	10 C

Examination requirements: • Understanding of and reflection upon Europe's role in a transregional or global context • Ability to discuss and apply the respective disciplines' methods and means.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Simon Fink
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.EuCu.23a (AS): Research Seminar: Transatlantic Relations**	5 C 2 WLH

Learning outcome, core skills: The students learn to reflect critically on recent debates in European Studies from a transnational perspective. they acquire the competence to discuss relevant historical and political issues critically and identify core controversies. The course scrutinizes Europe's role in the world from different theoretical and methodical perspectives. The students analyse and evaluate it in various historical contexts (such as transregional relations with a special focus on transatlantic relations, postcolonial constellations, globalisation). Methods of the participating disciplines are used in order to discuss, analyse and evaluate Europe's role and position in a research oriented and scientific context.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: "Transatlantic Relations" (Seminar)	2 WLH
Examination: Term Paper (max. 12 pages)	5 C

Examination requirements: • Understanding of and reflection upon Europe's role in a transregional or global context • Ability to discuss and apply the respective disciplines' methods and means.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Simon Fink
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: 5	

Georg-August-Universität Göttingen **Module M.EuCu.30: ResearchLAB: Imagining Europe Differently**	10 C 2 WLH

Learning outcome, core skills: As part of the Research Track, this seminar is to open a space for students to critically assess approaches to current challenges from an interdisciplinary perspective. Students are asked to identitfy challanges they want to deal with in the seminar (i.e. climate change or migration). They will pool their knowledge from their respective backgrounds to reflect upon and discuss the issues at hand. They are to apply their knowledge, expertise and methodological skills in order to frame the challenges and see how they have been dealt with. Then they, can conceptualize alternative approaches and solutions.	**Workload:** Attendance time: 28 h Self-study time: 272 h

Course: "ResearchLab" (Seminar) *Course frequency:* each winter semester	
Examination: Oral report with written elaboration Presentation (ca. 15 minutes) and written elaboration (max. 20 pages)	10 C

Examination requirements: Students show that their ability to critically apply theories to societal and political challenges and to discuss alternate approches. They show their ability to pinpoint their approaches.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Simon Fink
Course frequency: every 4th semester	**Duration:** 1 Semester
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 20	

Georg-August-Universität Göttingen	5 C
Module M.EuCu.34: Intercultural Hermeneutics	2 WLH

Learning outcome, core skills:	**Workload:**
As part of the research track, this module serves to introduce students to intercultural hermeneutics and, in doing so, also make them aware of their own cultural background and presuppositions. In this module the students acquire a deeper knowledge of the: • History of the inculturation of European Life in non-European context • Cultural interaction in inter-personal encounters and confrontation, • Characteristics of different models of intercultural hermeneutics, as well as following abilities: • the ability to analyse the (cultural and social) implications of transformation processes using examplary texts as examples, and • the ability to reason adequately in dialogue with people of different origins and to reflect on the conditions and perspectives of the exchange.	Attendance time: 28 h Self-study time: 122 h

Course: Seminar (Seminar)	2 WLH
Examination: Oral examination (approx. 20 minutes)	5 C

Examination requirements:	
• Knowledge of the characteristic of diverse models of intercultural hermeneutic • Ability to reason adequately in consultation with people of different origin and to reflect on their conditions and perspectives.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dr. h. c. mult. Martin Tamcke
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 5	

Georg-August-Universität Göttingen **Module M.FES.311: Tropical forest ecology and silviculture**	6 C 4 WLH

Learning outcome, core skills: General understanding of ecological concepts regarding tropical forests and their characteristics. Critically analyse silvicultural systems considering their advantages and drawbacks.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Tropical forest ecology and silviculture (Lecture) *Contents*: This course focuses on the ecology of tropical rain forests, threats to forests and options for ecologically sound land use. Lectures on forest ecology include characteristics of different tropical forest types such as lowland forest, montane forest, mangrove forest, and additionally the biodiversity of the forest, the role of fire, and the carbon balance of forests. More applied topics address silvicultural systems such as polycyclic and monocyclic management systems.	4 WLH
Examination: Oral examination (approx. 20 minutes)	6 C

Examination requirements: Emphasis lies on the ecology of tropical rain forests and options for ecologically sound management. Students shall know e.g. characteristics of different forest types, features of management systems and discuss land use options.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dirk Hölscher
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.312: International Forest Policy and Economics**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Global environmental and forest policy: The objective is that students get basic knowledge of both the key policies related to forests and the application of the policy analysis on such issues. Students acquire comprehension about global forest related policy processes and factual knowledge about forest actors affecting the policy on a global level. The seminar combines a lead-in to global policy theory and its translation in practical, empirical knowledge about actors and processes of high importance in forestry. The different instruments for international policy formulation and implementation are discussed using case studies. **International forest economics:** The lecture is split in two main areas: 'International Wood Markets' and 'International Environmental and Forest Conservation'. The first part deals with the international trade with wood and wood products. International markets and the consequences of protectionism are analysed. Furthermore, aspects of international wood marketing are shown. In the second part, international environmental problems are described and possibilities as well as constraints for international co-operation are discussed. Finally, relations between environmental conservation and economic development are analysed.	Attendance time: 56 h Self-study time: 124 h

Course: Global environmental and forest policy (Seminar)	2 WLH
Examination: Written examination (60 minutes)	3 C

Course: International forest economics (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements: • Familiarity with international wood markets and international trade with wood and wood products • Understanding of international wood marketing • Ability to analyse consequences of protectionism • Apply economic theory in order to analyse possible solutions towards international environmental problems • Sound understanding of the relations between forest conservation and economic development	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Carola Paul
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

cf. examination regulations	
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.313: Monitoring of Forest Resources**	6 C 4 WLH
Learning outcome, core skills: Familiarize the students with the range of methods and techniques applied to forest monitoring in the preparation, planning, implementation and analysis phase. Objective is that the students are eventually in the position to carry out their own monitoring projects, and that they have the criteria to judge the quality of monitoring projects in general. Focus is on the target-oriented planning and the definition of the most appropriate sampling design and plot design that guarantees the generation of high-quality information for the decision makers in forestry.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Monitoring of forest resources (Lecture, Exercise) *Contents*: Forest monitoring is a forestry discipline that aims at the comprehensive and objective characterization of the forests as a production system and/or as an ecological system in a defined geographic area, in terms of status quo and changes. Forest inventories are the core element of monitoring and they generate data and information required by foresters, forest politicians and forest researchers to support decision making. The course module "Monitoring of forest resources" intends to familiarize the students with the range of methods and techniques applied to forest inventories in the preparation, planning, implementation and analysis phase. Objective is that the students are eventually in the position to carry out their own monitoring projects of forests and related resources, and that they know the criteria to judge the quality of monitoring projects in general. Focus is on the target-oriented planning and the definition of the most appropriate sampling design and plot design that guarantees the generation of high-quality information for the decision makers in forestry. That includes comprehensive presentation of statistical sampling. Examples of small and large area inventories and monitoring are presented and critically analysed. The important remote sensing applications for forest monitoring are not dealt with in detail in this module, as this topic is covered in other modules; but the relevance of integrated inventories (combining field sampling and remote sensing) is addressed. The development of forest inventories towards integrated "landscape inventories", "multi-resource inventories", "tree inventories" is also addressed of this course. Prerequisites: Sound basis in "Forest mensuration" and basic statistics.	4 WLH
Examination: Written exam (120 minutes)	6 C

Examination requirements: In the module „Monitoring of Forest Resources", the students should know and be able to manage and understand all topics that were covered in the lectures and labs. This includes: • the relevance of data sources and data quality; • the relevance of methodological soundness in planning, implementing and analyzing forest inventory data;	

- the basic principles of in planning, implementing and analyzing forest inventory data;
- important options of sampling and plot design and its characteristics (including application examples and calculation of estimates);
- the critical reading of forest inventory reports;
- the role of forest inventories when monitoring the "resource forest" and the "ecosystem forest";
- the role of forest inventory and forest monitoring in decision processes at stand-, enterprise-, national and global level.

And, of course, calculation skills in producing sample based estimates are equally relevant.

Admission requirements:	Recommended previous knowledge:
none	Required is a good command of forest mensuration, descriptive statistics, basic sampling statistics and cartography (along what is commonly covered in Bachelor study programs).
Language:	**Person responsible for module:**
English	Prof. Dr. Christoph Kleinn
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.FES.314: Forest utilization and wood processing**	6 C 4 WLH

Learning outcome, core skills: Students gain knowledge of technological relevant wood properties of important commercial timbers and technology of major forest products in tropics (lumber, veneer, plywood, woodbased panels, pulp and paper). Students are able to plan, evaluate and select forest operations with respect to technical implementation, human impacts and environmental consequences. In addition, forest operations are put into the broader context of society and forest ecosystems and stresses of the human factor involved. Emphasis is directed to systems analysis and long-term perspectives.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest utilization (Lecture) *Contents*: The module covers forest areas of the world and their characteristics with regard to forest operations, forest products, sorting of timber, fuelwood, technical systems and work methods for harvesting and other forest operations, ergonomics, occupational safety and health, appropriate technology, economic analysis of forest operations. In addition, basic elements of road planning, construction and maintenance are presented and information about recent developments (information and communication technology, GIS, logistics) are given.	2 WLH
Course: Wood processing (Lecture) *Contents*: We will impart consolidated knowledge about wood properties considering wood anatomy, wood physics, and wood chemistry including the role of water related to wood. Wood energy. Sawmill technology and wood products. Special regard on wood-based composites like particleboard, fiberboard, plywood, OSB and WPC. Wood destroying insects and fungi. Wood preservation and modification.	2 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: Wood processing: The students should know the basics of wood properties in context with chemistry and micro-structure. They must know how to optimize the use of wood by producing convenient wood-based products and how to protect them. Forest utilization: The students should be able to describe and analyse the complex setting of forest operations and to find optimal solutions integrating economic, ecological, ergonomical and social aspects.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dirk Jaeger

Course frequency: each winter semester	Duration: 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	Recommended semester:
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.321: Ecopedology of the Tropics and Subtropics**	6 C 4 WLH

Learning outcome, core skills: General understanding of the most important aspects of tropical and subtropical soils, their occurrence, genesis, geography, properties and use. Understanding the principles of the international FAO soil profile description and classification.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Ecopedology of the tropics and subtropics (Lecture) *Contents*: Part I: General introduction in soils of the tropics and subtropics, their functions, genesis, geography and properties. Objective: general understanding of the most important aspects of tropical soils, their occurrence, genesis, properties and use. The following topics will be discussed: Introduction; Climate, water and vegetation; Weathering and weathering products, clay minerals; Soil organic matter, C and N dynamic; Soil chemical reactions, variable charge; Soil forming processes and development of soils; Water and nutrient cycling of land use systems; Tropical shield areas (example: Amazon basin); Arid shields and platforms (example: West Africa); Tropical mountain areas (example: Andes); Fluvial and coastal areas in the tropics (example: coastal areas in Asia). Part II: Introduction in the description and classification of soils, using in international system (FAO). Objective: understanding the principles of the FAO soil profile description and classification. The course consists of introductory lectures in which the principles of the FAO soil description and classification will be explained. This knowledge will be practiced using examples of soil profiles from different tropical countries. The second part consists of a practical week during which soil profile descriptions and evaluations will be exercised in the field. We will visit three contrasting sites around Göttingen where a site and soil description will be made. The work will be done in small groups. Students discuss their results in a report.	4 WLH
Examination: Term paper (10 pages max.) and written exam (2 hours)	6 C

Examination requirements: Kenntnis der beschriebenen Lehrinhalte, Erreichung der festgelegten Lernziele und Nachweis der angestrebten Kompetenzen.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Edzo Veldkamp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.322: Project planning and evaluation**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
Political evaluation	Attendance time:
Insights into the political framework of evaluation and the power and information based processes which drive any procedure of evaluation and application of the results in practice.	56 h Self-study time: 124 h
The students conduct a case study in political evaluation based on literature and an interactive game.	
Evaluation of rural development projects and policies	
In cooperation with the chair of „International Food Economics and Rural Development" this submodule teaches and trains the economic and financial assessment of rural development projects (in particular cost-benefit analysis). The methods are illustrated with examples and students learn to apply these methods in different exercises.	
Project planning and management	
Understanding theoretical concepts and practical considerations for planning and management of international forestry projects with a focus on international cooperation. A deeper understanding of the subject-matter is achieved by examples presented by guest lecturers and practitioners.	

Course: Political evaluation (Lecture)	1 WLH
Course: Evaluation of rural development projects and policies (Lecture, Seminar)	2 WLH
Course: Project planning and management (Lecture, Seminar)	1 WLH
Examination: Written examination (90 minutes, 50%) and term paper (max. 5 pages, 50%)	6 C

Examination requirements:	
- Ability to describe and explain international policy frameworks in development policy - Capability to independently analyse policy case studies - Have a good command of basic impact assessment and cost-benefit analysis in the context of international project evaluation - Apply aspects of environmental and welfare economics to project case studies - Understanding of key aspects of Sustainable Development, Capacity Development, Change management and international coordination and cooperation for successful implementation of forestry projects - Critically analyse and develop a forestry project case study	

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Carola Paul

Course frequency:	Duration:
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.FES.323: Biometrical research methods**	6 C 4 WLH

Learning outcome, core skills: Introduction in basics of statistical data analysis: Probability distribution, estimation, hypotheses testing. Understanding and application of basic techniques of descriptive and confirmative statistics: Confidence intervals, t-test, ANOVA, correlation and regression analyses. Understanding assumptions of statistical tests. Analysis of experimental data sets via the statistical program "R". Interpretation of analysis results. Skills in describing and estimating forest stand parameters, forest structure and tree shape, and modeling of forest growth and development.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Biometric data analysis and experimental design (Lecture, Exercise)	2 WLH
Course: Forest dynamics (Lecture, Exercise)	2 WLH
Examination: PC based written exam (120 minutes)	6 C

Examination requirements: Understanding and application of basic techniques of descriptive and confirmative statistics. Analysis of given experimental data sets via the statistical program "R", interpretation of analysis results to answer the examination questions. Knowledge of quantitative methods to describe forest density, forest structure and tree morphology. Modeling tree growth, calculating sustainable harvests for even-aged and continuous cover forests and understanding of the biological role of insects in forest ecosystems.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Irina Kuzyakova
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.FES.705: Forest Protection and Agroforestry**	6 C 4 WLH

Learning outcome, core skills: Assessment of forest protection problems and available methods of insect or pathogen control with special emphasis on sustainable methods. Basic understanding of agroforestry systems in the tropics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forest protection and agroforestry (Lecture) *Contents*: Forest protection is aimed at protecting natural, near natural and plantation forests from disease and pests. Diseases do include abiotic diseases (damage from lack and excess of nutrients, fire, drought pollution, etc.) and biotic diseases caused by microorganisms including viruses and protozoa, and parasitic plants. Forest protection deals also with damage from animal pests, meaning arthropods and there specially insects, but also damage from mammalians. The matter is presented in a concept of integrated pest and disease management, here pests and diseases affecting specific tree species (mahogany, teak, Pinus, Dipterocarpaceae, Acacia, Eucalyptus, etc.) are treated together. Beside this core lectures. A prerequisite for the lectures and practical training, is knowledge of basic subjects of phytomedicine. However, if necessary, missing, incomplete and not up to date knowledge may be supplemented in lectures such as: Overview of abiotic diseases, theoretical approach to integrated pest and disease management, biological, bio-technical and chemical control of pests and diseases. The main focus of the module is explanation of specific (and for forest protection important) features of the individual tree species and/or forest types, diagnostic of the disease and pest attack and explanation of strategies for the integrated management of the disease or pest. Possible control strategies include. Experiences of the lecturers are in Germany and abroad (South and Central America, North Africa and South East Asia) and advice can be provided also in Spanish. silvicultural based measures, i. e. displacing the attack of diseases and pests by changing planting distance, managing shadow, managing thinning, establishing mixed stands, change of logging practices. Reducing spread of disease or pest by eradication of individual trees or group of trees or certain areas of the forest (hot spots) or manual collecting of specific insect stages. Genetic based measures i. e. resistant species, subspecies, f. sp., varieties and different provenience, and, if available, genetic engineered plants trimmed for resistance to diseases and pests. Chemical oriented plant protection. Applied according to the principles of integrated pest management, which includes economic threshold, consideration of the residue problems and health of the applying forester. Basic knowledge are required, but may be supplied in a specific lectures. Biological and biotechnical oriented plant protection. In this context experiences and possibilities of applying these measures in the field are being discussed. Specific examples are treated and possible approaches to new problems are discussed. The influence of different factors (including the above listed approaches) on the biological and biotechnical plant protection are considered. Basic knowledge is required, but may be supplied in specific lectures. Agroforestry systems are land-use systems and practises in which woody perennials are deliberately grown	4 WLH

on the same land management unit as crops and/or animal husbandry, either in some form of spatial arrangement or in a time sequence, and in which there is a significant interaction between the woody perennials and the crops or animals. Starting with general considerations in agroforestry systems, a selection of systems in which trees or other woody perennials play an important role are discussed: The classical Taungya System, the tumpangsari system in Java, the Malang and Magelang system, the Juhm system of Nagaland, different home and forest gardens of S-E-Asia. In detail discussed are the role of trees in agroforestry systems and a selection of suitable tree species for agroforestry systems.	
Examination: Written exam (120 minutes)	6 C

Examination requirements: Kenntnis der beschriebenen Lehrinhalte, Erreichung der festgelegten Lernziele und Nachweis der angestrebten Kompetenzen.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** N. N.
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.FES.711: Exercises in Forest Inventory	4 WLH

Learning outcome, core skills:	**Workload:**
The students shall learn to design, to implement, to document and to cause forest inventory projects autonomously and on a scientific basis. Further on, they shall develop the abilities to optimize and to develop measuring methods related to forests. Therefore, it is crucial to handle common measuring instruments and methods safely.	Attendance time: 56 h Self-study time: 124 h

Course: Exercises in forest inventory (Lecture, Exercise)	4 WLH
Contents: • Short repetition about the use of instruments for measuring DBH, upper diameters and heights. • Planning, preparation and implementation of a sample based forest inventory, including the designing of an inventory instruction. • Data management (Excel) and analysis after given tasks. • Formulating a project report. • Presentation of results in small groups within a seminar for examination.	

Examination: Oral presentation (approx. 15 minutes, 25%) with written outline (max. 15 pages, 75%)	6 C

Examination requirements:	
The students shall give evidence that they know how to plan, implement and analyse a forest inventory. Such experience will be accumulated during the practical exercises. This includes • design planning regarding sampling and plot design; • formulation / improvement of a forest inventory field manual; • data analyses and working on pre-defined questions and hypotheses; • Presentation of inventory results and defending them against criticism. The weighting will be done according to the reached points.	

Admission requirements:	**Recommended previous knowledge:**
none	Good command of forest mensuration and forest inventory, including calculation skills regarding analyses of inventory data.
Language: English	**Person responsible for module:** Prof. Dr. Christoph Kleinn
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.FES.712: Bioclimatology and global change**	6 C (incl. key comp.: 6 C) 4 WLH

Learning outcome, core skills: Scientific basis of climate and climate change, trace gas budgets of soils and whole ecosystems and the potential to sequester carbon and nitrogen in managed and unmanaged terrestrial ecosystems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Bioclimatology and global change (Lecture) *Contents*: The module "Bioclimatology and Global Change" will introduce the students to the global climate system and its interaction with the biosphere. A lecture course will focus on the scientific basis of climate and climate change covering basic physical and chemical processes governing the climate system, climate zones, modelling as well as global and regional climate phenomena with a focus on tropical climates. A seminar course will highlight trace gas budgets of soils and whole ecosystems and their potential to sequester carbon and nitrogen in managed and unmanaged terrestrial ecosystems and their vulnerability to climate change. Using journal literature the students will work out oral presentations concerning current research topics concerning the global climate system and its interaction with the biosphere.	4 WLH
Examination: Written exam (90 minutes, 50%) and oral presentation (approx. 20 minutes, 50%)	6 C

Examination requirements: Understanding the most relevant processes at the biosphere-atmosphere interface and of biogeochemical cycles. Being able to find, read, evaluate, and present scientific literature related to Global Change.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Alexander Knohl
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.FES.713: Forestry in Germany**	6 C 4 WLH

Learning outcome, core skills: Understanding of forestry and related industries in Germany.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Forestry in Germany (Excursion, Seminar) *Contents*: Important aspects of German Forestry are introduced to foreign students interested in the forest management as practised in Germany as well as the wood-processing industry. Contents are forest management, silviculture, forest utilization, labor science and prozess technology, forest econmics, tree improvement and genetics, forest inventory and remote sensing (forest management inventories in Germany, the German National Forest Inventory, applications of remote sensing in forestry planning in Germany) The module provides a basic understanding of the forest management in Germany including actual trends and perspectives. It is strongly suggested for foreign students who are going to undertake their project in Germany (Project: 70130 "Managing sustainable forestry systems in Germany"). The module includes various excursions.	4 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline (max. 15 pages)	6 C

Examination requirements: The students should know and manage and understand the topics that were covered during the field trip that AWF (Forest Inventory and Remote Sensing) offers. This includes forest mensuration, forest monitoring and forest planning. Show familiarity with current approaches, trends and future challenges in forestry and the wood-processing industry in Germany Show understanding of the overall structure of forestry and forest research in Germany and the connection between the sub disciplines Be able to communicate and critically analyse a selected aspect of German forestry in a coherent way	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in forest management, forest planning, forest inventor.
Language: English	**Person responsible for module:** Prof. Dr. Carola Paul
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

cf. examination regulations	
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.715: Dryland Forestry and Methods in Silviculture**	6 C 4 WLH

Learning outcome, core skills: Understanding the specifics of dryland forestry as well as principles and applications of plant ecological and silvicultural methods.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Dryland forestry and methods in silviculture (Lecture, Exercise, Seminar) *Contents*: The lecture focuses on land-use options emphasising the management of dry forests on a global scale. Covering approximately 30% of the global land surface, drylands pose important ecological and economic impacts, and therefore require specific approaches in management. The second focus of this module is on recent topics in silviculture and the familiarization of relevant plant ecological and silvicultural methods. This includes discussion of study designs, airborne and ground-based assessments as well as options of data analysis and presentation. Selected case studies from literature will also be analysed.	4 WLH
Examination: Oral presentation (approx. 15 minutes, 50%) with written outline (max. 10 pages, 50%)	6 C

Examination requirements: Knowledge on ecological and economic aspects of dryland forestry; tree ecological characteristics and management options. Analysis, presentation and discussion of case studies.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dirk Hölscher
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.719: Remote sensing image processing with open source software**	6 C 4 WLH

Learning outcome, core skills: This combined lecture and lab makes the student familiar with basic principles, techniques and applications of remote sensing. The students learn skills in digital image processing and information extraction using open source software on own laptops.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Remote sensing image processing with open source software (Lecture, Exercise) *Contents*: The course introduces the theories (via lectures and literature) and applications (including computer exercises) of remote sensing workflows. Remote sensing data from different sensors (cameras, LiDAR scanners, RADAR) and platforms (satellites, aircrafts and unmanned aerial systems (UAS)) are used to develop analysis workflows for forestry and environmental monitoring applications. Common steps and methods of remote sensing analysis such as preprocessing, image enhancement, sampling of reference data, automated classification and estimation and map validation are presented. In the practical labs, students deepen their knowledge and skills with small projects such as land cover classification, individual tree detection, biomass estimation and change detection using open source technologies.	4 WLH
Examination: Oral exam (approx. 15 minutes, 80%) and practical exam (approx. 15 minutes, 20%)	6 C

Examination requirements: The students should know and manage and understand and have insights into all topics that are covered in the module that consists of lectures and predominantly on labs where the students learn image analysis on their own notebooks: the exam requirements include: • Bases of electromagnetic radiation and its interactions with the atmosphere and terrestrial land cover types; • Basic techniques of remote sensing image acquisition, pre-processing, enhancement and classification – as covered in the lectures and labs; • Knowledge and skills regarding application of the software as used in the practical labs; • Options of remote sensing integration into forest monitoring regarding both mapping and estimation; • Assessing quality of remote sensing products, including accuracy analysis.	

Admission requirements: none	**Recommended previous knowledge:** Good command of forest mensuration and forest inventory, including calculation skills regarding analyses of inventory data.

Language:	Person responsible for module:
English	Prof. Dr. Christoph Kleinn
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
cf. examination regulations	
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.FES.728: Tropical dendrology**	3 C 2 WLH

Learning outcome, core skills: Tropical Dendrology objectives: Assessment of ecological characteristics and management of major tree species. Students will learn how to give an oral presentation.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Tropical dendrology (Lecture, Exercise) *Contents*: In the tropical rainforest 50-60.000 tree species occur. Of course, it is not possible to know all of them including their ecological characteristics. However, in the course on Tropical dendrology we will present important families to which tropical trees belong. Furthermore, we will elaborate physiological principles with respect to water, carbon and nutrient turnover by trees, and focus on the possibilities of a functional classification of trees. For selected tree species we will analyse the ecological characteristics, management options and the use in more detail. *Course frequency:* each winter semester	2 WLH
Examination: Oral presentation (approx. 15 minutes) with written outline	3 C

Examination requirements: Knowledge of ecological aspects and management options for tropical tree species. Analysis, presentation and discussion of specific species (groups).	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ralph Mitlöhner
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module M.Geg.08a (IMSOGLO): Field course on human-environment interactions**	6 C 7 WLH

Learning outcome, core skills: The students have an integrative perspective on human-environment systems in various landscapes of central and southern Europe, which they explore during the field course. They understand the interlinkages "Geology/Geomorphology - Climate/Paleoclimate - Vegetation - Soils - Development of adapted human land-use systems - potential effects of Global Change" for these landscapes. This concept is extended to landscapes in different parts of the world, as each IMSOGLO student introduces a landscape of his/her home country to the group according to the above scheme of interlinkages in the evenings of the field course. The participants reflect on the diverse human-environment systems and share their perspectives with the international excursion group. These evening discussions raise the awareness that each perspective is influenced by a certain sociocultural background, and that different perspectives may be equally appreciated. Thus, they lead to a more global and self-reflexive perspective of the participants.	**Workload:** Attendance time: 98 h Self-study time: 82 h

Course: Field course (14 days) (Course)	7 WLH

Examination: DIN A 0 poster, to be presented during the field course (approx. 15 min.) **Examination prerequisites:** Regular participation in field course.	6 C

Examination requirements: The students proof that they understand and are able to explain present the following interlinkages in their landscape: "Geology/Geomorphology - Climate/Paleoclimate - Vegetation - Soils - Development of adapted human land-use systems - potential effects of Global Change" for a landscape in their home country.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Daniela Sauer
Course frequency: Every second year in March	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Geg.17 (IMSOGLO): Landscape Ecology**	5 C 3 WLH

Learning outcome, core skills: The students know the components of element, water and energy budgets and fluxes in landscapes, and the most important element cycles. They are familiar with assessing soil properties and soil distribution patterns in landscapes, and with the measurement of microclimatic parameters. The students are able to generate hypotheses on the mutual relationships relief-soils-microclimate, to develop appropriate strategies for testing their hypotheses and to apply them in practice. The students have the competency to work on a research question in small international, culturally diverse teams, in a creative and outcome-oriented way. Thereby, they appreciate diverse cultural backgrounds and different approaches to handle a task. They are able to reflect on these in a constructive way and to jointly develop strategies for solving their research questions.	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Landscape-ecological methods (Lecture)	1 WLH
Course: Landscape-ecological project (Seminar) with project-type components to be carried out in small international teams including measurements in the field.	2 WLH
Examination: Presentation (ca. 30 Min.) with written report (max. 20 p.) or DIN A 0 poster **Examination prerequisites:** Presentation (ca. 30 Min.) with written report (max. 20 p.) or DIN A 0 poster	5 C

Examination requirements: The students proof that they are able to generate hypotheses on the mutual relationships relief-soils-microclimate, to develop appropriate strategies for testing their hypotheses, considering different perspectives, and to apply them in practice. They proof that they can collaborate in an international team, interpret, document, present, discuss their results, and critically reflect the applied methods and obtained outcomes.	

Admission requirements: None	**Recommended previous knowledge:** None
Language: English	**Person responsible for module:** Prof. Dr. Daniela Sauer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 20	

Additional notes and regulations:

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Georg-August-Universität Göttingen **Module M.Geg.18: Earth surface dynamics and associated hazards**	6 C 4 WLH

Learning outcome, core skills: The students understand past, present and future landscape dynamics, their natural and human drivers, path-dependent processes and scale-dependent impacts. They know how to identify relevant Earth surface dynamics and associated hazards from the geological, geomorphological, hydrological and ecological configuration of a landscape. The students can apply suitable methods to analyze a landscape through field mapping and (geo-)statistical data analyses. They are able to use theoretical and data-based knowledge to identify path-dependencies and dynamics that act across different spatial and temporal scales. They can develop strategies to inform regional land management and to anticipate and mitigate future environmental and resource crises.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Earth surface dynamics and challenges in managing associated hazards (Lecture, Seminar)	2 WLH
Course: Practical course Earth surface dynamics (Exercise)	2 WLH
Examination: Presentation (approx. 20 min.) with term paper (15 pages max.) or presentation (approx. 20 min.) with wirtten report (15 pages max.) **Examination prerequisites:** Presentation (c. 15 min) in the practical course	6 C

Examination requirements: The students prove that they understand past, present and future landscape dynamics, their natural and human drivers, path-dependent processes and scale-dependent impacts. They demonstrate that they can identify relevant Earth surface dynamics and associated hazards from the geological, geomorphological, hydrological and ecological configuration of a landscape. The students show that they are able to use theoretical and data-based knowledge to identify path-dependencies and dynamics that act across different spatial and temporal scales. They prove that they can develop strategies to inform regional land management and to anticipate and mitigate future environmental and resource crises.	

Admission requirements: None	**Recommended previous knowledge:** None
Language: English, German	**Person responsible for module:** Prof. Dr. Elisabeth Dietze
Course frequency: once a year	**Duration:** 1-2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 20	

Additional notes and regulations:

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Georg-August-Universität Göttingen **Module M.Geo.101: Geodynamics I**	6 C 6 WLH

Learning outcome, core skills: This module provides advanced insight into the dynamics of the continental and oceanic lithosphere on scales ranging from the global plate tectonic perspective to local case studies. Selected modern fields and methods of research in structural geology are introduced. An overarching theme is the evolution of sedimentary basins. Deepened knowledge is provided on sedimentation processes, the distribution and transport of sediment in time and space, and the interplay of controlling factors such as regional tectonics/subsidence, climate, sea level and sediment flux.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Sedimentology and basin analysis (Lecture)	2 WLH
Course: Exercises in basin analysis (Exercise)	1 WLH
Course: Tectonics of sedimentary basins and orogens (Lecture)	2 WLH
Course: Exercises in tectonics (Exercise)	1 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** Regular participation in exercise courses and completion of exercises	6 C

Examination requirements: Students understand the processes linking deformation, sedimentary basin formation, erosion, sediment transport and deposition. They are familiar with modern concepts and methods in stratigraphy, basin analysis and tectonics.	

Admission requirements: keine	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Hilmar Freiherr von Eynatten Prof. Dr. Jonas Kley
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 65	

Additional notes and regulations:

Georg-August-Universität Göttingen **Module M.Geo.102: Geodynamics II**	6 C 6 WLH

Learning outcome, core skills: The course aims at a deep understanding of the physical and chemical processes that shape the Earth's mantle and crust. This will be based on the petrology, phase stability and thermodynamics of deep-Earth minerals as a function of pressure, temperature and composition. Modern concepts of mantle petrology based on water contents, phase transitions equation of state, experimental data, and seismic information about the structure of the Earth's mantle will be presented. Earth's mantle-crust evolution scenarios - including cosmochemical data - will be discussed on the basis of chemical geodynamics, trace element and isotopic composition of crust and mantle rocks. Selected case studies serve to deepen the understanding of the dynamics of Earth geochemical compartments.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Petrological Evolution of the Earth (Lecture, Exercise)	2 WLH
Course: Chemical Planetary Sciences - Case Studies (Lecture, Seminar)	2 WLH
Course: Isotope Geochemical Modeling (Exercise)	2 WLH
Examination: Written examination (120 min) or oral examination (approx. 30 min) **Examination prerequisites:** Class work and regular attendance in course 3	6 C

Examination requirements: Deep understanding of petrological and isotope geochemical concepts and their application to prevalent questions in Earth and Planetary Sciences. Ability to scrutinize common models, quantify problems, hypothesize, design relevant tests and formulate theories.	

Admission requirements: none	**Recommended previous knowledge:** Isotope geology, geochemistry and petrology modules at Bachelor level
Language: English, German	**Person responsible for module:** Prof. Dr. Sharon Webb Prof. Dr. Matthias Willbold
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 65	

Georg-August-Universität Göttingen **Module M.Geo.103: Global change**	6 C 6 WLH

Learning outcome, core skills: The module provides a coherent insight into the major development phases of the geo-biosphere with its complex interactions. The causes and effects of Global Change since the Archaic are presented and discussed. The "Critical Intervals of Earth History" event focuses on those phases / events in the Earth's history that have changed the conditions in the Earth system in a sustainable way, decisively influencing the dynamics of evolution, the geo-biosphere, and the development of ecosystems. In the event "Climate and Glaciation", the relationships between climate and icing in the course of Earth's history are presented; The focus is on the recent geological past. Furthermore, it shows which climate information is contained in ice cores and how this information can be obtained. The event "Proxies and biosignatures" deals with (bio) geochemical archives, which can be used to detect and trace global processes of change, in particular stable isotope systems, petrographic findings and organic geochemical markers.	**Workload:** Attendance time: 70 h Self-study time: 110 h

Course: Critical intervals of geological history (Lecture, Seminar)	2 WLH
Examination: Seminar lecture followed by discussion (about 20 min. in total) or term paper (max. 5 pages). **Examination requirements:** The students have knowledge about important development phases and cuts in the geo-biosphere, as well as their causes.	2 C

Course: Proxies und Biosignatures (Lecture, Seminar)	2 WLH
Examination: Seminar lecture followed by discussion (about 20 min. in total) or term paper (max. 5 pages). **Examination requirements:** Students know the methods with which global change processes can be identified and traced, in particular stable isotope systems as well as petrographic findings and organic geochemical markers in (bio-) geochemical archives.	2 C

Course: Climate and Glaciation (Lecture, Seminar)	2 WLH
Examination: Seminar lecture followed by discussion (about 20 min. in total) or term paper (max. 5 pages). **Examination requirements:** Interaction of climate and glaciation. Information from ice cores.	2 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Volker Thiel
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	from 1
Maximum number of students: 65	

Georg-August-Universität Göttingen **Module M.Geo.104: Regional Geology**	6 C 6 WLH

Learning outcome, core skills: This module enables students to understand the links between the geologic evolution of individual regions and their plate tectonic framework. Case studies are presented from different settings such as rifts, subduction zones and Cordilleran orogens, collisional orogens, strike-slip plate boundaries and intraplate orogens. It is shown how stratigraphic, sedimentologic, structural, petrologic, geochemical, seismologic, geodetic and other data can be combined to unravel a region´s geologic history. Students will learn how to create and critically assess hypotheses linking field observations and lab data to plate tectonic observations and concepts.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Case studies in regional geology (Lecture) *Course frequency:* each winter semester	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Students know fundamental characteristics of the presented case studies and understand how the history of these regions relates to key concepts of plate tectonics and its geologic expressions.	2 C

Course: Regional geology excursion (Field course) Field excursion with a focus on regional geology, 8 days minimum duration, plus mandatory introduction seminar.	4 WLH
Examination: Seminar presentation (approx. 15 minutes + 5 minutes discussion) or term paper (10 pages max.), not graded **Examination requirements:** Students can present and explain geologic characteristics of the excursion´s target region on a plate tectonic and regional geologic background	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Jonas Kley
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 65	

Georg-August-Universität Göttingen **Module M.Geo.105: Scientific Work**	6 C 3 WLH

Learning outcome, core skills: This module accompanies the master program. The students are taught to formulate scientific questions, methods and results in a clear and structured manner, to communicate them comprehensibly and to present them in writing. Another goal is to provide students with a more in-depth understanding of the practical methodology of modern scientific work (for example, use of databases and bibliographic management systems, citation methods, software usage, writing and formatting of manuscripts, review procedures, written communication with editors and reviewers, etc.). In addition, students learn to write research proposals. The module strengthens the ability to design a scientific study, to plan the implementation and to present the results comprehensible, structured and efficient verbally as well as in writing.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Scientific Writing (Lecture, Exercise)	1 WLH
Course: Masters seminar with lecture (Seminar)	1 WLH
Course: Geoscientific Colloquium	1 WLH

Examination: Term Paper (max. 1500 words), not graded **Examination prerequisites:** In lecture 2: Presentation of the conception of the master thesis in the masters seminar (approx. 15 min.). In lecture 3: Regular participation in the Geoscientific Colloquium (at least 14 dates)	6 C

Examination requirements: The students are able to communicate scientific content in writing. They use the knowledge gained in the lectures. The students can design a scientific study (usually the topic of their master's thesis) and organize it in a limited time. They present their work in a seminar and show that they can present the background, the direction and the conception of the work to a scientific audience.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Andreas Pack Prof. Dr. Volker Thiel
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 65	

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Georg-August-Universität Göttingen **Module M.Geo.121: Microanalytical Methods and Applications**	6 C 5 WLH

Learning outcome, core skills: Students will practice to observe, describe, and interpret microscopic textures of silicate rocks and technical products. Petrological processes that shape these rocks are recognized and an analytical concept for further in-situ geochemical analyses will be developed. During the laboratory practical, the students will learn to independently operate the electron microprobe and laser-ICPMS instruments. Analytical results will be jointly presented and interpreted.	**Workload:** Attendance time: 70 h Self-study time: 110 h

Course: Polarization microscope petrography of metamorphic rocks (Exercise) *Course frequency:* each winter semester	1 WLH
Course: Advanced application of the electron microprobe, EPMA (Lecture, Exercise) *Course frequency:* each summer semester	2 WLH
Course: Application of the laser-ablations ICPMS (Lecture, Exercise) *Course frequency:* each summer semester	2 WLH
Examination: 2 written groupreports (word limit: 1500 words per person per report)	6 C

Examination requirements: Observation, written documentation and interpretation of petrographic characteristics in natural silicate rocks and technical products using reflected light and polarization microscope. Independent laboratory work on the electron microprobe and laser-ICPMS for in-situ major and trace element analysis.	

Admission requirements: Basic knowledge of optical microscopy and geochemical analytical techniques: SEM , EPMA	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dr. rer. nat. Andreas Kronz Dr. Dirk Hoffmann
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 15	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geochemistry

Georg-August-Universität Göttingen **Module M.Geo.125: Stable Isotopes - Advanced Course**	6 C 6 WLH

Learning outcome, core skills: Students are trained in the working methods of the chemistry of stable isotopes. In-depth discussion of case studies combined with project work should enable students to formulate concepts for the use of stable isotopes in different contexts (cosmochemistry, geology, applied mineralogy). Furthermore, the students will learn theory, laboratory technology and mass spectrometry in practical exercises.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Stable Isotopes - Advanced Course (Lecture) *Course frequency:* each summer semester	2 WLH
Course: Sample preparation (Exercise)	2 WLH
Course: Mass spectrometry (Exercise)	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Housework (10 pages max.), regular participation in the exercises.	6 C

Examination requirements: Preparation for the analysis of stable isotopes, performance of analytical work, evaluation of data, understanding of theoretical concepts, computational exercises and case studies on the chemistry of stable isotopes.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Andreas Pack
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 10	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geochemistry

Georg-August-Universität Göttingen **Module M.Geo.126: Applied Isotope Geochemistry**	6 C 4 WLH

Learning outcome, core skills: This module focusses on the application of the concepts and methods of isotope geology and isotope geochemistry to state-of-the-art questions in Applied Earth Sciences, related scientific disciplines and beyond.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Applied Isotope Geochemistry (Lecture)	2 WLH
Course: Case studies and practicals (Exercise, Seminar)	2 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** Regular attendance at practical course units	6 C

Examination requirements: Deep understanding of isotope geochemical concepts and their application to prevalent questions in natural sciences. Ability to scrutinize common models, hypothesize, design relevant tests and formulate theories.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. rer. nat. Matthias Willbold
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 8	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geochemistry

Georg-August-Universität Göttingen **Module M.Geo.127: Advanced practical in isotope geochemistry**	6 C 7 WLH

Learning outcome, core skills: As a team, the students will design jointly a small, well-defined research project and develop an analytical scheme. The team will divide analytical work and responsibility and work independently on their analytical program. The theoretical foundation for interpretation of the data will laid during a seminar. Results will be jointly discussed and additional analytical work, if required, identified. The outcome and interpretations of the project will be jointly presented in a publication (peer-reviewed-style article and conference-stype poster).	**Workload:** Attendance time: 98 h Self-study time: 82 h

Course: Good scientific practice in isotope geochemistry (Lecture)	1 WLH
Course: Seminar and literature work as a basis for the interpretation of geochemical data (Seminar)	2 WLH
Course: Rock preparation and mineral separation (Exercise)	2 WLH
Course: Sample preparation and mass spectrometry (Exercise)	2 WLH
Examination: Written report (research article and conference poster, 3000 words max.) **Examination prerequisites:** Regular attendance at practical course units	6 C

Examination requirements: Literature research, scrutinizing common models, hypothesize, design of relevant tests, organization of the analytical programme, sample preparation for isotope analysis, operation of analytical work, evaluation of data, theoretical concepts, computational quantification; data presentation.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. rer. nat. Matthias Willbold
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 16	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geochemistry

Georg-August-Universität Göttingen **Module M.Geo.138: Structural modelling**	6 C 6 WLH

Learning outcome, core skills: This module comprises two topics: (1) Geometrical modelling of structures with a focus on cross-section balancing and (2) evolution of fractures and fracture-controlled fluid transport in reservoirs. In topic (1) the principles of structural modelling in 2D (cross-sections and map-view block mosaics) are explained and explored in practical exercises using pencil and paper as well as specialized software (Move). Students will acquire the basis for later expanding their expertise in structural modelling on their own. In topic (2) lectures, combined with exercises, group work and a short field trip give insight into fluid flow in rocks, formation of fractures and fracture systems, and fluid flow in fractured reservoirs (for petroleum, gas, ground- and geothermal water). The students shall also understand how reservoirs may be stimulated and know how reservoir rocks and their fracture systems are analysed and interpreted.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Structural Modelling (Lecture)	1 WLH
Course: Exercises in Structural Modelling (Exercise)	3 WLH
Course: Fractured Reservoirs (Lecture, Exercise)	2 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** Regular participation in Lecture 2 and completion of exercises	6 C

Examination requirements: Basic knowledge of different methods and algorithms in cross-section balancing and their applications. Knowledge of fracture formation and fluid flow in fracture-controlled reservoirs including techniques of reservoir exploration and stimulation.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Jonas Kley Dr. David Hindle
Course frequency: each summer semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Geo.141: Minerals**	6 C 4,5 WLH

Learning outcome, core skills: In this module, in-depth knowledge of the physical-chemical processes involved in the formation and transformation of minerals as a result of changed external conditions will be acquired. In Course 1&2, the basics and applications are taught for a deeper understanding of thermodynamic and kinetic processes in the Earth system. The exercises mainly deal with the importance of time and temperature and the calculation of process rates in minerals, melts and rocks. In course 3, the relationships between chemical composition and structural properties are shown and deepened in exercises.	**Workload:** Attendance time: 63 h Self-study time: 117 h

Course: Thermodynamics and Kinetics (Lecture, Exercise)	2 WLH
Course: Diffusion (Lecture, Exercise)	1 WLH
Course: Crystal Chemistry (Lecture, Exercise)	1,5 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: Basics of thermodynamics and kinetics of geomaterials as well as basics of mineral growth and crystal chemistry.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Sharon Webb Prof. Thomas Müller
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 25	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geomaterials

Georg-August-Universität Göttingen **Module M.Geo.142: Melts and glasses**	6 C 5 WLH

Learning outcome, core skills: The relationships between the physical/chemical properties and the structure of natural and technical melts are discussed. In the lecture part, the melting properties and the experimental measurements are presented, while measurements of the melting properties are carried out independently in the practical part. The application and production of technical glasses as well as the properties and technical applicability of natural glasses are explained in the lecture part and underpinned by experiments and factory tours in the practical part	**Workload:** Attendance time: 70 h Self-study time: 110 h

Course: Rheologie von Silikatschmelzen (Lecture, Exercise)	2 WLH
Course: Schmelzen (Lecture, Exercise)	3 WLH

Examination: Term Paper (max. 20 pages) **Examination prerequisites:** Regelmäßige Teilnahme an der Übung zu LV 2	6 C

Examination requirements: Physical properties of melts and glasses, structure of melts, experimental investigations on melts	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Sharon Webb Dr. rer. nat. Kirsten Techmer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 25	

Additional notes and regulations: Compulsory module for the certification of the specialization in Geomaterials

Georg-August-Universität Göttingen **Module M.Geo.144: Electron microscopy**	6 C 4,5 WLH

Learning outcome, core skills: The scanning electron microscope (SEM) is a common analytical instrument for scientific and industrial applications characterizing textures, microstructures and chemical variations of samples on the nm to cm scale. In this course, students will refresh the theory and principles of the SEM technique and gain hands-on experiments in sample preparation as well as instrument operation using a variety of geological and industrial samples. Students will be trained on qualitative and quantitative data acquisition using different instrument detectors such as SE, BSE, EDS, and EBSD. Data processing and extraction of quantitative information such as modal abundance, element zoning, grain size orientation and grain size distribution will be practiced. At the end of the course, students will: 1) Have a conceptual understanding of the instrument and the different analytical methods using different detectors, 2) Have the ability to handle the instrument and perform standard data acquisition, 3) Have developed an awareness of data quality as a function of instrument parameters, 4) Have the ability to post-process datasets to extract qualitative and quantitative information	**Workload:** Attendance time: 63 h Self-study time: 117 h

Course: Scanning electron microscopy (SEM) as analytical method (Lecture)	1 WLH
Course: SEM: Sample Data acquisition, processing and interpretation (Exercise)	3,5 WLH

Examination: Bericht (max. 15 pages) **Examination prerequisites:** Continous participation in practical sessions	6 C

Examination requirements: Theoretical knowledge of electron microscopy as analytical tool and ability to perform standard data processing and interpretation	

Admission requirements: keine	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Thomas Müller Dr. Kirsten Techmer
Course frequency: each winter semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students:	

10	

Georg-August-Universität Göttingen **Module M.Geo.151: Basics in Hydrogeology**	6 C 6 WLH

Learning outcome, core skills: This module is intended to convey the fundamentals of the theory of groundwater flow and transport and to apply them in practical exercises in the field and in the laboratory. The students should be able to organise and conduct test procedures as well as to assess the specific hydrogeological site conditions. The contents of the module comprise the hydrological water balance, groundwater recharge estimation techniques, groundwater hydrology, pumping test evaluation and principles of solute transport. Relevance of this fundamental material is illustrated with examples from the hydrogeological practice, e.g. water resources exploration, and groundwater remediation. The advanced course will concentrate on the specifics of fractured aquifers and the particulars of the large variety of aquifer systems in Northern Germany. They can be regarded as representative for a large number of aquifer types.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Hydrogeology (Lecture, Exercise) *Contents*: Lehrende: M. Sauter, J. Kordilla *Course frequency:* each winter semester	3 WLH

Course: Hydrogeological Seminar (Seminar) *Course frequency:* each semester	1 WLH

Examination: Written examination (60 minutes) **Examination prerequisites:** Participation in the Hydrogeological Seminar	4 C

Course: Hydrogeologische Systeme (Excursion) *Contents*: Lehrender: Sauter *Course frequency:* each summer semester	2 WLH

Examination: Report (max. 10 pages)	2 C

Examination requirements: Theory and practice of groundwater flow and solute transport processes, implementation in the field.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Martin Sauter Dr. Jannes Kordilla
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	from 1
Maximum number of students: 15	

Additional notes and regulations:
Compulsory module for the certification of the specialization in Hydrogeology.

Georg-August-Universität Göttingen **Module M.Geo.153: Hydrogeological Investigation Methods**	6 C 6 WLH

Learning outcome, core skills: The course focuses on innovative investigation and monitoring techniques. Both integral and high resolution point scale, non-invasive and invasive investigation techniques are presented, and scale-heterogeneity relationship issues are discussed. Innovative equipment providing access to the subsurface, innovative tools allowing groundwater sampling and parameter estimation, innovative subsurface measuring, investigation, characterization and monitoring methods, strategies and approaches.	**Workload:** Attendance time: 70 h Self-study time: 110 h

Course: Investigation Techniques and Monitoring (Lecture, Exercise) *Course frequency:* each winter semester	2 WLH
Examination: Written examination (60 minutes)	2 C

Course: Well Design and Construction (Lecture) Lecturer: Prof. Dr. Hu Rui. The lecture will be held as a block course. *Course frequency:* each winter semester	1 WLH
Examination: Written examination (30 min.) or oral exam (approx. 30 min.)	1 C

Course: Advanced Hydrogeological Investigation Techniques (Lecture) Lecturer: Dr. Ralf Brauchler. The lecture will be held as a block course. *Course frequency:* each summer semester	1 WLH
Examination: Written examination (30 min.) or oral exam (approx. 30 min.)	1 C

Course: Field Exercise Hydrogeology (Exercise) *Course frequency:* Block course after the lecture period in the summer semesterjedes Sommersemester	2 WLH
Examination: Term Paper (max. 10 pages)	2 C

Examination requirements: Theory and practical application of hydrogeological investigation and monitoring techniques	

Admission requirements: basic knowledge in hydrogeology and mathematics	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr.-Ing. habil. Thomas Ptak-Fix
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students:	

15	

Additional notes and regulations:

Compulsory module for the certification of the specialization in hydrogeology.

Georg-August-Universität Göttingen **Module M.Geo.247: Petrology Project**	6 C 3 WLH

Learning outcome, core skills: In diesem Praktikum sollen in weitgehend selbständiger Arbeit Themen aus dem Bereich der metamorphen und experimentellen Petrologie sowie der angewandten Mineralogie als Projekt in Gruppenarbeit geplant und durchgeführt werden. Durch sinnvolle Kombination mehrerer gängiger Methoden sollen so natürliche petrologische sowie technische Prozesse nachvollzogen und dokumentiert werden. Ergänzt wird das Praktikum durch Arbeit mit einschlägiger Literatur. Im begleitenden Seminar soll vertiefende Hintergrundinformation gebracht werden; außerdem sollen ausgewählte Fragestellungen o.g. Projekte in der Gruppe diskutiert werden.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Petrologisches Praktikum (Lecture, Exercise)	2 WLH
Course: Mineralogie-Petrologie Seminar (Seminar)	1 WLH
Examination: Oral Presentation/ Posterpräsentation (approx. 15 minutes) **Examination prerequisites:** aktive Teilnahme an Seminar und Übungen	6 C

Examination requirements: Selbständiges Arbeiten in dem Bereich der metamorphen und experimentellen Petrologie inklusive Literaturrecherche und Präsentationen in Form wissenschaftlicher Vorträge	

Admission requirements: keine	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Thomas Müller
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 8	

Georg-August-Universität Göttingen **Module M.Geo.252: Georeservoirs**	7 C 6 WLH
Learning outcome, core skills: The students shall comprehend 'a georeservoir' as any part of the deeper subsurface accessible to human intervention (drilling, forced-gradient flow, mineral dissolution, permeability enhancement, …) for establishing some well-defined form of either storage or turnover of fluids, solutes, and/or energy; with hydrocarbon and geothermal reservoirs (conventional or unconventional), mid- and long-term storage caverns, CCS as the most familiar examples. Maintaining a prescribed georeservoir condition or process over its desired 'lifetime' is often accompanied by some other, possibly hazardous processes (contamination of groundwater resources, induced seismicity, air pollution, …), whose attempted mitigation, in turn, raises the costs and impedes the economic viability of the original endeavor. The geoscientist's expertise therein will be highly valued by all shareholders: government and regulatory bodies, companies in the georeservoir business – and, last not least, the general public. The geoscientist, however, will often face the dilemma "how not to play the devil's advocate", when georeservoir design and operation practices ascertained as non-hazardous happen to be extremely unpopular. Coupled thermal-hydraulic-mechanical-chemical (THMC) processes will be seen to play an essential role at each instance: reservoir genesis and evolution in geological times, towards a palette of economically interesting 'georeservoir plays' (course 1), reservoir response to physical or chemical gradients imposed at varying space and time scales (courses 2, 3), economic value and viability of various options for reservoir design, development and engineering, and their environmental sustainability (courses 1, 3). Complementary to crustal reservoirs in the classical sense, Course 1 also addresses shallow geothermics as an economically-significant contribution to space heating/cooling, with a focus on hydrogeological prerequisites, and caveats regarding frequent malpractice (especially with open systems) in shallow-geothermal design and engineering. Besides treating selected fundamentals of linear elasticity, elastoplasticity, poroelasticity, seismotectonics for the purposes of georeservoir characterization and engineering, Course 2 also provides hands-on experience with geomechanical laboratory and borehole testing techniques.	**Workload:** Attendance time: 84 h Self-study time: 126 h

Course: Geothermal reservoirs (Lecture, Exercise) Lecturer: Prof. I. Moeck *Course frequency:* each winter semester	2 WLH
Course: Reservoir geomechanics (Lecture, Exercise) Lecturer: M. Fazio, I. Ghergut *Course frequency:* each winter semester	2 WLH
Course: Coupled THMC processes in crustal reservoirs (Lecture, Exercise) Lecturer: M. Fazio, I. Ghergut *Course frequency:* each summer semester	2 WLH
Examination: Written examination (90 minutes)	7 C

Examination requirements:

Quantitative description and evaluation of georeservoir flow and transport processes, and of basic HM couplings; qualitative description and evaluation of coupled THMC processes; lifetime definition and calculation for a number of georeservoir paradigms; comparative evaluation of various georeservoir plays; principles of georeservoir engineering; understanding of georeservoir-related hazards, approaches to their quantification and mitigation.

Admission requirements: none	**Recommended previous knowledge:** M.Geo.151, M.Geo.154
Language: English, German	**Person responsible for module:** Dr. rer. nat. Iulia Ghergut
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 15	

Additional notes and regulations:

Compulsory module for the certification of the specialization in hydrogeology.

Georg-August-Universität Göttingen **Module M.Geo.255: Applied Geology Project**	6 C 1 WLH

Learning outcome, core skills: The aim of this module is to introduce the students to procedures of scientific work as well as writing and presenting in science. This comprises (1) how to obtain scientific data, (2) how to organize and summarize the relevant information in a report, and finally (3) how to provide a clear and concise oral presentation of the report. Students can either choose an assigned project (laboratory/field work, programming/numerical modeling) or a literature research as a basis for their report and oral presentation. Furthermore the students will have to participate in the weekly seminar of the Applied Geology department. The topic of the report and presentation should be related to one of the research and teaching activities of the department and will be assigned according to the field of work of the responsible supervising tutor.	**Workload:** Attendance time: 14 h Self-study time: 166 h

Course: Hydrogeological Seminar (belongs to M.Geo.151.2) (Seminar) *Course frequency:* each summer semester	1 WLH
Examination: Oral Presentation (approx. 30 minutes) **Examination prerequisites:** 12 participations in the weekly seminar in M.Geo.151.2 of the Applied Geology department.	6 C

Examination requirements: The students know how to obtain scientific data in topics of applied. They can organize and summarize the relevant information in a report, and finally they know how to provide a clear and concise oral presentation of the report. Oral presentation in the weekly seminar of the Applied Geology department.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Staff of the Department Applied Geology
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 4	

Georg-August-Universität Göttingen Module M.Gesch.4a (AS): History for Students of American Studies	10 C 4 WLH

Learning outcome, core skills: Die Studierenden können Phänomene der Neuzeit anhand von Quellen und Forschungsliteratur exemplarisch analysieren und in Zusammenhänge einordnen. Sie kennen den Forschungsstand und können die einzelnen Positionen kritisch beurteilen und eigene Ideen entwickeln. Sie sind in der Lage, ihr Wissen und ihre rational begründeten Thesen schriftlich und mündlich zu kommunizieren.	Workload: Attendance time: 56 h Self-study time: 244 h

Course: Master-Seminar Neuzeit (Seminar)	2 WLH
Course: Vorlesung oder Übung	2 WLH

Examination: Term Paper (max. 20 pages) Examination prerequisites: Prüfungsvorleistungen: Regelmäßige Teilnahme am Seminar; 2 im Seminar erbrachte schriftliche oder mündliche Leistungen (z. B. Referat (ca. 30 Min.), Protokoll (max. 4000 Zeichen)) Examination requirements: Hausarbeit (max. 20 Seiten; vorzugsweise zu einem amerikanischen oder transatlantischen Thema)	

Admission requirements: none	Recommended previous knowledge: none
Language: German	Person responsible for module: Prof. Dr. Dirk Schumann
Course frequency: once a year	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 5	

Georg-August-Universität Göttingen **Module M.Inf.1114: Algorithms on Sequences**	5 C 4 WLH

Learning outcome, core skills: We expect that the participants will gain an understanding of classical string-processing tools. They are supposed to understand and be able to use in various situations: classical text algorithms (e.g., pattern matching algorithms, edit distance), classical text indexing data structures (e.g., suffix arrays / trees), and classical combinatorial results that are useful in this context (e.g., periodicity lemmas).	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Algorithms on Sequences (Lecture, Exercise) *Contents*: This course is an introduction into the theory of stringology, or algorithms on sequences of symbols (also called words or strings). Our main intention is to present a series of basic algorithmic and combinatorial results, which can be used to develop efficient word-processing tools. While the emphasis of the course is on the theoretical side of stringology, we also present a series of applications of the presented concepts in areas like data-compression or computational biology The main topics our course will cover are: basic combinatorics on words, pattern matching algorithms, data structures for text indexing (suffix arrays, suffix trees), text compression (Huffman encoding, Lempel-Ziv method), detection of regularities in words, algorithms for words with don't care symbols (partial words), word distance algorithms, longest common subsequence algorithms, approximate pattern matching. The presentation of each theoretical topic from the above will be accompanied by a brief discussion on its possible applications. Literature • T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein: Introduction to Algorithms (3rd Edition), MIT Press, 2009. • M. Crochemore, C. Hancart, T. Lecroq: Algorithms on Strings, Cambridge University Press, 2007. • M. Crochemore, W. Rytter: Jewels of Stringology, World Scientific, 2002. • D. Gusfield. Algorithms on strings, trees, and sequences: computer science and computational biology. Cambridge University Press, 1997.	4 WLH
Examination: Oral examination (approx. 20 minutes) **Examination requirements:** basic combinatorics on words, pattern matching algorithms, data structures for text indexing (suffix arrays, suffix trees), text compression (Huffman encoding, Lempel-Ziv method), detection of regularities in words, algorithms for words with don't care symbols (partial words), word distance algorithms, longest common subsequence algorithms, approximate pattern matching	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language:	**Person responsible for module:**

English	Prof. Dr. Florin Manea
Course frequency:	**Duration:**
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
50	

English   Prof. Dr. Florin Manea

Georg-August-Universität Göttingen **Module M.Inf.1115: Advanced Topics on Algorithms**	5 C 4 WLH

Learning outcome, core skills: We expect that the students will become familiar with efficient sorting and searching methods, advanced data structures, dynamic data structures, as well as other efficient algorithmic methods, they will be able to estimate the complexity of those algorithms, and they will be able to apply those algorithms to particular programming problems (from practical or theoretical settings).	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Advanced Topics on Algorithms (Lecture, Exercise) *Contents*: In this course we present a series of selected results on data structures and efficient algorithms, and discuss a series of areas in which they can be applied successfully. The emphasis of the course is on the theory, we also approach the problem of a practical implementation of the presented algorithms. The main topics our course will cover are: efficient sorting and searching (non-comparison based methods, van Emde Boas trees, Radix Sort), advanced tree-structures (Fibonacci heaps, B-Trees, structures for working with disjoint sets), dynamic data structures (range minimum queries, lowest common ancestor, applications to string algorithms: suffix arrays, suffix trees), Hashing and Dictionaries, Young tableaux, geometric algorithms (convex hull), number theoretic algorithms. The presentation of each theoretical topic from the above will be accompanied by a brief discussion on its possible applications. Literature - T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein: Introduction to Algorithms (3rd Edition), MIT Press, 2009. - E. Demaine: Advanced Data Structures, MIT Course nr. 6.851, 2012. - Pawel Gawrychowski and Mayank Goswami and Patrick Nicholson: Efficient Data Structures, MPI Course, Summer 2014.	4 WLH
Examination: Oral examination (approx. 20 minutes) **Examination requirements:** efficient sorting and searching (non-comparison based methods, van Emde Boas trees, Radix Sort), advanced tree-structures (Fibonacci heaps, B-Trees, structures for working with disjoint sets), dynamic data structures (range minimum queries, lowest common ancestor, applications to string algorithms: suffix arrays, suffix trees), Hashing and Dictionaries, Young tableaux, geometric algorithms (convex hull), number theoretic algorithms	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Florin Manea
Course frequency:	**Duration:**

irregular	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

Georg-August-Universität Göttingen **Module M.Inf.1120: Mobile Communication**	5 C 3 WLH

Learning outcome, core skills: On completion of the module students should be able to: - explain the fundamentals of mobile communication including the use of frequencies, modulation, antennas and how mobility is managed - distinguish different multiple access schemes such as SDMA (Space Division Multiple Access), FDMA (Frequency Division Multiple Access), TDMA (Time Division Multiple Access), CDMA (Code Division Multiple Access) and their variations as used in cellular networks - describe the history of cellular network generations from the first generation (1G) up to now (4G), recall their different ways of functioning and compare them to complementary systems such as TETRA - explain the fundamental idea and functioning of satellite systems - classify different types of wireless networks including WLAN (IEEE 802.11), WPAN (IEEE 802.15) such as Bluetooth and ZigBee, WMAN (IEEE 802.16) such as WiMAX and recall their functioning - explain the challenges of routing in mobile ad hoc and wireless sensor networks - compare the transport layer of static systems to the transport layer in mobile systems and explain the approaches to improve the mobile transport layer performance - differentiate between the security concepts used in GSM and 802.11 security as well as describe the way tunnelling works	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Mobile Communication (Lecture, Exercise)	3 WLH
Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination requirements:** Fundamentals of mobile communication (frequencies, modulation, antennas, mobility management); multiple access schemes (SDMA, FDMA, TDMA, CDMA) and their variations; history of cellular network generations (first (1G) up to current generation (4G) and outlook to future generations); complementary systems (e.g. TETRA); fundamentals of satellite systems; wireless networks (WLAN (IEEE 802.11), WPAN (IEEE 802.15) such as Bluetooth and ZigBee, WMAN (IEEE 802.16) such as WiMAX); routing in MANETs and WSNs; transport layer for mobile systems; security challenges in mobile networks such as GSM and 802.11 and tunneling;	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in telematics and computer networks
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 50	

Georg-August-Universität Göttingen	5 C
Module M.Inf.1121: Specialisation Mobile Communication	3 WLH

Learning outcome, core skills:	**Workload:**
On completion of the module students should be able to: • recall the basic terms and definitions of wireless ad hoc networks, their history and name their basic application areas • describe the special characteristics of the physical layer of wireless ad hoc networks • differentiate the various media access control (MAC) schemes as used in wireless ad hoc networks; and name their challenges • explain the network protocols used in wireless ad hoc networks, reason the design decisions taken in this context as well as classifying and comparing the different existing routing protocol approaches • identify the energy management issues in wireless ad hoc networks and classify existing energy management schemes • describe security challenges in ad hoc networks, threats and attacks and corresponding security solutions such as cryptography schemes, key management, secure routing protocols and soft security mechanisms • discuss the challenges on the transport layer in wireless ad hoc and sensor networks, compare them to existing protocols, classify them and discuss enhancements of TCP for wireless ad hoc networks • describe the challenges of wireless sensor networks (WSN) and explain the differences to wireless ad hoc networks • memorize the WSN architecture and topology, the used operating systems and the existing hardware nodes • discuss the optimization goals in WSNs, the used MAC protocols as well as the utilised naming and addressing schemes; additionally, describe the used approaches for time synchronization, localization and routing	Attendance time: 42 h Self-study time: 108 h

Course: Wireless Ad Hoc and Sensor Networks (Lecture, Exercise)	3 WLH

Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination requirements:** Terms, definitions and characteristics of wireless ad hoc networks; Network Layer used in wireless ad hoc networks (Physical, MAC, Network Layer, Transport, Application); Energy Management; Security Challenges, threats and attacks in wireless ad hoc networks and their counter measures (cryptographic schemes, key management, secure routing, soft security); architecture, topologies and characteristics of wireless sensor networks (WSNs) and the differences to ad hoc networks; WSN specifics (naming and addressing, synchronization, localization and routing)	5 C

Admission requirements:	**Recommended previous knowledge:**
none	Basic knowledge in telematics and computer networks
Language:	**Person responsible for module:**

English	Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

English   Prof. Dr. Dieter Hogrefe

Georg-August-Universität Göttingen **Module M.Inf.1122: Seminar on Advanced Topics in Telematics**	5 C 2 WLH

Learning outcome, core skills: On completion of the module students should be able to: • critically investigate current research topics from the area of telematics such as bio-inspired approaches in the area of wireless communication or security attacks and countermeasures for mobile wireless networks • collect, evaluate related work and reference them correctly • summarize the findings in a written report • prepare a scientific presentation of the chosen research topic	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Network Security and Privacy (Seminar)	2 WLH
Course: Security of Self-organizing Networks (Seminar)	2 WLH
Course: Trust and Reputation Systems (Seminar)	2 WLH
Examination: Presentation (approx. 45 minutes) and written report (max. 20 pages) **Examination requirements:** The students shall show that • they are able to become acquainted with an advanced topic in telematics by investigating up-to-date research publications. • they are able to present up-to-date research on an advanced topic in telematics. • they are able to assess up-to-date research on an advanced topic in telematics. • they are able to write a scientific report on an advanced topic in telematics according to good scientific practice.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in telematics and computer networks
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1123: Computer Networks**	5 C 2 WLH

Learning outcome, core skills: The students - have gained a deeper knowledge in specific topics within the computer networks field - have improved their oral presentation skills - know how to methodically read and analyse scientific research papers - know how to write an analysis of a specific research field based on their analysis of state-of-the-art research - have improved their ability to work independently in a pre-defined context	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Advanced Topics in Mobile Communications (Seminar)	2 WLH
Examination: Präsentation (ca. 30 Min.) und Hausarbeit (max. 15 Seiten) **Examination requirements:** Knowledge in a specific field of mobile communication; Ability to present the earned knowledge in a proper way both orally and in a written report	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1124: Seminar Computer Networks**	5 C 2 WLH

Learning outcome, core skills:	**Workload:**
The students • have gained a deeper knowledge in specific topics within the computer networks field • have improved their oral presentation skills • know how to methodically read and analyse scientific research papers • know how to write an analysis of a specific research field based on their analysis of state-of-the-art research • have improved their ability to work independently in a pre-defined context	Attendance time: 28 h Self-study time: 122 h

Course: Seminar on Internet Technology (Seminar)	2 WLH
Examination: Präsentation (ca. 30 Min.) und Hausarbeit (max. 15 Seiten) **Examination requirements:** Knowledge in a specific field of internet technology; ability to present the earned knowledge in a proper way both orally and in a written report	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen	5 C
Module M.Inf.1129: Social Networks and Big Data Methods	2 WLH

Learning outcome, core skills: The students • are familiar with basic concepts of social networks • know how to methodically read and analyse scientific research papers • have enriched their practical skills in computer science with regards to analysis of big data applications • have improved their ability to work independently in a pre-defined context • have improved their ability to work in diverse teams	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Social Networks and Big Data Methods (Exercise, Seminar)	2 WLH
Examination: Term Paper (max. 20 pages) **Examination prerequisites:** Erreichen von mindestes 50% der Übungspunkte **Examination requirements:** Basic knowledge in social networks and data analysis; ability to transfer the theoretical knowledge to practical exercises; ability to present the earned knowledge in a proper written report	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; advanced programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1130: Software-defined Networks (SDN)**	5 C 3 WLH

Learning outcome, core skills: The students • are familiar with the concepts of software defined networking (SDN) • know how to methodically read and analyse scientific research papers • have enriched their practical skills in computer networks with regards to SDN • know about practical deployability issues of SDN • have improved their ability to work independently in a pre-defined context	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Software-defined Networking (Exercise, Seminar)	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** Achievement of at least 50% of the exercise points **Examination requirements:** Knowledge in software-defined networking; ability to transfer the theoretical knowledge to practical exercises; ability to present the earned knowledge	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; advanced programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1138: Usable Security and Privacy**	5 C 4 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Understand the needs for usability in secure and privacy-preserving solutions and the associated challenges, • Present and discuss selected themes addressed in the research area of usable security and privacy, • Define and understand the principles and guidelines to apply when designing new solutions, • Describe and compare different methodologies to conduct user studies, • Plan user studies from their design to the processing and presentation of the results.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Usable Security and Privacy (Lecture, Exercise)	4 WLH
Examination: Written exam (90 min.) or oral exam (ca. 20 min.) **Examination requirements:** Introduction to usable security and privacy, selected topics in the research field of usable security and privacy, human-computer interaction principles and guidelines, methods to design and evaluate usable solutions in the area of security and privacy.	5 C

Admission requirements: none	**Recommended previous knowledge:** Backgrounds in Computer Security and Privacy
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Inf.1139: Privacy-Enhancing Technologies**	5 C 4 WLH

Learning outcome, core skills: After successfully completing the module, students are able to: • Define and understand the basic concepts of privacy protection, • Identify and classify the different existing threats against privacy, • Define and understand the legal principles of data protection in Germany, the EU and worldwide, • Explain the principles of fundamental privacy-enhancing technologies as well as define and compare their protection goals, • Understand and analyze selected cutting-edge privacy-enhancing solutions.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Privacy-Enhancing Technologies (Lecture, Exercise)	4 WLH
Examination: Written exam (90 min) or oral exam (approx. 20 min) **Examination requirements:** Privacy threats, data protection legal framework, anonymity, anonymization techniques and services, privacy-enhancing technologies, applied privacy protection.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in communication networks, databases, and data processing.
Language: English, German	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1150: Advanced Topics in Software Engineering**	5 C 3 WLH

Learning outcome, core skills: The students • gain knowledge about an advanced topic in software engineering. The advanced topic may be related to areas such as software development processes, software quality assurance, and software evolution • become acquainted with the status in industry and research of the advanced topic under investigation • gain knowledge about methods and tools needed to apply or investigate the advanced topic	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Construction of Reusable Software (Block course, Seminar) *Contents*: Topics which will be covered by lecture and associated seminar include • design patterns • frameworks • unit testing with the JUnit Framework • the Eclipse Framework • refactoring • design-by-Contract/Assertions • aspect-oriented programming (AOP)	3 WLH

Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination requirements:** **Preliminary test** If the module is implemented by a lecture with exercises: • Development and presentation of the solution of at least one exercise (presentation and report) and active participation in the exercises If the module is implemented by a block lecture with an associated seminar: • Presentation of at least one topic in the associated seminar • Attendance in 80% of the seminar presentations **Exam** The students shall show knowledge about • the principles of the advanced topic under investigation • the status of the advanced topic under investigation in industry and research • the methods and tools for applying or investigating the advanced topic	5 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.
Language:	**Person responsible for module:**

English	Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1152: Specialisation Softwareengineering: Quality Assurance**	5 C 3 WLH

Learning outcome, core skills: The students - can define the term software quality and acquire knowledge on the principles of software quality assurance - become acquainted with the general test process and know how it can be embedded into the overall software development process - gain knowledge about manual static analysis and about methods for applying manual static analysis - gain knowledge about computer-based static analysis and about methods for applying computer-based static analysis - gain knowledge about black-box testing and about the most important methods for deriving test cases for black-box testing - gain knowledge about glass-box testing and about the most important methods for deriving test cases for glass-box testing - acquire knowledge about the specialties of testing of object oriented software - acquire knowledge about tools that support software testing - gain knowledge about the principles of test management	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Software Testing (Lecture, Exercise)	3 WLH
Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination prerequisites:** Develop and present the solution of at least one exercise (presentation and report) and active participation in the exercises. **Examination requirements:** The students have to show knowledge in software quality, principles of software quality assurance, general test process, static analysis, dynamic analysis, black-box testing, glass-box testing, testing of object-oriented systems, testing tools, and test management.	5 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.
Language: English	**Person responsible for module:** Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1153: Specialisation Softwareengineering: Requirements Engineering**	5 C 3 WLH

Learning outcome, core skills:	**Workload:**
The students - can define the terms requirement and requirements engineering and acquire knowledge on the principles of requirements engineering - become acquainted with the general requirements engineering process and know how it can be embedded into the overall software development process - gain knowledge about the system context and context boundaries - gain knowledge about requirements elicitation techniques and the interpretation of elicitation results - gain knowledge about the negotiation of requirements with different stakeholders - gain knowledge about the structure of documents for the requirements documentation - gain knowledge about the requirements documentation in natural language and techniques for the use of structured natural language - gain knowledge about the requirements documentation with models and model-based techniques for requirements documentation - gain knowledge about the validation of requirements - gain knowledge about managing changes to requirements - gain knowledge about tracing requirements through a development process	Attendance time: 42 h Self-study time: 108 h

Course: Requirements Engineering (Lecture, Exercise)	3 WLH

Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination prerequisites:** Develop and present the solution of at least one excercise (presentation and report) and active participation in the exercise sessions. **Examination requirements:** Requirements, requirements engineering, general requirements engineering process, system context, system boundary, context boundary, requirements elicitation and interpretation, requirements negotiation, structure of requirements documentation, requirements documentation in natural language, model-based requirements documentation, requirements validation, requirements change management, requirements tracing.	5 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.
Language: English	**Person responsible for module:** Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1154: Specialisation Softwareengineering: Software Evolution**	5 C 3 WLH

Learning outcome, core skills: The students • can define the term software evolution and acquire knowledge on the principles of software evolution and maintenance • become acquainted with general approaches for mining software repositories to understand, predict, and control the evolution of software • gain knowledge about typical data and data sources used in software evolution studies • gain knowledge about mining methods and tools for modeling, obtaining, and integrating data from software projects, including mining version control system data, mining issue tracking system data, mining static analysis data, mining clone detection data • gain knowledge about labelling and classification of artifacts and activities in software projects • gain knowledge about prediction, simulation, visualization, and other applications built upon mined software evolution data	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Software Evolution (Lecture, Exercise)	3 WLH
Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination prerequisites:** Develop and present the solution of at least one exercise (presentation and report), active participation in the exercise sessions. **Examination requirements:** The students shall prove knowledge in the area of software evolution. This includes knowledge regarding principles of software evolution, software maintenance, software quality, mining software repositories, data mining, defect prediction, software clones, static analysis, dynamic analysis and human factors in software evolution.	5 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.
Language: English	**Person responsible for module:** Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1155: Seminar: Advanced Topics in Software Engineering**	5 C 2 WLH

Learning outcome, core skills: The students • learn to become acquainted with an advanced topic in software engineering by studying up-to-date research papers. • gain knowledge about advanced topics in software engineering. The advanced topic may be related to areas such as software development processes, software quality assurance, and software evolution. • learn to present and discuss up-to-date research on advanced topics in software engineering. • learn to assess up-to-date research on advanced topics in software engineering.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar on Advanced Topics in Software-Engineering (Seminar) *Contents*: Topics which will be covered by this seminar can include • Usability and Usability-Engineering • User-oriented Usability Testing • Expert-oriented Usability Evaluation • Web-analytics • Information Architecture • SOA – Service-oriented Architecture • UML-Tools and Code Generation • Details of Specific Process Models • Model-driven Architecture • Usage-based Testing • Defect Prediction • Design Patterns • Agent-based Simulation • Reliability-Engineering for Cloud Systems	2 WLH

Examination: Presentation (approx. 45 minutes) and written report (max. 20 pages) **Examination prerequisites:** Attendance in 80% of the seminar presentations **Examination requirements:** The students shall show that • they are able to become acquainted with an advanced topic in software engineering by investigating up-to-date research publications. • they are able to present up-to-date research on an advanced topic in software engineering. • they are able to assess up-to-date research on an advanced topic in software engineering.	5 C

- they are able to write a scientific report on an advanced topic in software engineering according to good scientific practice.

Presentation of an advanced topic in software engineering and written report.

Admission requirements:	Recommended previous knowledge:
none	Foundations of software engineering.
Language:	**Person responsible for module:**
English	Prof. Dr. Jens Grabowski
Course frequency:	**Duration:**
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
30	

Georg-August-Universität Göttingen **Module M.Inf.1171: Cloud and Service Computing**	5 C 3 WLH

Learning outcome, core skills: Successfully completing the module, students understand - hybrid clouds, consisting of private and public clouds - basic web technologies (transfer protocols, markup languages, markup processing, RESTful and SOAP web services) - virtualization technologies (server, storage, and network virtualization) - data services (sharing, management, and analysis) - continuous integration/continuous delivery - container and orchestration in clouds (e.g. Kubernetes, OpenStack Heat) - monitoring of cloud infrastructures - interoperability in clouds (e.g. Helm) - portability and security - microservices - cloud computing workloads On completion of this module students will have a good understanding of the fundamental and up-to-date concepts used in the context cloud computing. This basic knowledge can be leveraged by students to design, implement, and manage service-oriented cloud infrastructures by themselves.	**Workload:** Attendance time: 42 h Self-study time: 108 h
Course: Cloud and Service Computing (Lecture, Exercise) *Contents*: Cloud Computing is a method of providing shared computing resources, such as applications, computing, storage, networking, development, and deployment platforms. In cloud computing these resources can be delivered as service to the user. Such Service-oriented infrastructures are the backbone of modern IT systems. They pool resources, enable collaboration between people, and provide complex services to end-users. Everybody who uses today's web applications implicitly relies on sophisticated service-oriented infrastructures. The same is true for users of mobile devices such as tablet computers and smart phones, which provide most of their benefits leveraging services. The key challenges of cloud computing infrastructures are related to scaling services. More specifically large cloud-computing infrastructures require scalability of IT management, programming models, and power consumption. The challenges to scale services lie in the inherent complexity of hardware, software, and the large amount of user requests, which large-scale services are expected to handle. This module teaches methods that address and solve those challenges in practice. Key aspects of the module are the management of IT infrastructures, the management of service landscapes, and programming models for distributed applications. The module covers the virtualization of computing, storage, and network resources as the fundament for scaling. IT management is covered by the discussion of deployment	3 WLH

models, service level agreements. Programming models are covered by discussing RESTful and SOAP web-services.

Both, lectures and exercises, keep a close connection to the practical application of the discussed topics. The practical value of service-oriented infrastructures is highlighted in the context of enterprises as well as in the context of science. The methods taught in this module benefit from the lecturers' experiences at GWDG and thus provide exclusive insights into the topic. After successfully attending these modules students will understand the most important aspects to design, implement, and manage internet-scale cloud computing infrastructures.

Examination: Written exam (90 min) or oral exam (approx. 30 min) **Examination requirements:** • Hybrid and Multi cloud infrastructures • RESTful and SOAP web services • Compute, storage, and network virtualisation • Infrastructure-as-a-service, platform-as-a-service, software-as-a-service • Characteristics of Cloud computing (NIST) • Service life cycle • Service level agreements • Cloud computing workloads (e.g. batch, SaaS, big data, back-end)	5 C

Admission requirements: none	**Recommended previous knowledge:** • Basic programming skills • Basic knowledge of Linux operating systems
Language: English	**Person responsible for module:** Prof. Dr. Ramin Yahyapour
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Inf.1172: Using Research Infrastructures**	5 C 3 WLH

Learning outcome, core skills: Successfully completing the module, students • understand what methods and services are available in state-of-the-art research infrastructures and direction of future development • understand the infrastructures for eScience and eResearch • know basics of data management and data analysis • know the fundamental of technologies like cloud computing and grids • understand the real-world problems from different domains (e.g., high energy physics, humanities, medical science, etc.) which are tackled by research infrastructures • understand certain aspects, methods and tools of these infrastructures for different use cases from different domains • will be motivated to take part in other related modules (e.g., Specialization in Distributed Systems, Parallel Computing, etc.)	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Using Research Infrastructures - Examples from Humanities and Sciences (Lecture, Exercise) *Contents*: Successfully completing the lecture, students • understand the role and importance of the research infrastructure and their general building blocks • know the basics of grid computing • know the basics of cloud computing • learn basics on system virtualization • learn fundamental ideas of data management and analysis • understand the real-world problems from different domains (e.g., high energy physics, humanities, medical science/life science, etc.) which are tackled by research infrastructures • understand certain aspects, methods and tools of these infrastructures for different use cases from different domains • will be motivated to take part in other related modules (e.g., Specialization in Distributed Systems, Parallel Computing, etc.) • get familiar with real-world challenges through talks from experts who will present their current research activities and the role of research infrastructures on their research	3 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Grid computing; cloud computing; system virtualization; data management; data analysis; application of eResearch infrastructure in high energy physics; eResearch in medicine and life science; eResearch in humanities	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ramin Yahyapour
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1185: Sensor Data Fusion**	5 C 4 WLH

Learning outcome, core skills: This module is concerned with fundamental principles and algorithms for the processing and fusion of noisy (sensor) data. Applications in the context of navigation, object tracking, sensor networks, robotics, Internet-of-Things, and data science are discussed. After successful completion of the module, students are able to • define the notion of data fusion and distinguish different data fusion levels • formalize data fusion problems as state estimation problems • develop distributed and decentralized data fusion architectures • describe the basic concepts of linear estimation theory • explain the fundamental formulas for the fusion of noisy data • deal with unknown correlations in data fusion • understand the Bayesian approach to data fusion and estimation • formulate dynamic models for time-varying phenomena • describe the concept of a recursive Bayesian state estimator • explain and apply the Kalman filter for state estimation in dynamic systems • explain and apply basic nonlinear estimation techniques such as the Extended Kalman filter (EKF) and Unscented Kalman filter (UKF) • assess the properties, advantages, and disadvantages of the discussed (nonlinear) estimators • explain different approaches to deal with uncertainty such as probability theory, fuzzy theory, and Dempster–Shafer theory • identify data fusion applications and assess the benefits of data fusion	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Sensor Data Fusion (Lecture, Exercise)	4 WLH
Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination requirements:** Definition of data fusion; data fusion levels; formalization of data fusion problems; distributed and decentralized fusion architectures; linear estimation theory; fundamental fusion formulas; dynamic state estimation; Kalman filter; Extended Kalman filter (EKF); Unscented Kalman filter (UKF), algorithms for dealing with unknown correlations; fuzzy theory; Dempster-Shafer theory	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Marcus Baum
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Inf.1186: Seminar Hot Topics in Data Fusion and Analytics**	5 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students are able to • get acquainted with a specific research topic in the area of data fusion and data analytics • explain the considered problem in the chosen research topic • collect, evaluate, and summarize related work • describe solution approaches for the considered problem • discuss advantages and disadvantages of the proposed approaches • give an outlook to future research directions • prepare and give a presentation about the chosen research topic • write a scientific report about the chosen research topic • follow recent research in data fusion and data analytics	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Hot Topics in Data Fusion and Analytics (Seminar)	2 WLH
Examination: Presentation (approx. 45 minutes) and written report (max. 20 pages) **Examination prerequisites:** Attendance in 80% of the seminar presentations **Examination requirements:** Advanced knowledge of a specific research topic in the field of data fusion and data analytics; written scientific report; oral presentation	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Marcus Baum
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1187: Simulation-based Data Fusion and Analysis**	5 C 4 WLH

Learning outcome, core skills:	**Workload:**
This module introduces fundamental simulation-based algorithms for the Bayesian fusion and analysis of noisy data sets. After completion, the students are able to • describe the Bayesian approach to data fusion and analysis • set up probabilistic state space models for time series data • describe the concept of a recursive Bayesian state estimator • employ Monte Carlo simulation for Bayesian inference • explain and apply sequential Monte Carlo methods, i.e., particle filters, such as Sequential Importance Sampling (SIS) and Sequential Importance Resampling (SIR) • explain and apply Markov Chain Monte Carlo (MCMC) methods such as Metropolis-Hasting and Gibbs sampling • describe the Bayesian interpretation of the Kalman filter • apply simulation-based implementations of the Kalman filter such as the Unscented Kalman Filter (UKF) and the Ensemble Kalman filter (EnKF) • employ Monte Carlo simulation for inference in probabilistic graphical models • explain Rao-Blackwellization and apply it to Simultaneous Localization and Mapping (SLAM) • assess the properties, advantages, and disadvantages of simulation-based techniques • apply the above concepts in the context of machine learning, computer vision, robotics, object tracking, and data science	Attendance time: 56 h Self-study time: 94 h

Course: Simulation-based Data Fusion and Analysis (Lecture, Exercise)	4 WLH

Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination requirements:** Probabilistic state space models for time series data; recursive Bayesian state estimator; Monte Carlo simulation; Sequential Monte Carlo methods (particle filters); Sequential Importance Sampling (SIS) and Sequential Importance Resampling (SIR); Markov Chain Monte Carlo (MCMC) methods such as Metropolis-Hasting and Gibbs sampling; simulation-based implementations of the Kalman filter; Application of Monte Carlo simulation for inference in probabilistic graphical models; Rao-Blackwellization.	5 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Marcus Baum
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Inf.1191: Privacy in Ubiquitous Computing**	5 C 4 WLH

Learning outcome, core skills: After successful completion of the module, students are able to: • Define and understand the key concepts of privacy and ubiquitous computing, • Identify and classify threats to privacy in ubiquitous computing, • Describe, compare, and choose fundamental techniques to protect privacy, • Understand and analyze cutting-edge solutions.	**Workload:** Attendance time: 56 h Self-study time: 94 h

Course: Privacy in Ubiquitous Computing (Lecture, Exercise)	4 WLH
Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination prerequisites:** Active participation during the exercises. **Examination requirements:** Introduction to privacy and ubiquitous computing, privacy threats, privacy-enhancing technologies, wireless sensor networks, smart meters, participatory sensing, RFIDs, Internet-of-Things.	5 C

Admission requirements: none	**Recommended previous knowledge:** M.Inf.1120, M.Inf.1121
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Inf.1192: Seminar on Privacy in Ubiquitous Computing**	5 C 2 WLH

Learning outcome, core skills: none	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar on Privacy in Ubiquitous Computing (Seminar)	2 WLH
Examination: Presentation (approx. 30 minutes) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research on a topic in the area of privacy in ubiquitous computing, • They are able to explain selected solutions related to the chosen topic, • They are able to compare these solutions by analyzing their potential advantages and limitations, • They are able to write a structured scientific report on their findings by respecting the rules of good scientific practice, • They are able to present and to critically discuss their findings in a presentation.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in privacy
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations: On completion of the module, students should be able to: • Investigate selected topics in privacy in ubiquitous computing, • Identify existing solutions in the area to be investigated, • Explain, compare, and discuss these solutions, • Develop new ideas to improve the existing solutions, • Summarize their findings in a written report, • Give a presentation about the chosen area.

Georg-August-Universität Göttingen **Module M.Inf.1193: Seminar on Usable Security and Privacy**	5 C 2 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Investigate a selected topic related to usability in the field of security and privacy, • Identify relevant publications to address this topic and survey the state-of-the-art, • Understand, present, and explain issues encountered by the users, • Develop and describe new ideas to address these issues, • Summarize their findings in a written report, • Give a presentation about their chosen topic.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar Usable Security and Privacy (Seminar)	2 WLH
Examination: Presentation (approx. 30 min.) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research on a topic in the area of usable security and privacy, • They are able to identify, understand, and explain usability issues encountered in this area, • They are able to propose novel solutions to these issues and discuss their potential advantages and limitations, • They are able to write a structured scientific report on their findings by respecting the rules of good scientific practice, • They are able to present and critically discuss their findings in a presentation.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of privacy and usability obtained, e.g., in the recommended lecture "Usable Security and Privacy"
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1194: Seminar on Privacy in Data Science**	5 C 2 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Investigate selected topics on privacy in data science, • Identify existing solutions in the area to be investigated, • Explain, compare, and discuss these solutions, • Develop new ideas to improve the current state-of-the-art, • Summarize their findings in a written report, • Give a presentation about the chosen area.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar Privacy in Data Science (Seminar)	2 WLH
Examination: Presentation (approx. 30 min.) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research on a topic in the area of privacy in data science, • They are able to explain selected solutions related to the chosen topic, • They are able to compare these solutions by analyzing their potential advantages and limitations, • They are able to write a structured scientific report on their findings by respecting the rules of good scientific practice, • They are able to present and critically discuss their findings in a presentation.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of privacy obtained, e.g., in one of the recommended lectures "Privacy-Enhancing Technologies", "Privacy in Ubiquitous Computing", "Usable Security and Privacy", or "Ethical, Social, and Legal Foundations of Data Science".
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1195: Seminar Human in the Age of Artificial Intelligence**	5 C 2 WLH

Learning outcome, core skills:	Workload:
This seminar investigates the relationship between Artificial Intelligence and automation and the human, the future of humanity, and ethical decision-making. This will be achieved by research and review of literature about the topic. On completion of this module students : • are familiar with the main concepts of the designed course and develop a greater awareness of the benefits and limitations of AI applications. • understand the role of artificial intelligence on Self and in Society. • are able to write a report demonstrating their understanding of the topic. • have improved their presentation skills on the selected topic. • have improved their ability to work independently in a pre-defined context.	Attendance time: 28 h Self-study time: 122 h

Course: Human in the Age of Artificial Intelligence (Seminar)	2 WLH
Examination: Presentation (approx. 45 minutes) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • they are able to become acquainted with the topic of the designed course by investigating research publications • they are able to assess and analyze the research on the chosen topic • they are able to present and discuss their finding in a presentation • they are able to write a scientific report according to good scientific practice	5 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Dr. Parisa Memarmoshrefi
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1222: Specialisation Computer Networks**	5 C 2 WLH

Learning outcome, core skills: The students • have gained a deeper knowledge in specific topics within the computer networks field • have improved their oral presentation skills • know how to methodically read and analyse scientific research papers • know how to write an analysis of a specific research field based on their analysis of state-of-the-art research • have improved their ability to work independently in a pre-defined context	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Advanced Topics in Computer Networks (Seminar)	2 WLH
Examination: Präsentation (ca. 30 min.) und Hausarbeit (max. 15 Seiten) **Examination requirements:** Knowledge in a specific field of advanced computer networks technology; ability to present the earned knowledge in a proper way both orally and in a written report	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unrregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1223: Advanced Topics in Computer Networks**	5 C 3 WLH

Learning outcome, core skills: The students - know the principles of existing and emerging advanced networking technologies - know the details of Peer-to-Peer networks - are capable to describe the principles of cloud computing - have a basic understanding of information centric networking - are able to analyze social networks - have been introduced to state-of-the-art research in the computer networks field	**Workload:** Attendance time: 42 h Self-study time: 108 h

Course: Advanced Topics in Computer Networks (Lecture, Exercise)	3 WLH
Examination: Oral exam (approx. 30 minutes) or written exam (90 minutes) **Examination requirements:** advanced networking technologies, Peer-to-Peer networks, cloud computing, information centric networking, social networks, state-of-the-art research in the computer networks field	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; basic programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module M.Inf.1226: Security and Cooperation in Wireless Networks**	6 C 4 WLH

Learning outcome, core skills: On completion of the module students should be able to: • recall cryptographic algorithms and protocols such as encryption, hash functions, message authentication codes, digital signatures and session key establishment • explain security requirements and vulnerabilities of existing wireless networks • discuss upcoming wireless networks and new security challenges that are arising • name trust assumptions and adversary models in the era of ubiquitous computing • show how naming and addressing schemes will be used in the future of the Internet and how these schemes can be protected against attacks • explain how security associations can be established via key establishment, exploiting physical contact, mobility, properties of vicinity and radio link • define secure neighbour discovery and explain the wormhole attack and its detection mechanisms • describe secure routing in multi-hop wireless networks by explaining existing routing protocols, attacks on them and the security mechanisms that can help to achieve secure routing • discuss how privacy protection can be achieved in MANETs in several contexts, such as location privacy and privacy in routing, and recall privacy related notions and metrics • recall selfish and malicious node behaviour on the MAC layer CSMA/CA, in packet forwarding and the impact on wireless operators and the shared spectrum; as countermeasure secure protocols for behaviour enforcement should be known • differentiate between different game theory strategies that can be used in wireless networks	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Security and Cooperation in Wireless Networks (Lecture, Exercise)	4 WLH
Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination requirements:** Cryptographic algorithms and protocols, hash functions, message authentication codes, digital signatures, session keys; security requirements, challenges and vulnerabilities in wireless networks; trust assumptions and adversary models in ubiquitous computing; naming and addressing schemes in the future internet; establishment of secure associations (key establishment, exploiting physical contact, mobility, properties of vicinity and radio link); secure neighbourhood discovery and wormhole attack detection mechanisms; secure routing in multi-hop wireless networks; privacy protection in MANETs (location privacy, routing privacy); enforcement of cooperative behaviour in MANETs; game theory strategies used in wireless networks	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in telematics and computer networks
Language:	**Person responsible for module:**

English	Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

Georg-August-Universität Göttingen	5 C
Module M.Inf.1229: Seminar on Specialization in Telematics	2 WLH

Learning outcome, core skills:	**Workload:**
On completion of the module students should be able to:	Attendance time:
	28 h
• critically investigate current research topics from the area of telematics such as bio-inspired approaches in the area of wireless communication or security attacks and countermeasures for mobile wireless networks	Self-study time: 122 h
• collect, evaluate related work and reference them correctly	
• summarize the findings in a written report	
• prepare a scientific presentation of the chosen research topic	

Course: Network Security and Privacy (Seminar)	2 WLH
Course: Security of Self-organizing Networks (Seminar)	2 WLH
Course: Trust and Reputation Systems (Seminar)	2 WLH
Examination: Presentation (approx. 45 minutes) and written report (max. 20 pages) **Examination requirements:** The students shall show that • they are able to become acquainted with a specialized topic in telematics by investigating up-to-date research publications • they are able to present up-to-date research on a specialized topic in telematics • they are able to assess up-to-date research on a specialized topic in telematics • they are able to write a scientific report on a specialized topic in telematics according to good scientific practice	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in telematics and computer networks
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1230: Specialisation Software-defined Networks (SDN)**	5 C 2 WLH

Learning outcome, core skills: The students • are familiar with advanced concepts of software defined networking (SDN) • know how to methodically read, analyse and discuss scientific research papers • have enriched their practical skills in computer networks with regards to SDN and its applications • know about practical deployability issues of SDN • have improved their ability to work independently in a pre-defined context • have improved their ability to work in diverse teams	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Specialization in Software-defined Networking (Exercise, Seminar)	2 WLH
Examination: Term Paper (max. 20 pages) **Examination prerequisites:** Erreichen von mindestes 50% der Übungspunkte **Examination requirements:** Advanced knowledge in software-defined networking; ability to transfer the theoretical knowledge to practical exercises; ability to present the earned knowledge in a proper written report	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; advanced programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1231: Specialisation in Distributed Systems**	6 C 4 WLH

| **Learning outcome, core skills:**
Successfully completing the module, students

• have in-depth knowledge about one specific topical area of distributed systems
• understand the challenges of designing this specific part of a distributed system and integrating it into a larger infrastructure
• understand the tasks to operate this specific part of a distributed system within a modern data centre
• can apply their knowledge to evaluate application scenarios and make decisions regarding the applicability of certain technical solutions

Examples for specific topics are distributed architectures or distributed data and information management. | **Workload:**
Attendance time:
56 h
Self-study time:
124 h |

| **Course: Distributed Storage and Information Management** (Lecture, Exercise)
Contents:
Successfully completing the module, students

• understand how data and information can be stored and managed
• know the generic components of a modern data centre
• understand how to protect data using RAID and what RAID level to apply to what problem
• know about "intelligent" storage systems, including concepts like caching
• understand various storage networking technologies like Fibre Channel, iSCSI, and FCoE
• know about network-attached, object and unified storage
• basically understand how to achieve business continuity of storage systems
• understand the different backup and archiving technologies
• understand data replication
• have a basic understanding of storage virtualization
• know how to manage and how to secure storage infrastructures

Remark

With this lecture, we provide a preparation for the exam for the EMC Information Storage and Management Certificate. The Institute of Computer Science of the University of Göttingen is a Proven Professional of the EMC Academic Alliance.

References

S. Gnanasundaram, A. Shrivastava (eds.), Information Storage and Management, John Wiley & Sons, 2012. ISBN:978-1-118-09483-9 | 4 WLH |

| **Examination: Written exam (90 min.) or oral exam (ca. 20 min.)**
Examination prerequisites:
Solving and presenting at least one exercise (written solution and presentation), as well as active participation during the exercises. | 6 C |

Examination requirements:

Information Storage; Data Centre Environment and Components; RAID; Caching; Storage Provisioning; Fibre Channel; IP SAN; FCoE; Network-Attached Storage; Object-Based and Unified Storage; Backup and Archiving; Replication; Storage Cloud; Security in Storage Infrastructures; Management of Storage Infrastructures

Admission requirements:	**Recommended previous knowledge:**
none	- Computer architecture - Basic network protocols - Virtualisation techniques
Language: English	**Person responsible for module:** Prof. Dr. Ramin Yahyapour (Dr. Philipp Wieder)
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1232: Parallel Computing**	6 C 4 WLH

Learning outcome, core skills: Successfully completing the module, students are able to:	**Workload:** Attendance time: 56 h Self-study time: 124 h

Learning outcome, core skills:

Successfully completing the module, students are able to:

- define and describe the benefit of parallel computing
- specify the classification of parallel computers (Flyn classification)
- analytically evaluate the performance of parallel computing approaches (scaling/ performance models)
- know the parallel hardware and performance improvement approaches (cache coherence, pipeline, etc.)
- know the interconnects and networks and their role in parallel computing
- understand and develop sample parallel programs using different paradigms and development environments (e.g., shared memory and distributed models)
- expose to some applications of Parallel Computing through hands-on exercises

Course: Parallel Computing (Lecture, Exercise)	4 WLH

Contents:

Successfully completing the lecture, students are able to:

- define and describe the benefit of parallel computing and identify the role of software and hardware in parallel computing
- specify the Flynn classification of parallel computers (SISD, SIMD, MIMD)
- analytically evaluate the performance of parallel computing approaches (Scaling/ Performance models)
- understand the different architecture of parallel hardware and performance improvement approaches (e.g., caching and cache coherence issues, pipeline, etc.)
- define Interconnects and networks for parallel computing
- architecture of parallel computing (MPP, Vector, Shared memory, GPU, Many-Core, Clusters, Grid, Cloud)
- design and develop parallel software using a systematic approach
- parallel computing algorithms and development environments (i.e. shared memory and distributed memory parallel programming)
- write parallel algorithms/programs using different paradigms and environments (e.g., POSIX Multi-threaded programming, OpenMP, MPI, OpenCL/CUDA, MapReduce, etc.)
- get exposed to some applications of Parallel Computing through exercises

References

- An Introduction to Parallel Programming, Peter S. Pacheco, Morgan Kaufmann (MK), 2011, ISBN: 978-0-12-374260-5.
- Designing and Building Parallel Programs, Ian Foster, Addison-Waesley, 1995, ISBN 0-201-57594-9 (Available online).

- Advanced Computer Architecture: Parallelism, Scalability, Programmability, Kai Hwang, Int. Edition, McGraw Hill, 1993, ISBN: 0-07-113342-9.
- In addition to the mentioned text book, tutorial and survey papers will be distributed in some lectures as extra reading material.

Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 20 Min.) **Examination requirements:** Parallel programming; Shared Memory Parallelism; Distributed Memory Parallelism, Single Instruction Multiple Data (SIMD); Multiple Instruction Multiple Data (MIMD); Hypercube; Parallel interconnects and networks; Pipelining; Cache Coherence; Parallel Architectures; Parallel Algorithms; OpenMP; MPI; Multi-Threading (pthreads); Heterogeneous Parallelism (GPGPU, OpenCL/CUDA)	6 C

Admission requirements: • Data structures and algorithms • Programming in C/C++	Recommended previous knowledge: • Computer architecture • Basic knowledge of computer networks and topologies
Language: English	**Person responsible for module:** Prof. Dr. Ramin Yahyapour
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

Georg-August-Universität Göttingen	6 C
Module M.Inf.1234: Emerging Topics in Advanced Computer Networks	4 WLH

Learning outcome, core skills:	Workload:
This course covers the principles of existing and emerging advanced networking technologies and services e.g., ICN, SDN, Smart City, IoT, Advanced Networking.	Attendance time: 56 h
In general, students will study computer networks, future Internet architectures and data science related topics.	Self-study time: 124 h
The students will	
• know the principles of existing and emerging advanced networking technologies and services • have a basic understanding of computer networks • have been introduced to the state-of-the-art research in the relevant field • build a practical system based on the study material covered in the course	

Course: Emerging Topics in Advanced Computer Networks (Lecture, Exercise)	4 WLH
Examination: Oral exam (approx. 30 min) or written exam (90 min) **Examination requirements:** Advanced networking technologies, Peer-to-Peer networks, Data science, state-of-the-art research in the computer networks field	5 C

Admission requirements:	Recommended previous knowledge:
none	• Basic knowledge in computer networks and data science • Basics knowledge of algorithms and data structures • Basic programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 50	

Georg-August-Universität Göttingen **Module M.Inf.1235: Bio-Inspired Artificial Intelligence**	6 C 4 WLH

Learning outcome, core skills: This course is an introduction to bio-inspired artificial intelligence, explaining its relevant theories and methods that are derived from biological processes. It covers important applications and discusses how to apply biologically inspired algorithms for solving problems. The course will cover concepts and computational models inspired by the area of biology, such as evolutionary systems, cellular systems, neural systems, immune systems, swarm intelligence. On completion of this module, students : • are familiar with the main concepts and methods inspired by biological systems • understand the relevant types of algorithms designed for bio-inspired computing • get knowledge about solving real-world problems with bio-inspired approaches • develop their skills in biologically inspired algorithm design	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Bio-Inspired Artificial Intelligence (Lecture, Exercise) Literature: • Floreano, Dario., and Claudio. Mattiussi. Bio-Inspired Artificial Intelligence Theories, Methods, and Technologies. • Stephan Olariu and Albert Y. Zomaya. Handbook of Bioinspired Algorithms and Applications.	4 WLH
Examination: Written exam (90 min.) or oral exam (approx. 20 min.) **Examination prerequisites:** At least 50% of homework exercises solved. **Examination requirements:** Knowledge of principles of biologically inspired models and computing algorithms, the advantages and limitations of bio-inspired approaches, the value of their application to real world problems, ability to design and implement bio-inspired algorithms.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Parisa Memarmoshrefi
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1236: High-Performance Data Analytics**	6 C 4 WLH

Learning outcome, core skills: Successfully completing the module, students understand • the motivation and use-case for large-scale data analytics • performance implications of hardware and software system for large-scale data workloads • the usage of industry-standard tools to solve data analytics problems • algorithms, data structures, data models, tools, and infrastructure for efficient processing of data	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: High-Performance Data Analytics (Lecture, Exercise) *Contents*: Data-driven science requires the handling of large volumes of data in a quick period of time. Executing efficient workflows is challenging for users but also for systems. This module introduces concepts, principles, tools, system architectures, techniques, and algorithms toward large-scale data analytics using distributed and parallel computing. We will investigate the state-of-the-art of processing data of workloads using solutions in High-Performance Computing and Big Data Analytics. Topics cover: • Challenges in high-performance data analytics • Use-cases for large-scale data analytics • Performance models for parallel systems and workload execution • Data models to organize data and (No)SQL solutions for data management • Industry relevant processing models with tools like Hadoop, Spark, and Paraview • System architectures for processing large data volumes • Relevant algorithms and data structures • Visual Analytics • Parallel and distributed file systems Guest talks from academia and industry will be incorporated in teaching that demonstrates the applicability of this topic. Weekly laboratory practicals and tutorials will guide students to learn the concepts and tools. In the process of learning, students will form a learning community and integrate peer learning into the practicals. Students will have opportunities to present their solutions to the challenging tasks in the class. Students will develop presentation skills and gain confidence in the topics.	4 WLH

Examination: Written exam (90 min) or oral exam (approx. 30 min) **Examination requirements:** • Challenges in high-performance data analytics • Use-cases for large-scale data analytics • Performance models for parallel systems and workload execution • Data models to organize data and (No)SQL solutions for data management • Industry relevant processing models with tools like Hadoop, Spark, and Paraview	6 C

730

- System architectures for processing large data volumes
- Relevant algorithms and data structures
- Visual Analytics
- Parallel and distributed file systems

731

Admission requirements:	Recommended previous knowledge:
none	Basic programming skills, Basic knowledge of Linux operating systems, Python
Language:	**Person responsible for module:**
English	Prof. Dr. Julian Kunkel
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	Bachelor: 5 - 6; Master: 1 - 4
Maximum number of students:	
50	

Georg-August-Universität Göttingen **Module M.Inf.1250: Seminar: Software Quality Assurance**	5 C 2 WLH

Learning outcome, core skills: The students • learn to become acquainted with an advanced topic in software quality assurance by studying up-to-date research papers • gain knowledge about advanced topics in software quality assurance. The advanced topic may be related to areas such as test processes, software metrics, black-box testing,white-box testing, test automation, test generation and testing languages • learn to present and discuss up-to-date research on advanced topics in software quality assurance. • learn to assess up-to-date research on advanced topics in software quality assurance	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Randomness and Software Testing (Seminar) *Contents*: Since exhaustive testing of software is almost never possible, different approaches towards the determination of appropriate test suites have been proposed throughout the years. One direction is to randomize the generation of software tests. This does not necessarily mean that there is no underlying strategy, the opposite is the case. The inputs and/or execution paths of software are created using probability distributions with the aim to optimize certain quality aspects of software. This seminar addresses topics from randomized software testing, including randomized selection of execution paths (e.g., through usage-based testing) and randomized generation of test data (e.g., using fuzzing). In addition to the techniques themselves, we also address how randomized approaches differ from traditional approaches based on coverage criteria and/or heuristics.	2 WLH
Examination: Presentation (approx. 45 minutes) and written report (max. 20 pages) **Examination prerequisites:** Attendance in 80% of the seminar presentations **Examination requirements:** The students shall show that • they are able to become acquainted with an advanced topic in software quality assurance by investigating up-to-date research publications • they are able to present up-to-date research on an advanced topic in software quality assurance • they are able to assess up-to-date research on an advanced topic in software quality assurance • they are able to write a scientific report on an advanced topic in software quality asssurance according to good scientific practice Presentation of an advanced topic in software engineering and written report.	5 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.
Language: English	**Person responsible for module:** Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1251: Seminar: Software Evolution**	5 C 2 WLH

Learning outcome, core skills: The students • learn to become acquainted with an advanced topic in software evolution by studying up-to-date research papers • gain knowledge about advanced topics in software evolution. The advanced topic may be related to areas such as comparison of software projects, defect analysis and prediction, version control and infrastructure, changes and clones, impact analysis, practical applications and experiments, patterns and models, as well as integration and collaboration (process-related and social aspects) • learn to present and discuss up-to-date research on advanced topics in software evolution • learn to assess up-to-date research on advanced topics in software evolution	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Mining Software Repositories (Seminar) *Contents*: The topics in this seminar on software evolution will include the following areas: • comparison of projects • defect analysis and prediction • version control and infrastructure • beyond source code - text analysis • search and recommendation • changes and clones • impact analysis • practical applications and experiments • available resources • visualization and presentation of results • patterns and models • integration and collaboration (process-related and social aspects)	2 WLH

Examination: Presentation (approx.45 minutes) and written report (max. 20 pages) **Examination prerequisites:** Attendance in 80% of the seminar presentations **Examination requirements:** The students shall show that • they are able to become acquainted with an advanced topic in software evolution by investigating up-to-date research publications • they are able to present up-to-date research on an advanced topic in software evolution • they are able to assess up-to-date research on an advanced topic in software evolution • they are able to write a scientific report on an advanced topic in software evolution according to good scientific practice	5 C

Presentation of an advanced topic in software engineering (approx.45 minutes) and written seminar report (max. 20 pages)

Admission requirements: none	Recommended previous knowledge: Foundations of software engineering.
Language: English	Person responsible for module: Prof. Dr. Jens Grabowski
Course frequency: unregelmäßig	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1256: Machine Learning**	6 C 4 WLH

Learning outcome, core skills: Students - learn concepts and techniques of machine learning and pattern recognition, understand their advantages and disadvantages compared to alternative approaches - learn to solve practical data science problems using machine learning and pattern recognition - implement machine learning techniques like PAC learning, support vector machines and kernel methods - learn techniques for optimization and regularization of machine learning and pattern recognition techniques	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Machine Learning (Lecture) Bishop: Pattern Recognition and Machine Learning. https://cs.ugoe.de/prml	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** M.Inf.1256.Ex: At least 50% of homework exercises solved. **Examination requirements:** Knowledge of basic machine learning and pattern recognition techniques, their advantages and disadvantages and approaches to optimization and regularization. Ability to implement these techniques.	6 C

Course: Machine Learning - Exercise (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Knowledge of basic linear algebra and probability
Language: English	**Person responsible for module:** Prof. Dr. Alexander Ecker
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module M.Inf.1257: Deep Learning**	6 C 4 WLH

Learning outcome, core skills: Students • learn concepts and techniques of deep learning and understand their advantages and disadvantages compared to alternative approaches • learn to solve practical data science problems using deep learning • implement deep learning techniques like multi-layer perceptrons, convolutional neural nerworks, recurrent neural networks, deep reinforcement learning • learn techniques for optimization and regularization of deep neural networks	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Deep Learning (Lecture) Goodfellow, Bengio, Courville: Deep Learning. https://www.deeplearningbook.org Bishop: Pattern Recognition and Machine Learning. https://bit.ly/2KDkueT	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** M.Inf.1257.Ex: At least 50% of homework exercises solved. **Examination requirements:** Knowledge of basic deep learning techniques, their advantages and disadvantages and approaches to optimization and regularization. Ability to implement these techniques.	6 C

Course: Deep Learning - Exercise (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Knowledge of basic linear algebra and probability; knowledge of basics of machine learning
Language: English	**Person responsible for module:** Prof. Dr. Alexander Ecker
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module M.Inf.1291: Seminar Advanced Topics in Computer Security and Privacy**	5 C 2 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Investigate selected research topics in computer security and privacy, • Identify existing solutions in the area to be investigated, • Explain, compare, and discuss these solutions, • Develop new ideas to improve the existing solutions, • Summarize their findings in a written report, • Give a presentation about the chosen area.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar on Advanced Topics in Computer Security and Privacy (Seminar)	2 WLH
Examination: Presentation (approx. 30 minutes) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research on an advanced topic in computer security and privacy, • They are able to explain selected solutions related to the chosen topic, • They are able to compare these solutions by analyzing their potential advantages and limitations, • They are able to write a structured scientific report on their findings by respecting the rules of good scientific practice, • They are able to present and to critically discuss their findings in a presentation.	5 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer security and privacy
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations: On completion of the module, students should be able to: • Investigate selected topics in privacy in ubiquitous computing, • Identify existing solutions in the area to be investigated, • Explain, compare, and discuss these solutions, • Develop new ideas to improve the existing solutions,

- Summarize their findings in a written report,
- Give a presentation about the chosen area.

Georg-August-Universität Göttingen **Module M.Inf.1800: Practical Course Advanced Networking**	6 C 4 WLH

Learning outcome, core skills: The students • know the principles of one existing or emerging advanced networking technology • are able to implement these technologies in useful mobile applications • ideally have advanced in their researching ability • have improved their programming skills • have improved their oral presentation skills • have improved their scientific writing skills • have improved their teamwork	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Course Advanced Networking Lab (Practical course)	4 WLH
Examination: Präsentation (ca. 30 min.) und Hausarbeit (max. 15 Seiten) **Examination requirements:** advanced networking technology, mobile applications, programming, oral presentation, scientific writing, teamwork	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; basic programming skills
Language: English	**Person responsible for module:** Prof. Dr. Xiaoming Fu
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1803: Practical Course in Software Engineering**	6 C 4 WLH

Learning outcome, core skills: The students - learn to become acquainted with up-to-date methods and software tools - learn to select methods and tools for given practical problems in software engineering - learn to apply methods and tools for given practical problems in software engineering - learn to assess methods and tools for given practical problems in software engineering by performing experiments	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Course on Parallel Computing (Practical course) *Contents*: This practical course includes practical exercises on: Distributed memory architectures - Cluster computing with Torque PBS - Grid Computing with Globus Toolkit - Message Passing Interface (MPI) - MapReduce Shared Memory architectures - OpenMP - Pthreads Heterogeneous parallelism (GPU, CUDA, etc.) - CUDA	4 WLH

Examination: Practical exercises in small groups (approx. 4-12 exercises) and oral examinations for the exercises (approx. 15 minutes each), not graded **Examination prerequisites:** Attendance in 90% of the classes **Examination requirements:** The students shall show that - they are able to become acquainted with up-to-date methods and software tools - they are able to select methods and tools for given practical problems in software engineering - they are able to apply methods and tools for given practical problems in software engineering - they are able to assess methods and tools for given practical problems by performing experiments	6 C

Admission requirements: none	**Recommended previous knowledge:** Foundations of software engineering.

Language:	Person responsible for module:
English	Prof. Dr. Jens Grabowski
Course frequency:	**Duration:**
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
15	

Georg-August-Universität Göttingen	6 C
Module M.Inf.1804: Practical Course in Software Quality Assurance	4 WLH

Learning outcome, core skills:	**Workload:**
The students	Attendance time:
	56 h
• learn to become acquainted with up-to-date methods and software tools for software quality assurance	Self-study time:
	124 h
• learn to select methods and tools for given practical problems in software quality assurance	
• learn to apply methods and tools for given practical problems in software quality assurance	
• learn to assess methods and tools for given practical problems in software quality assurance by performing experiments	

Course: Practical Course on Software Evolution: Origin Analysis (Practical course)	4 WLH
Contents:	
Changes in the usage requirements and the technological landscape, among others, drive a continuous necessity for changes in software systems in order to sustain their existence and operability in changing environments. Origin analysis aims to determine the location of points of interest through time. For example, origin analysis aids on the one hand projecting the location of past changes into the current state of the code base, and on the other hand determining previous locations and origins of detected issues. In this course, we will build and extend an existing infrastructure for performing origin analysis and use it to perform studies on large software systems, such as Google Chrome, Mozilla Firefox, Amarok, and others.	

Examination: Practical exercises in small groups (approx. 4-6 exercises) and oral examinations for the exercises (approx. 15 minutes each), not graded	6 C
Examination prerequisites:	
Attendance in 90% of the classes	
Examination requirements:	
The students shall show that	
• they are able to become acquainted with with up-to-date methods and software tools for software quality assurance	
• they are able to select methods and tools for given practical problems in software quality assurance	
• they are able to to apply methods and tools for given practical problems in software quality assurance	
• they are able to to assess methods and tools for given practical problems in software quality assurance by performing experiments	

Admission requirements:	**Recommended previous knowledge:**
none	Foundations of software engineering.

Language:	**Person responsible for module:**
English	Prof. Dr. Jens Grabowski

Course frequency:	Duration:
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
12	

Georg-August-Universität Göttingen **Module M.Inf.1808: Practical Course on Parallel Computing**	6 C 4 WLH

| **Learning outcome, core skills:**
Successfully completing the module, students are able to:

• practically work with a cluster of computers (e.g., using a batch system)
• practically utilize grid computing infrastructures and manage their jobs (e.g., Globus toolkit)
• apply distributed memory architectures for parallelism through practical problem solving (MPI programming)
• utilize shared memory architectures for parallelism (e.g., OpenMP and pthreads)
• utilize heterogenous parallelism (e.g., OpenCL, CUDA and general GPU programming concepts)
• utilize their previous knowledge in data structures and algorithms to solve problems using their devised (or enhanced) parallel algorithms | **Workload:**
Attendance time:
56 h
Self-study time:
124 h |

Course: Practical Course on Parallel Computing (Practical course) *Contents*: As a practical course, the focus will be on the hands-on session and problem solving. Students will get a brief introduction to the topic and then will use the laboratory equipment to solve assignments of each section of the course.	4 WLH

Examination: Oral examination (approx. 20 minutes), not graded **Examination requirements:** • understand how to manage computing jobs using a cluster of computers or using grid computing facilities • understand the configuration of a PBS cluster through practical assignments • practically use LRM clusters and POVRay examples • understand cluster computing related topics (error handling, performance management, security) in more depth and using hands-on experience and practically using Globus toolkit • design and implement solutions for parallel programs using distributed memory architectures (using MPI) • design and implement solutions for parallel programs using shared memory parallelism (using OpenMP, pthreads) • practically work with MapReduce programming framework and problem solving using MapReduce • practically work with heterogenous parallelism environment (GPGPU, OpenCL, CUDA, etc.)	6 C

Admission requirements: • Data structures and algorithms • Programming in C(/C++)	**Recommended previous knowledge:** • Parallel Computing • Computer architecture • Basic knowledge of computer networks • Basic know-how of computing clusters

Language:	Person responsible for module:
English	Prof. Dr. Ramin Yahyapour
Course frequency:	**Duration:**
unregelmäßig	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.Inf.1820: Practical Course on Wireless Sensor Networks**	6 C 4 WLH

Learning outcome, core skills: On completion of the module students should be able to: • name the special characteristics of operating systems for wireless sensor networks with a special focus on TinyOS • develop applications for real hardware sensor nodes such as IRIS motes and Advanticsys motes • gather data using the hardware sensor nodes • conduct software-based simulations using the TOSSIM framework for testing and debugging TinyOS applications • implement applications that are able to collect, disseminate and process sensor data in WSNs • make use of over the air programming using Deluge to deploy new sensor applications without connecting over a wire to a stationary computer • apply encryption to the communication between the wireless motes • design, plan, implement and test a final research project considering an individual WSN application e.g. detection of audio signals, visualization of sensed data or integration of WSNs with the cloud	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Course on Wireless Sensor Networks (Practical course)	4 WLH
Examination: Written report (max. 15 pages) and presentation (approx. 25 min.) **Examination requirements:** special characteristics of operating systems for WSNs (TinyOS); application development for real hardware sensor nodes (IRIS motes, Advanticsys motes); data gathering using hardware motes; software-based simulations and debugging of TinyOS applications with TOSSIM; implementation of applications that collect, disseminate and process sensor data in WSNs; over the air programming of wireless motes (Deluge); encryption of communication in WSNs; design, planning, implementation and testing of individual application (final research project)	6 C

Admission requirements: Basic knowledge in telematics and computer networks	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.Inf.1822: Practical Course in Data Fusion**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the module, students are able to • become acquainted with software tools and frameworks for data fusion • work with modern sensors • collect, process and analyze (sensor) data • implement data fusion algorithms • experimentally evaluate and compare data fusion algorithms • apply data fusion algorithms in the context of localization, navigation, tracking, sensor networks and robotics	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Practical Course in Data Fusion (Practical course)	4 WLH
Examination: Practical project in small groups, oral presentation of results (approx. 15 minutes each), scientific report (max. 6 pages each), not graded **Examination requirements:** Implementation and evaluation of data fusion algorithms, oral presentation, scientific writing and teamwork.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Inf.1185 or M.Inf.1188
Language: English	**Person responsible for module:** Prof. Dr. Marcus Baum
Course frequency: non-periodic	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Inf.1824: Practical Course on Computer Security and Privacy**	6 C 4 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Identify and understand existing solutions in the area to be investigated, • Design and implement a new approach to improve the investigated existing solutions, • Present their chosen approach in a written report justifying their design decisions and implementation choices as well as clearly document their implementation, • Give a presentation about their implemented approach.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lab Computer Security and Privacy (Practical course)	4 WLH
Examination: Presentation (approx. 30 minutes) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research and analyse the design space of a chosen topic, • They are able to make design decisions based on this analysis, • They are able to design and implement an approach improving the current state-of-the-art, • They are able to write a structured scientific report on their design decisions and the resulting solution by respecting the rules of good scientific practice, • They are able to present and to critically discuss their implemented solution in a presentation.	6 C

Admission requirements: none	**Recommended previous knowledge:** Backgrounds in Computer Security and Privacy
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Inf.1825: Blockchain Technology**	6 C 2 WLH

Learning outcome, core skills: The students: • are familiar with the basic concepts of blockchain technology • know how to methodically read and analyse scientific research papers • have enriched their practical skills in computer networks with regards to blockchain • know about practical deployability issues of blockchain • have improved their ability to work independently in a pre-defined context	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Introduction to Blockchain Technology (Practical course)	2 WLH
Examination: Group project report (max. 15 pages) and presentation (approx. 20 min.) **Examination requirements:** Advanced knowledge in blockchain technology; understanding of broader implications of blockchain technology; knowledge about blockchain privacy and security; ability to transfer the theoretical knowledge to practical exercises; ability to present the earned knowledge in a proper in a written report.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in computer networks; basics of algorithms and data structures; advanced programming skills
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1826: Advanced topics of Blockchain Technology**	6 C 2 WLH

Learning outcome, core skills: The students: - are familiar with the advanced concepts of blockchain technology - know how to methodically read and analyze scientific research papers - have enriched their practical skills in computer networks with regards to blockchain and related concepts - know about practical deployability issues of blockchains - basic knowledge on privacy and security issues of blockchains - can work and manage a group project independently	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Advanced topics of Blockchain Technology (Practical course)	2 WLH
Examination: Group project report (max. 15 pages) and presentation (approx. 20 min.) **Examination requirements:** Basic knowledge in blockchain technology; ability to transfer the theoretical knowledge to practical exercises; ability to present the earned knowledge in a proper in a written report	6 C

Admission requirements: M.Inf.1825	**Recommended previous knowledge:** Advanced knowledge in computer networks; basics of algorithms and data structures; advanced programming skills, basic knowledge on blockchain technology
Language: English	**Person responsible for module:** Prof. Dr. Dieter Hogrefe
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Inf.1828: Lab Usable Security and Privacy**	6 C 4 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Identify, understand, and analyze usability issues in the field of security and privacy, • Design, plan, and conduct a user study to explore a selected issue by following the data protection regulations and taking into account ethical aspects, • Document, analyze, and critically discuss the obtained results, • Propose future improvements or directions based on the obtained results, • Present the study design, methodology, results, and consequences in a written report, • Give a presentation about their study and the associated findings.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lab Usable Security and Privacy (Practical course)	4 WLH

Examination: Presentation (approx. 20 min.) und written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research and analyse the issues related to the usability of security and privacy solutions, • They are able plan and conduct a user study from its design to the processing and presentation of the results, • They are able to write a structured scientific report on their study including its design and the obtained results by respecting the rules of good scientific practice and data protection regulations, • They are able to present both their study and the associated results as well as critically discuss them in a presentation.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of privacy and usability obtained, e.g., in the recommended lecture "Usable Security and Privacy"
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Inf.1832: Lab Privacy and Security in Robotics and AI Systems**	6 C 4 WLH

Learning outcome, core skills: On completion of the module, students should be able to: • Identify and understand existing privacy-preserving or security solutions in the area of robotics and/or artificial intelligence. • Design and implement a new approach to improve the investigated existing solutions, • Present their chosen approach in a written report justifying their design decisions and implementation choices as well as clearly document their implementation, • Give a presentation about their implemented approach.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Lab Privacy and Security in Robotics and AI Systems (Practical course)	4 WLH
Examination: Presentation (approx. 30 min.) and written report (max. 15 pages) **Examination requirements:** The students shall show that: • They are able to conduct literature research and analyze the design space of their chosen topic, • They are able to make design decisions based on this analysis, • They are able to design and implement an approach improving the current state-of-the-art, • They are able to write a structured scientific report including their design decisions and the resulting solution by respecting the rules of good scientific practice, • They are able to present and critically discuss their implemented solution in a presentation, while respecting the given timeframe.	6 C

Admission requirements: none	**Recommended previous knowledge:** Backgrounds in security and privacy obtained in one or several of our offered lectures.
Language: English	**Person responsible for module:** Prof. Dr. Delphine Reinhardt
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Inf.1904: From written manuscripts to big humanities data**	6 C 4 WLH
Learning outcome, core skills: This course is designed for both students of Computer Science and of the Humanities. By working in groups of up to four people and solving problems as a team, students are involved in the entire process of transforming assets of our cultural heritage into digital data (Digital Transformation). The students will work in particular with the transcriptions of manuscripts, by analysing digitally available texts with text mining and information retrieval techniques. Students will also gain knowledge and experience with the problems that arise because of information overload and information poverty. If on the one hand digitisation leads to an 'information overload' of digitally available data, on the other, the 'information poverty' embodied by the loss of books and the fragmentary state of texts form an incomplete and biased view of our past. Students will understand that in a digital ecosystem this coexistence of data overload and poverty adds considerable complexity to scholarly research. Students will, therefore, learn how to deal with uncertain data.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: The letters and tales of the brothers Grimm (Seminar) *Contents*: This course specialises on handwritten texts by the brothers Grimm. *Course frequency:* irregular	2 WLH
Course: Cultural Heritage Programming (Practical course) *Contents*: The object of this course is for students to develop and implement a team project related to historical data. Students will gain knowledge and experience in versioning and building systems, as well as managing a project and working with historical data, which is often fragmentary or hard to attribute to a specific author or line of transmission. The project that students will work on will depend on their programming skills. Students will be able to pick an area of interest, spanning from linguistic acquisition to visualisations of historical data, to the natural language processing of texts, OCR processing and handwriting recognition or infrastructural development. *Course frequency:* irregular	2 WLH
Examination: Seminar work of about 20 pages **Examination prerequisites:** Regular and active participation in the courses; students commit to a project and actively contribute. **Examination requirements:** With the examination students will prove their knowledge of the content, background and context history of the chosen text, as well as showing their capability of transcribing, processing and visualizing historical data. Students will also demonstrate whether they are able to work as part of a team on common problem solving activities. The knowledge and skills of the student will be tested with written essays, wiki, blog entries, a position statement, or an written equivalent.	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Dr. Marco Büchler
Course frequency:	**Duration:**
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.Inf.1905: Advanced Topics in Language and Text Processing**	3 C 2 WLH

Learning outcome, core skills: A successful completion of the module enables the participants to: • describe the problem area that the course focusses on • name, illustrate and analyse the algorithms covered • evaluate and compare different analysis methods • select suitable algorithms for specific application scenarios	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Advanced Topics in Language and Text Processing (Seminar) *Contents*: This course covers advanced topics in computational linguistics and natural language processing, for example processing creative language, processing non-standard language varieties, language processing for low-resource languages, argumentation mining, ethics and algorithmic bias, obtaining and incorporating world knowledge, multi-modal language processing, opinion mining, text generation etc. The students will learn about different sub-tasks for the given topic and become acquainted with state-of-the-art algorithms for tackling them. They will learn to understand how these algorithms work and will be able to critically assess them (i.e., what are the underlying assumptions an algorithm makes, in which circumstances they perform well or not so well, and how do they compare to other approaches). Students will also be enabled to understand and critically evaluate research papers in the field.	2 WLH
Examination: Presentation (max. 30 minutes) and term paper (max. 12 pages) **Examination prerequisites:** Participation in the exercise **Examination requirements:** The students can describe the problem area covered in the course, are able to illustrate and reflect on the current research literature and evaluate advantages and disadvantages for specific application scenarios of the methods covered in the course.	3 C

Admission requirements:	**Recommended previous knowledge:** Knowledge of basic language analysis tasks (tokenisation, part-of-speech tagging, syntactic parsing) and basic computational methods for performing them. Basic knowledge of probability theory (how to compute probabilities, conditional and joint probability, statistical in-/dependence, Bayes' theorem). Basic knowledge of linguistics (parts-of-speech, syntactic structure, word senses). The recommended knowledge can be obtained by taking an introductory course in computational linguistics/ natural language processing or working through a relevant reference book.

Language: English, German	**Person responsible for module:** Prof. Dr. Caroline Sporleder
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.Inf.1906: Computational Semantics and Discourse Processing**	6 C 4 WLH

Learning outcome, core skills: A successful completion of the module enables the participants to: • describe the problem area • name, describe and analyse the algorithms covered in the course • evaluate and compare different methods • select suitable algorithms for specific application scenarios	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Computational Semantics and Discourse Processing (Exercise, Seminar) *Contents*: This course covers selected topics in computational semantics and discourse processing, for example lexical semantics and word sense disambiguation, distributional semantics, compositionality and sentence semantics, semantic representations, semantic parsing, co-reference resolution, generating referring expressions, named entity recognition and disambiguation, modelling discourse coherence, temporal analysis, sentiment and emotion analysis, detecting discourse relations and discourse parsing, text generation etc. Students will learn basic semantic and pragmatic constructs and the challenges they pose to language processing. They will become aquainted with different approaches for analysing semantic and discourse phenomena and will be able to critically assess these.	4 WLH
Examination: Presentation (max. 30 minutes) and term paper (max. 12 pages) **Examination prerequisites:** Participation in the exercise **Examination requirements:** The students demonstrate knowledge of challenges and processing methods in the area of computational semantics and discourse processing and are able to explain and evaluate methods and theories in this area. They are able to: • describe the problem area • name, explain and analyse the algorithms covered in the course • evaluate and compare different methods • select suitable algorithms for specific application scenarios	6 C

Admission requirements: none	**Recommended previous knowledge:** Knowledge of basic language analysis tasks (tokenisation, part-of-speech tagging, syntactic parsing) and basic computational methods for performing them. The recommended knowledge can be obtained by taking an introductory course in computational linguistics/natural language processing or working through a relevant reference book.

Language: English, German	**Person responsible for module:** Prof. Dr. Caroline Sporleder
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.IntTheol.02: Christianity in an Intercultural Perspective**	7 C 4 WLH

Learning outcome, core skills: In this module, students acquire in-depth knowledge of: • important contextual theologies in overview, • transnationalisation, globalisation and development theories, • denominational studies and the history of the ecumenical movement, and the ability to: • appreciate contextual theologies critically and develop a personal stand, • use and develop concrete examples to present the possibilities and limitations of applying different theoretical approaches, and • analyse ecumenical discussions in a sensitive manner.	**Workload:** Attendance time: 56 h Self-study time: 154 h

Course: The Ecumenical Movement (Lecture)	2 WLH
Course: Contextual Theologies (Seminar)	2 WLH

Examination: Essay (max. 10 pages) **Examination prerequisites:** Regular attendance at 2. **Examination requirements:** • In-depth knowledge of structures and central positions of theological education. • Contextualisation of the Christian message in common social processes and its description in social scientific terms. • Sound knowledge and analytical skill in the areas of denominational studies and Ecumenics. • Application of elementarising and mediating methods.	7 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. Fritz Heinrich Prof. Dr. Wilhelm Richebächer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.IntTheol.03: Cross-Culture I**	9 C 6 WLH

Learning outcome, core skills: In this module, students acquire in-depth knowledge of: • the theoretical and methodological bases of cultural studies and of its relevance for theological reflection sensitive to intercultural and interreligious matters, • strategies of planning a research project in intercultural theology thematically and methodlogically, • ethical problems typically arising out of intercultural encounters in research, which may be relevant to the students' own research projects. Students also acquire the ability to: • develop their own project ideas and research questions, • reflect on the processes of intercultural exchange and to employ communicative strategies in intercultural encounters, • include questions from the field cultural studies in the conception, conduction and evaluation of projects in intercultural theology, • develop strategies for solving conflicts and crises that may arise in the course of their research project, • present the draft of their research project, to revise it according to critical feedback, and to create a time-table for the project.	**Workload:** Attendance time: 84 h Self-study time: 186 h

Course: Intercultural Hermeneutics (Lecture)	2 WLH
Course: Intercultural Research and Competence (Seminar)	2 WLH
Course: Carrying Out an Intercultural Research Project (Colloquium)	2 WLH

Examination: Oral (approx. 20 mins); or written (90 mins) **Examination prerequisites:** Regular attendance at courses 2 and 3; draft of research project (max. 10 pages) with an oral presentation of the intended project (approx. 15 minutes) **Examination requirements:** Identification of and reflection on processes of transcultural exchange, modes of communication and problem areas.	9 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. Fritz Heinrich Prof. Dr. Ulrike Schröder
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1
Maximum number of students:	

20	

Georg-August-Universität Göttingen **Module M.IntTheol.08a: Religions, Churches and Theology in Asia and the Middle East**	8 C 4 WLH

Learning outcome, core skills: In this module, students acquire basic knowledge of: • structures of the history of religions and Christianity in Asia and the Near East, • selected religious communities in Asia (Islam, Hinduism, Buddhism etc.), and • significant stages in the history of research in theology and religious studies in and about Asia and the Near East. Students also acquire the ability to: • analyse texts and situations from church history and religious history, • discuss and apply concepts and methods of theology in Asia vis-à-vis concrete examples, and • reflect on the history of Asian religions and Christianity with international guest lecturers and in various perspectives.	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: History of Religions and Church History in Asia and the Middle East (Lecture)	2 WLH
Course: Religion, Politics and Society in Asia and the Middle East (Seminar)	2 WLH

Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Regular attendance at 2. **Examination requirements:** • Sound knowledge of the structures of religious and church history, also regarding the contexts of Islam, Hinduism etc. in Asia. • Ability to analyse systematically the relationship between religions and society in Asia. • Sound knowledge of significant stages in the history of research in theology and religious studies about and in Asia and the Near East, esp. regarding colonial and mission history. • In-depth knowledge and essential skills in central theological methods and concepts of Christian theology in Asia and the Near East and in the analysis of sources and situations pertaining to religious and church history.	8 C

Admission requirements: M.IntTheol.01, M.IntTheol.02	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Dr. h. c. mult. Martin Tamcke
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.IntTheol.14-01: Theories of Religion**	6 C 2 WLH

Learning outcome, core skills: In this module, students acquire introductory and basic knowledge of: • the history and problems of the concept of religion, • well-established and current conceptualisations of religion, • the academic terminology and categorisations (e.g. "religion", "faith", "piety") in the disciplines related to the study of religion, and • the general methods and methodology of approaching the phenomenon "religion". They will be basically capable of: • a complex presentation and differentiated assessment of the topic area, • an identification of implicit and explicit theoretical conceptions and argumentation in the field of "religion" and • a reasoned classification into a theoretical structure, • an analytical, responsible and critical approach to the phenomena and forms of religious reality, • an interpretation of religious symbols and imagery from different methodical perspectives, • a differentiation and critical assessment of academic perspectives of religion, • a general overview of the specifics of different academic approaches – religious philosophy, phenomenology, sociology, psychology, etc., and in general of • in-depth and systematic information and communication skills with regard to religious phenomena.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Theories of Religion (Seminar)	2 WLH
Examination: Oral (approx. 20 mins); or written (90 mins) **Examination prerequisites:** Regular attendance at the seminar. **Examination requirements:** • Differentiated elucidation and discussion of the term "religion". • Analysis and interpretation of specific examples of the application of the concept of religion. • Definition, analysis and critical evaluation of relevant religious theories and methodical approaches to religious phenomena.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. Fritz Heinrich
Course frequency: not specified	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.IntTheol.14-05: Ethical Expertise in the Horizon of Religion**	6 C 2 WLH

Learning outcome, core skills:	**Workload:**
Students acquire introductory and basic knowledge, for example, of: • historically and currently relevant ethical theories, • important ethical issues and conceptions, • specific ethical reasoning and terminology, • aspects of values education, • normative manifestations of religious understanding of the world (e.g. "revelation" as justification, "tradition" as argument), and • the importance and manifestation of ethical theory in the context of (world) religions. They will be basically capable of: • a complex presentation and differentiated assessment of the topic area, • a critical interpretation and evaluation of the ethical dimension of current social action and their positioning in an overall theoretical structure, • a technically-correct preparation of an ethical report on a selected topic, • a discursive presentation and argumentation of a developed ethical position, and in general of • ethical discernment in the context of academic methodology and further systematic and complex information and communication skills with regard to the topic area.	Attendance time: 28 h Self-study time: 152 h

Course: Ethical Expertise in the Horizon of Religion (Seminar)	2 WLH
Examination: Oral (approx. 20 mins); or written (90 mins) **Examination prerequisites:** Regular attendance at block seminar **Examination requirements:** Application of the methods involved in the "ethical report" on an exemplary ethical issue in the context of interreligious /intercultural encounter; critical explanation and discussion of the report.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** PD Dr. Fritz Heinrich
Course frequency: not specified	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.002: Methods and theories between Text- and Cultural Studies**	4 C 2 WLH

Learning outcome, core skills:	**Workload:**
• Discussing methods and theories in relation to oral and written texts and visual material regarding their applicability in the Iranian context • Applying scientific data collection methods such as interviews, field research etc. • Proper data handling • Applying analytical methods such as content analysis, qualitative text analysis • Diachronic discourse analysis by means of specific examples, with particular regard to oral and written expression • Expanding knowledge of theories and methods through independent reading	Attendance time: 28 h Self-study time: 92 h

Course: Independent Studies	
Further reading on the topic of seminar 1 or 2 including analytical study of sample texts and translations from Persian comprising a total of 160 hours. The independent studies will be supervised by the lecturer of the seminar chosen.	

Course: Seminar on one of the following topics	2 WLH
e.g. "Texts on the role of women in Iranian society", "Cultural discourses in literary texts", "Representation of gender in Iranian films"	

Examination: Term paper (max. 18 pages) in seminar 1 or 2 **Examination prerequisites:** Regular participation in seminar 1 and 2; oral presentation (approx. 20 minutes) in seminar 1 and 2 and portfolio on each topic of seminar 1 and 2 (max. 5 pages each) **Examination requirements:** Ability to discuss theories and methods by means of sample analysis of oral or written texts or visual material.	4 C

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser Prof. Dr. Eva Orthmann
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen Module M.Ira.003: Colloquium	4 C 2 WLH

Learning outcome, core skills:	Workload:
Students learn how to prepare a Master thesis. They acquire an overview of current research fields and learn to reflect and discuss academic projects. Students present and discuss the topic of their Master thesis. Here, both the advice of the instructor and the feedback from the other participants enable them to plan their academic project adequately in term of form, method and content.	Attendance time: 28 h Self-study time: 92 h

Course: Colloquium without own presentation	1 WLH
Examination: Portfolio (max. 5 pages), not graded **Examination prerequisites:** regular participation, preparation of two minutes (in total max. 6 pages) **Examination requirements:** Contribution to the discussion of papers presented during the course.	1 C

Course: Colloquium with own presentation	1 WLH
Examination: Oral Presentation (approx. 30 minutes), not graded **Examination prerequisites:** regular participation **Examination requirements:** Preparation, presentation and discussion of a concept for the final thesis.	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Eva Orthmann
Course frequency: each semester	Duration: 2 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 20	

Additional notes and regulations:
The module will be offered starting in the summer semester of 2023.

Georg-August-Universität Göttingen **Module M.Ira.011: Aspects of Iranian religious traditions**	4 C 2 WLH

Learning outcome, core skills: • Knowledge of the respective religious traditions (such as Zoroastrianism, Sufism, Yezidism, Ahl-e Haqq) of Iranian peoples and ethnic groups in pre-Islamic and Islamic times • Knowledge of the cultural and historical context of these traditions, in particular their origins und forms of transmission, and their importance for understanding contemporary phenomena • Identifying connections between past and present religious traditions and conceptions with particular regard to self-perception and cultural identity • Familiarity with current research methods in the field of Iranian religions • Knowledge of theories and methods of transmission	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on one of the following topics e.g. "The idea of God and man in Iranian Sufism", "Shiite Islam", "Special characteristics of the Kurds' religious traditions"	2 WLH
Examination: Oral presentation (approx. 30 minutes) in seminar 1 or 2 **Examination prerequisites:** Regular participation in seminar 1 and 2; preparation of one portfolio on each topic of seminar 1 and 2 (max. 5 pages each) **Examination requirements:** • Kenntnis von der jeweiligen religiösen Tradition, ihren Quellen, ihrer Entstehungsgeschichte und den Tradierungsformen • Auseinandersetzung mit verschiedenen theoretischen Ansätzen und Forschungsmethoden im Bereich der iranischen Religionen	4 C

Examination requirements: • Knowledge of the respective religious tradition, its sources, the history of its development and the forms of its transmission • Discussion of different theoretical approaches and research methods in the field of Iranian religions	

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations:

The term paper and oral presentation may not be completed in the same course.

Georg-August-Universität Göttingen **Module M.Ira.011a: Aspects of Iranian religious traditions**	8 C 2 WLH

Learning outcome, core skills: • Knowledge of the respective religious traditions (such as Zoroastrianism, Sufism, Yezidism, Ahl-e Haqq) of Iranian peoples and ethnic groups in pre-Islamic and Islamic times • Knowledge of the cultural and historical context of these traditions, in particular their origins und forms of transmission, and their importance for understanding contemporary phenomena • Identifying connections between past and present religious traditions and conceptions with particular regard to self-perception and cultural identity • Familiarity with current research methods in the field of Iranian religions • Knowledge of theories and methods of transmission	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Independent Studies *Contents*: Zusätzliche Lektüre zum Thema des Seminars.	
Examination: Term paper (max. 12 pages) **Examination requirements:** • Knowledge of the respective religious tradition, its sources, the history of its development and the forms of its transmission • Discussion of different theoretical approaches and research methods in the field of Iranian religions	4 C

Course: Seminar on one of the following topics e.g. "The idea of God and man in Iranian Sufism", "Shiite Islam", "Special characteristics of the Kurds' religious traditions"	2 WLH
Examination: Oral Report (approx. 30 minutes) **Examination prerequisites:** Regelmäßige Teilnahme, Portolio (max. 10 Seiten)	4 C

Examination requirements: • Kenntnis von der jeweiligen religiösen Tradition, ihren Quellen, ihrer Entstehungsgeschichte und den Tradierungsformen • Fähigkeit zur Analyse der relevanten Quellenliteratur • Auseinandersetzung mit verschiedenen theoretischen Ansätzen und Forschungsmethoden im Bereich der iranischen Religionen	

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: each winter semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.012: History and images of history in the Iranian cultural area**	4 C 2 WLH

Learning outcome, core skills: In the Iranian cultural area there are numerous sources from the Islamic and pre-Islamic periods that perceive and present history in very different ways. This differs markedly from the European understanding of history. The course enables students: • to examine an epoch or a specific phenomenon of Iranian history • to become acquainted with various theories and methods of Iranian historiography in pre-Islamic, Islamic, modern Iranian and Indo-Persian sources • to give an analytical description of images of history from different historical or religious contexts and sources • to make a comparative analysis of different methods and images of history	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on one of the following topics e.g. "Pre-Islamic history as interpreted by Ferdousi", "The Sassanid construction of history", "Images of history in the Iranian cultural area", "Notions of sovereignty"	2 WLH
Examination: Oral presentation (approx. 30 minutes) in seminar 1 or 2 **Examination prerequisites:** Regular participation in seminar 1 and 2; preparation of one portfolio on each topic of seminar 1 and 2 (max. 5 pages each) **Examination requirements:** • Kenntnis einer spezifischen Epoche bzw. eines spezifischen historischen Phänomens • Auseinandersetzung mit der dazugehörigen Forschungsliteratur und Methodik • Fähigkeit zum Umgang mit historischen Quellen und deren Analyse	4 C

Examination requirements: Students should be able to analyze and critically interpret different representations of history, taking the specific nature of the literature considered into account. They should examine relevant scientific methods and be able to apply them to the texts.	

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations:

The term paper and oral presentation may not be completed in the same course.

Georg-August-Universität Göttingen **Module M.Ira.012a: History and images of history in the Iranian cultural area**	8 C 2 WLH

Learning outcome, core skills: In the Iranian cultural area there are numerous souces from the Islamic and pre-Islamic periods that perceive and present history in very different ways. This differs markedly from the European understanding of history. The course enables students: • to examine an epoch or a specific phenomenon of Iranian history • to become acquainted with various theories and methods of Iranian historiography in pre-Islamic, Islamic, and modern Iranian sources • to give an analytical description of images of history from different historical or religious contexts and sources • to make a comparative analysis of different methods and images of history	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Independent Studies *Contents*: Zusätzliche Lektüre zum Thema des Seminars.	

Examination: Term paper (max. 12 pages) **Examination requirements:** Students should be able to analyze and critically interpret different representations of history, taking the specific nature of the literature considered into account. They should examine relevant scientific methods and be able to apply them to the texts.	4 C

Course: Seminar on one of the following topics e.g. "Pre-Islamic history as interpreted by Ferdousi", "The Sassanid construction of history", "Images of history in the Iranian cultural area", "Notions of sovereignty"	2 WLH

Examination: Oral Report (approx. 30 minutes) **Examination prerequisites:** Regelmäßige Teilnahme, Portfolio (max. 10 Seiten)	4 C

Examination requirements: Die Studierenden sollen unter Berücksichtigung des spezifischen Charakters der vorliegenden Literatur zur textanalytischen und textkritischen Interpretation verschiedener Geschichtsdarstellungen in der Lage sein. Die Studierenden sollen sich mit diesbezüglichen wissenschaftlichen Methoden auseinanderzusetzen und diese auf die Texte anwenden können.	

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency:	**Duration:**

each summer semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

| Georg-August-Universität Göttingen | 4 C |
| **Module M.Ira.013: Persian Literature** | 2 WLH |

Learning outcome, core skills:	Workload:
• Reading moderately difficult to difficult contemporary and/or classical literary texts, newspaper articles or Internet texts • Enhanced grammar skills and expanded vocabulary • Application and discussion of methods of textual analysis • Knowledge of rhetorical and stylistic elements of the texts • Examining specific questions of the genre and theories of texts	Attendance time: 56 h Self-study time: 64 h

Course: **Modern Persian literature (poetry, prose)** (Seminar)	2 WLH
Examination: Referat (ca. 30 Min.) und Portfolio (max. 10 Seiten) **Examination prerequisites:** Regular participation in course 1 and 2; oral presentation (approx. 10 minutes) on seminar 1 and 2 **Examination requirements:** • Fortgeschrittenes Textverständnis • Kenntnis der relevanten Forschungsliteratur • Anwendung und Diskussion textanalytischer Methoden	4 C

Examination requirements: Advanced Persian language and translation skills. Application and discussion of methods of textual analysis.	

Admission requirements: Persian language skills	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: jedes 2. Semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.013a: Reading and analysis of Persian literature**	8 C 2 WLH

Learning outcome, core skills: • Reading moderately difficult to difficult contemporary and/or classical literary texts, newspaper articles or Internet texts • Enhanced grammar skills and expanded vocabulary • Application and discussion of methods of textual analysis • Knowledge of rhetorical and stylistic elements of the texts • Examining specific questions of the genre and theories of texts	**Workload:** Attendance time: 56 h Self-study time: 184 h

Course: Modern Persian literature (poetry, prose) (Seminar)	2 WLH
Examination: Oral Report (approx. 30 minutes) **Examination prerequisites:** Regular participation in course 1 and 2; oral presentation (approx. 10 minutes) on seminar 1 and 2	4 C

Course: Independent Studies *Contents*: Zusätzliche Lektüre zum Thema des Seminars	
Examination: Term Paper (max. 18 pages)	4 C

Examination requirements: Advanced Persian language and translation skills. Application and discussion of methods of textual analysis.	

Admission requirements: Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: jedes 2. Semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.014: Iranian Language and Culture**	4 C 2 WLH

Learning outcome, core skills: • Gaining knowledge of the older or more recent cultural or religious traditions of Iranian peoples or ethnic groups • the background context of the traditions, their current frame of reference and their role and significance in the present • Knowledge of specific strategies and methods of transmission and general theories of tradition • Knowledge of relevant aspects of public communication and specific media genres and forms of expression • Knowledge of current research methods for analyzing media content and independent reading • Familiarization with a particular topic, ability to do independent research and analysis in connection with current issues	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar on one of the following topics (Seminar) e.g. "Gender representation in Iranian media", "Iranian press", "Analysis of Iranian films"	2 WLH
Examination: Term paper (max. 18 pages) in seminar 1 or 2 **Examination prerequisites:** Regular participation in seminar 1 and 2; oral presentation (approx. 20 minutes) in seminar 1 and 2 and portfolio on each topic of seminar 1 and 2 (max. 5 pages each) **Examination requirements:** • Overview of various forms of tradition in Iranian cultures, their past and present conceptions, knowledge of relevant theoretical approaches • Confidence in dealing with the respective media in an Iranian language, knowledge of media history as well as relevant theories and research approaches, independent application of analytical methods	4 C

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.014a: Iranian Language and Culture**	8 C 2 WLH

Learning outcome, core skills: • Gaining knowledge of the older or more recent cultural or religious traditions of Iranian peoples or ethnic groups • the background context of the traditions, their current frame of reference and their role and significance in the present • Knowledge of specific strategies and methods of transmission and general theories of tradition • Knowledge of relevant aspects of public communication and specific media genres and forms of expression • Knowledge of current research methods for analyzing media content and independent reading • Familiarization with a particular topic, ability to do independent research and analysis in connection with current issues	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Seminar on one of the following topics e.g. "Gender representation in Iranian media", "Iranian press", "Analysis of Iranian films"	2 WLH
Examination: Oral Report (approx. 30 minutes) **Examination prerequisites:** Regular participation; oral presentation (approx. 20 minutes) and portfolio (max. 5 pages) on the seminar topic **Examination requirements:** • Overview of various forms of tradition in Iranian cultures, their past and present conceptions, knowledge of relevant theoretical approaches • Confidence in dealing with the respective media in an Iranian language, knowledge of media history as well as relevant theories and research approaches, independent application of analytical methods	4 C

Course: Independent Studies *Contents*: Zusätzliche Lektüre zum Thema des Seminars	
Examination: Term Paper (max. 18 pages)	4 C

Examination requirements: • Überblick über verschiedene Überlieferungsformen in iranischen Kulturen, ihren vergangenen und heutigen Vorstellungen, Kenntnis relevanter theoretischer Ansätze • Sicherheit im Umgang mit der jeweiligen kulturellen oder sprachlichen Tradition und den dazugehörigen Quellen • Kenntnis der elevanten Theorien und Forschungsansätze, selbständige Anwendung analytischer Methoden	

Admission requirements: B.Ira.108 or equivalent Persian language skills	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Eva Orthmann
Course frequency:	**Duration:**
once a year	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.Ira.015: Documents and Media**	4 C 2 WLH

Learning outcome, core skills: On successfully completing the module the students are able to deal with manuscript materials in Persian. They acquire fundamental knowledge of different styles of writing like Nastaliq und Shekaste and learn how to decipher and transcribe handwritten documents. They are introduced to handling documents and to the typical terminology of certain categories of documents. They learn how to examine characteristic elements such as colophon, seal, tughra etc. and include them in their analysis.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Exercise (Webinar) *Contents*: „Archivmaterialien aus Hydarabad", „Handschriftenkunde", "iranische Presse", "Analyse iranischer Filme"	2 WLH

Examination: Referat (ca. 30 Minuten) und Portfolio (max. 10 Seiten) **Examination prerequisites:** Regular participation; written homework assignments comprising max. 25 pages of transcription **Examination requirements:** Knowledge of different styles of writing, ability to transcribe and translate manuscript materials and to analyze typical elements of manuscripts and records.	4 C

Admission requirements: Persian language skills at the level of B.Ira.108	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: once a yearirregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.015a: Documents and Media**	8 C 2 WLH

Learning outcome, core skills: On successfully completing the module the students are able to deal with manuscript materials in Persian. They acquire fundamental knowledge of different styles of writing like Nastaliq und Shekaste and learn how to decipher and transcribe handwritten documents. They are introduced to handling documents and to the typical terminology of certain categories of documents. They learn how to examine characteristic elements such as colophon, seal, tughra etc. and include them in their analysis.	**Workload:** Attendance time: 28 h Self-study time: 212 h

Course: Exercise (Webinar) *Contents*: "Archivmaterialien aus Hydarabad", "Handschriftenkunde", "iranische Presse", "Analyse iranischer Filme"	2 WLH
Examination: Oral Report (approx. 30 minutes) **Examination prerequisites:** Regular participation; written homework assignments comprising max. 50 pages of transcription **Examination requirements:** Knowledge of different styles of writing, ability to transcribe and translate manuscript materials and to analyze typical elements of manuscripts and records. Confidence in dealing with relevant research approaches, independent application of analytical methods.	4 C

Course: Exercise (Webinar) *Contents*: Zusätzliche Lektüre zum Thema des Seminars	
Examination: Term Paper (max. 18 pages)	4 C

Examination requirements: • Überblick über verschiedene Quellengattungen, Sicherheit im Umgang mit der jeweiligen Quellengattung in persischer Sprache • Sicherheit in der Entzifferung von handschriftlichen Materialien • Kenntnis relevanter theoretischer Ansätze • Sicherheit im Umgang mit den jeweiligen Medien in einer iranischen Sprache, Kenntnis der Mediengeschichte sowie relevanter Theorien und Forschungsansätze, selbständige Anwendung analytischer Methoden	

Admission requirements: Persian language skills at the level of B.Ira.108	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: once a yearirregular	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ira.017: Iranian Archaeology and Art**	4 C 2 WLH

Learning outcome, core skills: • General knowledge of the history of art in the Iranian cultural area in pre-Islamic and Islamic times • Specific knowledge of the archaeology and art of at least one historical period • Knowledge of aspects of the history of science in Iranian archaeology and art, particularly with regard to the development of theoretical foundations and application of methods • Application or discussion of theories and methods in archaeology and art	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Independent Studies *Contents*: Zusätzliche Lektüre zum Thema des Seminars	

Course: Seminar on one of the following topics (Seminar) e.g.: "Art of the Sassanids", "Introduction to Iranian archaeology", "Islamic art and architecture"	2 WLH

Examination: Oral presentation (approx. 20 minutes) with written elaboration (max. 15 pages) or term paper (max. 15 pages) **Examination prerequisites:** Regular participation **Examination requirements:** • Kenntnis der jeweiligen historischen Epoche und ihren spezifischen Artefakten • Kenntnis der Wissenschaftsgeschichte auf diesem Gebiet • Fähigkeit zur Anwendung oder Diskussion der spezifischen Theorien und Methoden an Beispielen	4 C

Examination requirements: Knowledge of the respective historical period and its particular artefacts. Knowledge of the history of science in this field. Ability to apply or discuss specific theories and methods by means of examples.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eva Orthmann
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Ling.111: Foundations**	12 C 6 WLH

Learning outcome, core skills: Students have acquired the basic terminology, theoretical approaches and analytical methods in the chosen core areas of linguistics (phonetics/phonology, morphology, syntax, semantics, pragmatics). On successful completion of the module they can: • independently analyse linguistic observations in specific approaches to language structure; • independently employ basic theoretical notions and terminology to specific examples; • describe linguistic phenomena in a professionally adequate manner.	**Workload:** Attendance time: 84 h Self-study time: 276 h

Course: Colloquium Linguistics (Colloquium) *Course frequency:* each semester	2 WLH

Course: Foundations (Seminar) *Contents*: Lecture "Introduction to Theoretical Linguistics" (4 WLH) or – alternatively – Seminar "Phonetics/Phonology" or "Morphology" or "Syntax" (2 WLH) and Seminar "Semantics" or "Pragmatics" (2 WLH)	2 WLH
Course: Semantik oder Phonologie (Seminar) *Course frequency:* once a year	2 WLH
Examination: Klausur (90 Minuten) oder Portfolio (max. 20 Seiten) oder Hausarbeit (max. 15 Seiten) **Examination prerequisites:** regelmäßige Teilnahme am Kolloquium und an den Seminaren; jeweils eine kleine Leistung in LV 1, LV 2 und LV 3 (in Textform, max. 8 Seiten oder mündlich, ca. 30 Minuten) **Examination requirements:** Die Prüfung ist wahlweise in einem der Seminare abzulegen (LV 2 oder LV 3)	12 C

Examination requirements: In der Prüfung weisen die Studierenden nach, dass ihnen grundlegende Theorien der Kernbereiche der Linguistik vertraut sind und sie die in den einzelnen Disziplinen üblichen Beschreibungsverfahren in den Grundzügen beherrschen. Sie sind in der Lage, Aussagen in der Fachliteratur nachzuvollziehen und vorgegebene linguistische Daten angemessen zu analysieren.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Markus Steinbach Prof. Dr. Hedzer Hugo Zeijlstra

Course frequency:	Duration:
each winter semesterThe seminars take place alternatingly in winter and summer term.	2 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2

Georg-August-Universität Göttingen **Module M.Ling.121: Methods**	12 C 6 WLH

Learning outcome, core skills: Students have acquired the notional and technical/methodological basics in different empirical (e.g. statistics, programming) and/or analytical (logic, theoretical informatics) areas. On successful completion of the module they can: • employ the axioms of scientific thinking in order to capture linguistic statements/ approaches; • plan and conduct empirical studies (corpus, experimental) in accordance with current standards in empirical research; • collect data in the field or in the lab using appropriate methodology for the different levels of linguistic analysis; • analyze and visualize empirical data and test hypotheses statistically.	**Workload:** Attendance time: 84 h Self-study time: 276 h

Course: Colloquium Linguistics (Colloquium) *Course frequency:* each semester	2 WLH

Course: Methods (Seminar) *Contents*: Empirical and analytical methods 1 (seminar, 2 WLH) and Empirical and analytical methods 2 (seminar, 2 WLH) *Course frequency:* each winter semester	2 WLH
Course: Empirische und analytische Methoden 2 (Seminar) *Course frequency:* each summer semester	2 WLH
Examination: Practical examination (max. 20 pages) or portfolio (max. 20 pages) or term paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approximately 30 min.) **Examination requirements:** Students demonstrate that they can independently apply the current standards of empirical research and the formal research foundations. They demonstrate that they can design and draft empirical studies, evaluate linguistic data, test hypotheses and capture linguistic problems through formal procedures.	12 C

Examination requirements: Die Studierenden weisen nach, dass sie die aktuellen Standards der empirischen Forschung bzw. die formalen wissenschaftlichen Grundlagen eigenständig anwenden können. Sie weisen nach, dass sie empirische Studien konzipieren und entwerfen, linguistische Daten auswerten, Hypothesen prüfen und linguistische Probleme durch formale Abläufe erfassen können.	

Admission requirements: none	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Stavros Skopeteas
	Dr. Thomas Weskott
Course frequency:	**Duration:**
The seminars take place alternatingly in winter and summer term.	2 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3

Georg-August-Universität Göttingen **Module M.Ling.122: Methods**	9 C 4 WLH

Learning outcome, core skills: Students have acquired the notional and technical/methodological basics in different empirical (e.g. statistics, programming) and/or analytical (logic, theoretical informatics) areas. On successful completion of the module they can: • employ the axioms of scientific thinking in order to capture linguistic statements/ approaches; • plan and conduct empirical studies (corpus, experimental) in accordance with current standards in empirical research; • collect data in the field or in the lab using appropriate methodology for the different levels of linguistic analysis; • analyse and visualise empirical data and test hypotheses statistically.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Colloquium Linguistics (Colloquium)	2 WLH

Course: Methods (Seminar) *Contents*: Empirical and analytical methods 1 (seminar, 2 WLH) or Empirical and analytical methods 2 (seminar, 2 WLH) *Course frequency:* Die Seminare finden abwechselnd im Winter- und Sommersemester statt	2 WLH
Examination: Practical examination (max. 20 pages) or portfolio (max. 20 pages) or term paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approximately 30 min.) **Examination requirements:** Students demonstrate that they can independently apply the current standards of empirical research and the formal research foundations. They demonstrate that they can design and draft empirical studies, evaluate linguistic data, test hypotheses and capture linguistic problems through formal procedures.	9 C
Examination requirements: Die Studierenden weisen nach, dass sie die aktuellen Standards der empirischen Forschung bzw. die formalen wissenschaftlichen Grundlagen eigenständig anwenden können. Sie weisen nach, dass sie empirische Studien konzipieren und entwerfen, linguistische Daten auswerten, Hypothesen prüfen und linguistische Probleme durch formale Abläufe erfassen können.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Stavros Skopeteas

	Dr. Thomas Weskott
Course frequency: each semesterThe seminars take place alternatingly in winter and summer term.	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2

Georg-August-Universität Göttingen **Module M.Ling.131: Theory**	12 C 6 WLH

Learning outcome, core skills: Students are competent in applying theoretical approaches to grammar independently. On successful completion of the module they can: • independently identify the data relevant for capturing a linguistic phenomenon; • independently analyze linguistic data within theoretical approaches; • formulate the scientific contribution of an analysis to the current state of research; • test predictions of competing approaches and draw conclusions concerning their adequacy.	**Workload:** Attendance time: 84 h Self-study time: 276 h

Course: Colloquium Linguistics *Course frequency:* each semester	2 WLH

Course: Theory (Seminar) *Contents*: Grammatical theory 1 (seminar, 2 WLH) and grammatical theory 2 (seminar, 2 WLH) *Course frequency:* each winter semester	2 WLH
Course: Grammatiktheorie 2 (Seminar) *Course frequency:* each summer semester	2 WLH
Examination: Term paper (max. 15 pages) or portfolio (max. 20 pages) or written examination (90 Min) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approximately 30 min.) **Examination requirements:** Students demonstrate that they can identify linguistically relevant data and present them in a systematic way. They demonstrate that they can independently develop linguistic analyses of selected phenomena and can assess and conclusively present the adequacy of alternative approaches.	12 C

Examination requirements: Die Studierenden weisen nach, dass sie linguistisch relevante Daten erkennen und organisiert darstellen können. Sie weisen nach, dass sie linguistische Analysen von ausgewählten Phänomenen eigenständig entwickeln können und können die Adäquatheit alternativer Ansätze beurteilen und schlüssig darstellen.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Uwe Junghanns Prof. Dr. Clemens Steiner-Mayr
Course frequency:	**Duration:** 2 semester[s]

The seminars take place alternatingly in winter and summer term.	
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3

Georg-August-Universität Göttingen **Module M.Ling.132: Theory**	9 C 4 WLH

Learning outcome, core skills: Students are competent in applying theoretical approaches to grammar independently. On successful completion of the module they can: • independently identify the data relevant for capturing a linguistic phenomenon; • independently analyse linguistic data within theoretical approaches; • formulate the scientific contribution of an analysis to the current state of research; • test predictions of competing approaches and draw conclusions concerning their adequacy.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Colloquium Linguistics (Colloquium)	2 WLH

Course: Theory (Seminar) *Contents*: Grammatical theory 1 (seminar, 2 WLH) or grammatical theory 2 (seminar, 2 WLH)	2 WLH
Examination: Term paper (max. 15 pages) or portfolio (max. 20 pages) or written examination (90 Min) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approximately 30 min.) **Examination requirements:** Students demonstrate that they can identify linguistically relevant data and present them in a systematic way. They demonstrate that they can independently develop linguistic analyses of selected phenomena and can assess and conclusively present the adequacy of alternative approaches.	9 C

Examination requirements: Die Studierenden weisen nach, dass sie linguistisch relevante Daten erkennen und organisiert darstellen können. Sie weisen nach, dass sie linguistische Analysen von ausgewählten Phänomenen eigenständig entwickeln können und können die Adäquatheit alternativer Ansätze beurteilen und schlüssig darstellen.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Uwe Junghanns Prof. Dr. Clemens Steiner-Mayr
Course frequency: each semesterThe seminars take place alternatingly in winter and summer term.	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Georg-August-Universität Göttingen **Module M.Ling.141: Language Competence**	6 C 2 WLH

Learning outcome, core skills: Students acquire passive and active language skills, which provide a basis for the crosslinguistic and theory-driven approach to questions of language structure or history to be developed in the further course of their studies. In order to foster insights into crosslinguistic variation, courses in any foreign language(s) except for English are acceptable in order to successfully complete this module. English is excluded because competence in it is already a requirement for this course of studies.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language Competence (Seminar) *Contents*: Language course for linguists (seminar)	2 WLH
Examination: Written examination (90 min.) or oral examination (ca. 30 min.) or language competence examination (oral part: approx. 15 Min.; written part: 90 Min.) **Examination requirements:** Students demonstrate that they are familiar with the basic grammar and the essential typological features of the foreign language they have chosen. In the case of living languages, they are able to communicate in simple everyday situations and can understand simple to moderately difficult texts with the help of a dictionary. With corpus languages, the skill of foreign-language communication is not applicable.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Uwe Junghanns Prof. Dr. Guido Mensching
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.Ling.211: Text Analysis and Discourse Processing: Foundations**	9 C 2 WLH

Learning outcome, core skills: Students acquire basic competence in the areas of textual linguistics and discourse theory. On successful completion of the module they can: • describe basic linguistic properties of texts and discourses on all levels of grammar and pragmatics; • critically discuss important research literature in textual linguistics and discourse theory; • critically reflect on similarities and differences between literary and non-literary texts; • apply and evaluate cognitive models of textual understanding or methods of automatic text evaluation.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Text Analysis and Discourse Processing: Foundations (Seminar)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written and/or oral forms of scientific communication - that they are familiar with text and discourse phenomena (e.g. anaphora, tense/aspect, information structure) and that they can adequately describe relevant data. They have a sound knowledge of the formal analysis of discourse phenomena and can apply theories to new data.	

They can critically review studies in text linguistics and discourse theory and they can present them in a consistent way. In the written elaboration, they demonstrate their competence to present appropriately the results of their investigations.

Admission requirements:	**Recommended previous knowledge:**
none	M.Ling.111
Language:	**Person responsible for module:**
English, German	Prof. Dr. Anke Holler
	Prof. Dr. Stavros Skopeteas
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2

Georg-August-Universität Göttingen **Module M.Ling.212: Text Analysis and Discourse Processing: Foundations**	6 C 2 WLH

Learning outcome, core skills:	**Workload:**
Students acquire basic competence in the areas of textual linguistics and discourse theory. On successful completion of the module they can: • describe basic linguistic properties of texts and discourses on all levels of grammar and pragmatics; • critically discuss important research literature in textual linguistics and discourse theory; • critically reflect on similarities and differences between literary and non-literary texts; • apply and evaluate cognitive models of textual understanding or methods of automatic text evaluation.	Attendance time: 28 h Self-study time: 152 h

Course: Text Analysis and Discourse Processing: Foundations (Seminar)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written and/or oral forms of scientific communication - that they are familiar with text and discourse phenomena (e.g. anaphora, tense/aspect, information structure) and that they can adequately describe relevant data. They have a sound knowledge of the formal analysis of discourse phenomena and can apply theories to new data. They can critically review studies in text linguistics and discourse theory and they can present them in a consistent way. In the written elaboration, they demonstrate their competence to present appropriately the results of their investigations.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.111
Language: English, German	**Person responsible for module:** Prof. Dr. Anke Holler Prof. Dr. Stavros Skopeteas
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2

Georg-August-Universität Göttingen **Module M.Ling.221: Text Analysis and Discourse Processing: Research**	9 C 2 WLH

Learning outcome, core skills: Students acquire basic competence in the areas of textual linguistics and discourse theory. On successful completion of the module they can: • describe basic linguistic properties of texts and discourses on all levels of grammar and pragmatics; • critically discuss important research literature in textual linguistics and discourse theory; • critically reflect on similarities and differences between literary and non-literary texts; • apply and evaluate cognitive models of textual understanding or methods of automatic text evaluation.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Text Analysis and Discourse Processing: Research (Seminar)	2 WLH
Examination: Term Paper (max. 15 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written and/or oral forms of scientific communication - that they are familiar with text and discourse phenomena (e.g. anaphora, tense/aspect, information structure) and that they can adequately describe relevant data. They have a sound knowledge of the formal analysis of discourse phenomena and can apply theories to new data. They can critically review studies in text linguistics and discourse theory and they can present them in a consistent way. In the written elaboration, they demonstrate their competence to present appropriately the results of their investigations.	

Admission requirements:	Recommended previous knowledge:
none	M.Ling.211
Language:	**Person responsible for module:**
English, German	Prof. Dr. Anke Holler
	Prof. Dr. Stavros Skopeteas
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3

Georg-August-Universität Göttingen **Module M.Ling.222: Text Analysis and Discourse Processing: Research**	6 C 2 WLH

Learning outcome, core skills:	Workload:
Students acquire basic competence in the areas of textual linguistics and discourse theory. On successful completion of the module they can: • describe basic linguistic properties of texts and discourses on all levels of grammar and pragmatics; • critically discuss important research literature in textual linguistics and discourse theory; • critically reflect on similarities and differences between literary and non-literary texts; • apply and evaluate cognitive models of textual understanding or methods of automatic text evaluation.	Attendance time: 28 h Self-study time: 152 h

Course: Text Analysis and Discourse Processing: Research (Seminar)	2 WLH
Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written and/or oral forms of scientific communication - that they are familiar with text and discourse phenomena (e.g. anaphora, tense/aspect, information structure) and that they can adequately describe relevant data. They have a sound knowledge of the formal analysis of discourse phenomena and can apply theories to new data. They can critically review studies in text linguistics and discourse theory and they can present them in a consistent way. In the written elaboration, they demonstrate their competence to present appropriately the results of their investigations.	6 C

Admission requirements: none	Recommended previous knowledge: M.Ling.212
Language: English, German	**Person responsible for module:** Prof. Dr. Anke Holler Prof. Dr. Stavros Skopeteas
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Georg-August-Universität Göttingen **Module M.Ling.311: Language Typology and Fieldwork: Foundations**	9 C 2 WLH

| **Learning outcome, core skills:**
Students have acquired a deeper understanding of theories of language variation and of methods of data collection and analysis concerning languages of different language families.

On successful completion of the module they can:

- independently plan a comparative linguistic study, execute it and analyze the results;
- collect data in order to describe less researched areas of the grammar of a language;
- apply approaches in phonology/morphology/syntax/semantics for the analysis of linguistic phenomena in different languages or in a comparative perspective;
- apply frameworks concerning the similarities and differences between languages, that capture the roots of cross-linguistic variation as well as the implications of similarities between the languages of the world for linguistic competence. | **Workload:**
Attendance time:
28 h
Self-study time:
242 h |

Course: Language Typology and Fieldwork: Foundations (Seminar) *Contents*: Language Typology I (seminar) or fieldwork seminar (which can take place within a field excursion)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written and/or oral forms of scientific communication - that they can employ frameworks of language comparison and language typology. They also demonstrate their ability to collect data independently and/or to describe grammatical phenomena based on observational data (corpora), to analyze the data within the	

framework of current theories of linguistic structure and to present their findings in written and oral form according to the current standards of scientific communication in linguistics.

Admission requirements:	Recommended previous knowledge:
none	M.Ling.111
Language:	**Person responsible for module:**
English, German	apl. Prof. Dr. Götz Keydana
	Prof. Dr. Guido Mensching
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2

Georg-August-Universität Göttingen **Module M.Ling.312: Language Typology and Fieldwork: Foundations**	6 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of theories of language variation and of methods of data collection and analysis concerning languages of different language families. On successful completion of the module they can: • independently plan a comparative linguistic study, execute it and analyze the results; • collect data in order to describe less researched areas of the grammar of a language; • apply approaches in phonology/morphology/syntax/semantics for the analysis of linguistic phenomena in different languages or in a comparative perspective; • apply frameworks concerning the similarities and differences between languages, that capture the roots of cross-linguistic variation as well as the implications of similarities between the languages of the world for linguistic competence.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language Typology and Fieldwork: Foundations (Seminar) *Contents*: Language Typology I (seminar) or fieldwork seminar (which can take place within a field excursion)	2 WLH

Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written and/or oral forms of scientific communication - that they can employ frameworks of language comparison and language typology. They also demonstrate their ability to collect data independently and/or to describe grammatical phenomena based on observational data (corpora), to analyze the data within the framework of current theories of linguistic structure and to present their findings in written and oral form according to the current standards of scientific communication in linguistics.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.111
Language: English, German	**Person responsible for module:** apl. Prof. Dr. Götz Keydana Prof. Dr. Guido Mensching
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2

Georg-August-Universität Göttingen **Module M.Ling.321: Language Typology and Fieldwork: Research**	9 C 2 WLH
Learning outcome, core skills: Students have acquired a deeper understanding of theories of language variation and of methods of data collection and analysis concerning languages of different language families. On successful completion of the module they can: • independently plan a comparative linguistic study, execute it and analyze the results; • collect data in order to describe less researched areas of the grammar of a language; • apply approaches in phonology/morphology/syntax/semantics for the analysis of linguistic phenomena in different languages or in a comparative perspective; • apply frameworks concerning the similarities and differences between languages, that capture the roots of cross-linguistic variation as well as the implications of similarities between the languages of the world for linguistic competence.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Language Typology and Fieldwork: Research (Seminar) *Contents*: Language Typology II (seminar) or fieldwork seminar (which can take place within a field excursion)	2 WLH
Examination: Term Paper (max. 15 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written and/or oral forms of scientific communication - that they can employ frameworks of language comparison and language typology. They also demonstrate their ability to collect data independently and/or to describe grammatical phenomena based on observational data (corpora), to analyze the data within the framework of current theories of linguistic structure and to present their findings in	

written and oral form according to the current standards of scientific communication in linguistics.

Admission requirements:	Recommended previous knowledge:
none	M.Ling.311
Language:	**Person responsible for module:**
English, German	apl. Prof. Dr. Götz Keydana
	Prof. Dr. Guido Mensching
Course frequency:	**Duration:**
each semester	
Number of repeat examinations permitted:	**Recommended semester:**
twice	3

Georg-August-Universität Göttingen **Module M.Ling.322: Language Typology and Fieldwork: Research**	6 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of theories of language variation and of methods of data collection and analysis concerning languages of different language families. On successful completion of the module they can: • independently plan a comparative linguistic study, execute it and analyze the results; • collect data in order to describe less researched areas of the grammar of a language; • apply approaches in phonology/morphology/syntax/semantics for the analysis of linguistic phenomena in different languages or in a comparative perspective; • apply frameworks concerning the similarities and differences between languages, that capture the roots of cross-linguistic variation as well as the implications of similarities between the languages of the world for linguistic competence.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language Typology and Fieldwork: Research (Seminar) *Contents*: Language Typology II (seminar) or fieldwork seminar (which can take place within a field excursion)	2 WLH

Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written and/or oral forms of scientific communication - that they can employ frameworks of language comparison and language typology. They also demonstrate their ability to collect data independently and/or to describe grammatical phenomena based on observational data (corpora), to analyze the data within the framework of current theories of linguistic structure and to present their findings in written and oral form according to the current standards of scientific communication in linguistics.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.312
Language: English, German	**Person responsible for module:** apl. Prof. Dr. Götz Keydana Prof. Dr. Guido Mensching
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Georg-August-Universität Göttingen **Module M.Ling.411: Language Change: Foundations**	9 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of current research on language change. On successful completion of the module they can: • independently apply methods of current historical linguistics in order to describe dynamic processes; • apply current methods and approaches in research into language change (e.g. grammaticalization theory, quantitative historical linguistics, dialectometry); • recognize and analyze the relationship between synchronic and diachronic variation.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Language Change: Foundations (Seminar)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: Students demonstrate - in written and/or oral forms of scientific communication - that they can collect historical data using methods of contemporary historical linguistics and that they can apply contemporary approaches to the interpretation of phenomena of language change.	

Admission requirements: none	**Recommended previous knowledge:** M.Ling.111
Language: English, German	**Person responsible for module:** Prof. Dr. Marco Coniglio Apl. Prof. Dr. Götz Keydana

Course frequency:	Duration:
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2

Georg-August-Universität Göttingen **Module M.Ling.412: Language Change: Foundations**	6 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of current research on language change. On successful completion of the module they can: • independently apply methods of current historical linguistics in order to describe dynamic processes; • apply current methods and approaches in research into language change (e.g. grammaticalization theory, quantitative historical linguistics, dialectometry); • recognize and analyze the relationship between synchronic and diachronic variation.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language Change: Foundations (Seminar)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** Students demonstrate - in written and/or oral forms of scientific communication - that they can collect historical data using methods of contemporary historical linguistics and that they can apply contemporary approaches to the interpretation of phenomena of language change.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.111
Language: English, German	**Person responsible for module:** Prof. Dr. Marco Coniglio Apl. Prof. Dr. Götz Keydana
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2

Georg-August-Universität Göttingen **Module M.Ling.421: Language Change: Research**	9 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of current research on language change. On successful completion of the module they can: - independently apply methods of current historical linguistics in order to describe dynamic processes; - apply current methods and approaches in research into language change (e.g. grammaticalization theory, quantitative historical linguistics, dialectometry); - recognize and analyze the relationship between synchronic and diachronic variation.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Language Change: Research (Seminar)	2 WLH
Examination: Term Paper (max. 15 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: Students demonstrate - in written and/or oral forms of scientific communication - that they can collect historical data using methods of contemporary historical linguistics and that they can apply contemporary approaches to the interpretation of phenomena of language change.	

Admission requirements: none	**Recommended previous knowledge:** M.Ling.411
Language: English, German	**Person responsible for module:** Prof. Dr. Marco Coniglio Apl. Prof. Dr. Götz Keydana
Course frequency:	**Duration:**

each semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Georg-August-Universität Göttingen **Module M.Ling.422: Language Change: Research**	6 C 2 WLH

Learning outcome, core skills: Students have acquired a deeper understanding of current research on language change. On successful completion of the module they can: • independently apply methods of current historical linguistics in order to describe dynamic processes; • apply current methods and approaches in research into language change (e.g. grammaticalization theory, quantitative historical linguistics, dialectometry); • recognize and analyze the relationship between synchronic and diachronic variation.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Language Change: Research (Seminar)	2 WLH
Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** Students demonstrate - in written and/or oral forms of scientific communication - that they can collect historical data using methods of contemporary historical linguistics and that they can apply contemporary approaches to the interpretation of phenomena of language change.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.412
Language: English, German	**Person responsible for module:** Prof. Dr. Marco Coniglio Apl. Prof. Dr. Götz Keydana
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Georg-August-Universität Göttingen **Module M.Ling.511: Sign Languages and Visual Communication: Foundations**	9 C 2 WLH

Learning outcome, core skills: Students have acquired an advanced understanding of the structure of sign languages and gestures accompanying language, as well as of the impact of modality of language production and perception on the structure of languages and their communicative use. Moreover, students have acquired skills in methods of video-based data collection and analysis for research into visual-gestural forms of communication. On successful completion of the module they can: • independently plan, conduct, and evaluate empirical studies in the area of sign language linguistics; • identify and describe modality-specific grammatical and pragmatic phenomena; • apply approaches of grammar and pragmatics to the analysis of phenomena in sign language in an appropriate manner; • critically discuss approaches to the evolution and typology of sign languages; • critically discuss theories of the interaction of language and gesture in the context of visual communication.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Sign Languages and Visual Communication: Foundations (Seminar) *Contents*: Visual communication I (seminar) or lab course (at the Sign Language Lab at the University of Göttingen)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written, oral or sign language forms of scientific communication - that they can apply approaches of sign language linguistics and	

gesture research. They also demonstrate their ability to collect data independently and/
or to describe linguistic and gestural phenomena through observational data (corpora),
to analyze the data in the framework of current theories of language structure as well as
to present their findings in written, oral or signed form according to the current standards
of scientific communication in linguistics.

Admission requirements:	Recommended previous knowledge:
none	M.Ling.111
Language:	**Person responsible for module:**
English, German	Prof. Dr. Markus Steinbach
	Dr. Nina-Kristin Pendzich
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2

Georg-August-Universität Göttingen **Module M.Ling.512: Sign Languages and Visual Communication: Foundations**	6 C 2 WLH

Learning outcome, core skills: Students have acquired an advanced understanding of the structure of sign languages and gestures accompanying language, as well as of the impact of modality of language production and perception on the structure of languages and their communicative use. Moreover, students have acquired skills in methods of video-based data collection and analysis for research into visual-gestural forms of communication. On successful completion of the module they can: • independently plan, conduct, and evaluate empirical studies in the area of sign language linguistics; • identify and describe modality-specific grammatical and pragmatic phenomena; • apply approaches of grammar and pragmatics to the analysis of phenomena in sign language in an appropriate manner; • critically discuss approaches to the evolution and typology of sign languages; • critically discuss theories of the interaction of language and gesture in the context of visual communication.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Sign Languages and Visual Communication: Foundations (Seminar) *Contents*: Visual communication I (seminar) or lab course (at the Sign Language Lab at the University of Göttingen)	2 WLH
Examination: Portfolio (max. 20 pages) or poster presentation (approx. 15 Min.) or talk (ca. 20 Min.) with written elaboration (max. 10 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written, oral or sign language forms of scientific communication - that they can apply approaches of sign language linguistics and gesture research. They also demonstrate their ability to collect data independently and/or to describe linguistic and gestural phenomena through observational data (corpora), to analyze the data in the framework of current theories of language structure as well as to present their findings in written, oral or signed form according to the current standards of scientific communication in linguistics.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.111
Language: English, German	**Person responsible for module:** Prof. Dr. Markus Steinbach Dr. Nina-Kristin Pendzich
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	2

Georg-August-Universität Göttingen **Module M.Ling.521: Sign Languages and Visual Communication: Research**	9 C 2 WLH

Learning outcome, core skills: Students have acquired an advanced understanding of the structure of sign languages and gestures accompanying language, as well as of the impact of modality of language production and perception on the structure of languages and their communicative use. Moreover, students have acquired skills in methods of video-based data collection and analysis for research into visual-gestural forms of communication. On successful completion of the module they can: • independently plan, conduct, and evaluate empirical studies in the area of sign language linguistics; • identify and describe modality-specific grammatical and pragmatic phenomena; • apply approaches of grammar and pragmatics to the analysis of phenomena in sign language in an appropriate manner; • critically discuss approaches to the evolution and typology of sign languages; • critically discuss theories of the interaction of language and gesture in the context of visual communication.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Sign Languages and Visual Communication: Research (Seminar) *Contents*: Visual Communication II (seminar)	2 WLH
Examination: Term Paper (max. 15 pages)	6 C

Course: Independent Studies or practical training *Contents*: **Independent Studies:** Within the framework of Independent Studies, students work out the state of the art in a relevant research paradigm and, to this end, prepare a structured overview that serves as the basis for conducting an empirical study. The total duration of Independent Studies is approximately 90 hours of self-study. The Independent Studies are carried out in consultation with the lecturer of the course taken for the module and are supervised in the course during the semester and if appropriate in consultation hours. **Practical training**: An internship (90 hours) can be completed in a work context inside or outside the university that offers an activity relevant to MA-Linguistics, e.g. a research project within the university, work experience in an institution or company in which the subject-related competences can be applied.	
Examination: Small task (written, max. 8 pages), not graded	3 C

Examination requirements: The students demonstrate - in written, oral or sign language forms of scientific communication - that they can apply approaches of sign language linguistics and gesture research. They also demonstrate their ability to collect data independently and/ or to describe linguistic and gestural phenomena through observational data (corpora),	

to analyze the data in the framework of current theories of language structure as well as to present their findings in written, oral or signed form according to the current standards of scientific communication in linguistics.

Admission requirements:	Recommended previous knowledge:
none	M.Ling.511
Language:	**Person responsible for module:**
English, German	Prof. Dr. Markus Steinbach
	Dr. Nina-Kristin Pendzich
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2

Georg-August-Universität Göttingen **Module M.Ling.522: Sign Languages and Visual Communication: Research**	6 C 2 WLH

Learning outcome, core skills: Students have acquired an advanced understanding of the structure of sign languages and gestures accompanying language, as well as of the impact of modality of language production and perception on the structure of languages and their communicative use. Moreover, students have acquired skills in methods of video-based data collection and analysis for research into visual-gestural forms of communication. On successful completion of the module they can: • independently plan, conduct, and evaluate empirical studies in the area of sign language linguistics; • identify and describe modality-specific grammatical and pragmatic phenomena; • apply approaches of grammar and pragmatics to the analysis of phenomena in sign language in an appropriate manner; • critically discuss approaches to the evolution and typology of sign languages; • critically discuss theories of the interaction of language and gesture in the context of visual communication.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Sign Languages and Visual Communication: Research (Seminar) *Contents*: Visual Communication II (seminar)	2 WLH
Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Small task (written, max. 8 pages or oral, approx. 30 min.) **Examination requirements:** The students demonstrate - in written, oral or sign language forms of scientific communication - that they can apply approaches of sign language linguistics and gesture research. They also demonstrate their ability to collect data independently and/ or to describe linguistic and gestural phenomena through observational data (corpora), to analyze the data in the framework of current theories of language structure as well as to present their findings in written, oral or signed form according to the current standards of scientific communication in linguistics.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Ling.512
Language: English, German	**Person responsible for module:** Prof. Dr. Markus Steinbach Dr. Nina-Kristin Pendzich
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2

Georg-August-Universität Göttingen **Module M.MIS.007: Topics in Modern Indian Studies III: Ideologies, Worldviews and Religions**	9 C 4 WLH

Learning outcome, core skills: The students have in-depth knowledge of specific aspects and questions of modern Indian studies related to ideologies and worldviews from an interdisciplinary perspective and are able to apply these critically to the academic literature as well as to examine them on the basis of primary sources in the methodological framework of different disciplines. They are able to discuss subject-specific topics and can defend their arguments independently.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Seminar	2 WLH
Examination: Presentation (15 min.) with essay (15 p. max.)	9 C

Course: Übung	2 WLH

Examination requirements: The students know the relevant academic literature of select topics of Modern Indian Studies related to ideologies and worldviews, are able to apply these to different aspects and problems in different disciplines. They are able to develop their own theses and can present and defend them. The have in-depth knowledge of methods of modern Indian Studies.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: not specified	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.011: Diversity and Inequality: Theories and Methods**	6 C 3 WLH

Learning outcome, core skills: Students gain in-depth knowledge of the crucial dimensions of diversity in India and their impact on inequality with regard to caste, religion, gender, class, ethnicity, language, and more. Students are familiarised with the causes, emergence and consequences of diversity and inequality in India. They present theoretical and empirical studies on diversity and inequality spanning disciplines and methodological approaches, relate them to current state of research and learn how to conceptualise a research project on diversity and inequality.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	1 WLH
Examination: Portfolio (max. 15 pages)	6 C

Examination requirements: Students are able to understand and analyse primary sources and secondary literature on diversity and inequality. They are expected to apply theoretical arguments and relate them to the current state of research, be able to work with literature and methods from different disciplines, and write critical reviews and summaries of the course readings.	

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.012: Diversity and Inequality: Theories and Methods: Case Studies**	6 C 3 WLH

Learning outcome, core skills: Students gain in-depth knowledge of the crucial dimensions of diversity in India and their impact on inequality with regard to caste, religion, gender, class, ethnicity, language, and more. Students are familiarised with the causes, emergence and consequences of diversity and inequality in India, and analyse empirical case studies from the perspectives of different disciplines and methodological approaches.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	1 WLH
Examination: Term Paper (max. 15 pages)	6 C

Examination requirements: Students are able to understand and analyse primary sources and secondary literature on diversity and inequality. They are expected to analyse empirical case studies, work with literature and methods from different disciplines, and write critical reviews and summaries of the course readings.	

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.015: Metamorphoses of the Political II**	6 C 3 WLH

Learning outcome, core skills:	Workload:
Studierende • haben vertiefte Kenntnis von politischen Veränderungen im kolonialen und postkolonialen Indien und von interdisziplinären wissenschaftlichen Debatten zur indischen Politik; • kennen komparative und theoretische Debatten zur Politik und können theoretische und empirische Studien zur indischen Politik aus dem Blickwinkel verschiedener Disziplinen und methodischer Ansätze darstellen; • konzipieren und führen ein Forschungsprojekt zur indischen Politik durch.	Attendance time: 42 h Self-study time: 138 h

Course: Seminar *Course frequency:* each summer semester	2 WLH
Course: Übung *Course frequency:* each summer semester	1 WLH
Examination: Learning journal (max. 15 pages)	6 C

Examination requirements:	
• Vertiefte Kenntnis der von Primär- und Sekundärliteratur zur indischen Politik und die Fähigkeit, diese kritisch zu analysieren; • Anwendung theoretischer Erörterungen bei der Analyse von empirischem Material; • Fähigkeit Literatur und Methoden verschiedener Disziplinen darzustellen und zu verwenden; • Fähigkeit eigene und kritische wissenschaftliche Rezensionen/ Zusammenfassungen zur weiterführenden Kursliteratur abzufassen; • Fähigkeit Forschungsarbeit über indische Politik durchzuführen und zu präsentieren.	

Admission requirements: Keine	Recommended previous knowledge: Keine
Language: English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: every 3rd semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

| Georg-August-Universität Göttingen | 6 C |
| **Module M.MIS.016: Analysing Religions in South Asia** | 3 WLH |

| **Learning outcome, core skills:** | **Workload:** |
| Students will analyse the impact of different concepts of religion on the research field, compare methods from different disciplines used to conduct research on religions in South Asia, critically examine the relations between politics and religion, compare empirical materials from other regions of the world, and learn approaches to the study of transregional movements. | Attendance time: 42 h
 Self-study time: 138 h |

Course: Seminar	2 WLH
Course: Übung	1 WLH
Examination: Portfolio (15 p. max.) or essay (15 p. max.)	6 C

| **Examination requirements:** | |
| Students should be able to assess the impact of different concepts of religion on the research field, describe the relations between politics and religion in India and elsewhere in South Asia; compare religious practices and institutions in India with those in other regions of the world, identify methods for the analysis of transregional religious movements, and understand the role of the different disciplines of the social sciences and the humanities in studying religion. | |

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.017: Media and the Public Sphere in Modern India**	6 C 4 WLH

Learning outcome, core skills: In this module students learn about the modern media and the public sphere related to India. The students have an understanding of the particularities of media and the public sphere in modern societies; are familiar with theoretical approaches relevant to the research on media and the public sphere and are able to apply these approaches to various regional and societal contexts; have knowledge about crucial current issues related to media in modern India and how these are dealt with in different scientific disciplines; have an understanding of the social relevance of media and the public sphere in modern India.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Portfolio (15 p. max.) or essay (15. p. max.)	6 C

Examination requirements: The students are able to explain perspectives related to the media used to analyse society, culture and politics in modern India; know how to reflect on theoretical approaches relevant to an understanding of media and the public sphere and how to apply such theoretical approaches to various regional and societal contexts; analyse the social relevance of media and the public sphere in modern India.	

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Patrick Eisenlohr
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.018: Capitalism and Social Transformation in Modern India**	6 C 3 WLH

Learning outcome, core skills: Dieses Modul vermittelt Kenntnisse über die Integration der modernen indischen Gesellschaft in die kapitalistische Weltwirtschaft, die damit einhergehenden Kommodifizierungsprozesse, sozialstrukturellen Transformationen und gesellschaftlichen Konfliktkonstellationen. Die Studierenden • erlangen ein Verständnis für Grundprozesse kapitalistischer Transformation und ihre Konsequenzen für moderne Gesellschaften; • werden mit unterschiedlichen theoretischen Ansätzen vertraut, die für das Studium dieser Problematik relevant sind, und lernen die Grenzen dieser Theorien bei der Untersuchung spezifischer regionaler Kontexte kennen; • gewinnen Einsichten in laufende Debatten in verschiedenen wissenschaftlichen Disziplinen über den Zusammenhang von Kapitalismus und sozialer Transformation im modernen Indien; • sind in der Lage, konkrete gesellschaftliche Phänomene auf dem Hintergrund der theoretischen Debatten und der relevanten Forschungsliteratur zum modernen Indien zu analysieren.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	1 WLH

Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 10 Seiten)	6 C

Examination requirements: • theoretische Ansätze, die für das Verständnis von Grundprozessen kapitalistischer Transformation und ihre Konsequenzen für moderne Gesellschaften relevant sind, kritisch und, wo erforderlich, selektiv auf den Kontext des modernen Indiens anzuwenden; • die Besonderheiten kapitalistischer Transformation im Kontext indischer Gesellschaft herauszuarbeiten; • die Relevanz dieser Transformationsprozesse anhand einer konkreten Fallstudie zu überprüfen.	

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.023: Methodological approaches to topics in Modern Indian Studies III**	9 C 4 WLH

Learning outcome, core skills: Students get familiarised with methods of Modern Indian Studies by working on selected topics; get a practical training in selected methods; learn how to reflect critically these methods; and acquire a methodologically reflective approach to selected topics.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Vorlesung oder Seminar oder Übung	2 WLH
Course: Seminar oder Übung oder Tutorium	2 WLH
Examination: Learning journal (max. 20 pages)	9 C

Examination requirements: Students are able to reflect critically and apply selected methods, work on selected topics in a methodologically reflective manner, and develop and present their own research questions.	

Admission requirements: keine	Recommended previous knowledge: keine
Language: German, English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.024: Research Methods in Modern Indian Studies I: Ethnography**	9 C 4 WLH

Learning outcome, core skills: The students are familiarized with the aspects of anthropological theory necessary to formulate and undertake an ethnographic research project, learn practical skills important to design and undertake ethnographic research, and acquire a self-reflecting perspective on their ethnographic research process.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Vorlesung oder Seminar oder Übung	2 WLH
Course: Seminar oder Übung oder Tutorium	2 WLH
Examination: Learning journal (max. 20 pages)	9 C

Examination requirements: Knowledge in theoretical, methodological and epistemological aspects of ethnographic fieldwork from an anthropological perspective and practical skills important to design, undertake and reflect ethnographic fieldwork acquired by completing a series of collaborative or individual exercises.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** PD Dr. Michael Dickhardt
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.026: Analysing Religions in South Asia II**	9 C 4 WLH

Learning outcome, core skills: • Analyse der Art und Weise wie Definitionen von Religion das Forschungsgebiet gestalten; • Vergleich von Methoden verschiedener Disziplinen, die bei der Erforschung von Religionen in Südasien zur Anwendung kommen; • Auseinandersetzung mit Politik im Hinblick auf Religionen in Indien; • Vergleich von empirischem Datenmaterial aus anderen Weltregionen und Auseinandersetzung mit transregionalen Prozessen religiöser Überlieferung.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Seminar *Course frequency:* each winter semester	2 WLH
Course: Tutorium *Course frequency:* each winter semester	2 WLH
Examination: Portfolio (max. 20 Seiten) oder Referat (15 Min.) mit schriftlicher Ausarbeitung (max. 15 Seiten)	9 C

Examination requirements: Die Fähigkeit • die Gestaltung des Forschungsgebiets der Religionswissenschaft zu erklären; • die Beziehung zwischen Politik und Religion in Indien zu analysieren; • Indien mit anderen Weltregionen zu vergleichen und transregionale Entwicklungen kritisch zu untersuchen und darzustellen; • die Rolle der verschiedenen Disziplinen der Sozial- und der Geisteswissenschaften beim Studium der Religion zu verstehen.	

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.027: Media and the Public Sphere in Modern India II**	9 C 4 WLH

Learning outcome, core skills: Dieses Modul vermittelt Kenntnisse über moderne Medienlandschaften und Öffentlichkeit mit einem Bezug auf Indien. Die Studierenden: • haben ein Verständnis für die Besonderheiten von Medienpraktiken und Öffentlichkeit in modernen Gesellschaften; • kennen theoretische Ansätze, die für das Studium von Medien und Öffentlichkeit besonders relevant sind, und können diese auf verschiedene regionale und gesellschaftliche Kontexte übertragen; • haben einen Einblick in zentrale aktuelle medienbezogene Fragestellungen aus verschiedenen wissenschaftlichen Disziplinen in Bezug auf das moderne Indien; • haben ein Verständnis entwickelt für die soziale Relevanz von Medien und Öffentlichkeit im modernen Indien.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Seminar	2 WLH
Course: Übung	2 WLH

Examination: Portfolio (max. 20 Seiten) oder Referat (15 Min.) mit schriftlicher Ausarbeitung (max. 15 Seiten)	9 C

Examination requirements: • Die spezifisch medienbezogenen Perspektiven bei der Analyse der Gesellschaft, Kultur, und Politik des modernen Indiens zu erläutern; • theoretische Ansätze, die für das Verständnis von Medien und Öffentlichkeit besonders relevant sind, zu reflektieren und diese auf verschiedene regionale und gesellschaftliche Kontexte zu übertragen; • die soziale und politische Relevanz von Medien und Öffentlichkeit im modernen Indien zu analysieren.	

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Patrick Eisenlohr
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.028: Capitalism and Social Transformation in Modern India II**	9 C 4 WLH

Learning outcome, core skills: Dieses Modul vermittelt Kenntnisse über die Integration der modernen indischen Gesellschaft in die kapitalistische Weltwirtschaft, die damit einhergehenden Kommodifizierungsprozesse, sozialstrukturellen Transformationen und gesellschaftlichen Konfliktkonstellationen. Die Studierenden • erlangen ein Verständnis für Grundprozesse kapitalistischer Transformation und ihre Konsequenzen für moderne Gesellschaften; • werden mit unterschiedlichen theoretischen Ansätzen vertraut, die für das Studium dieser Problematik relevant sind, und lernen die Grenzen dieser Theorien bei der Untersuchung spezifischer regionaler Kontexte kennen; • gewinnen Einsichten in laufende Debatten in verschiedenen wissenschaftlichen Disziplinen über den Zusammenhang von Kapitalismus und sozialer Transformation im modernen Indien; • sind in der Lage, konkrete gesellschaftliche Phänomene auf dem Hintergrund der theoretischen Debatten und der relevanten Forschungsliteratur zum modernen Indien zu analysieren.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 15 Seiten)	9 C

Examination requirements: • theoretische Ansätze, die für das Verständnis von Grundprozessen kapitalistischer Transformation und ihre Konsequenzen für moderne Gesellschaften relevant sind, kritisch und, wo erforderlich, selektiv auf den Kontext des modernen Indiens anzuwenden; • die Besonderheiten kapitalistischer Transformation im Kontext indischer Gesellschaft herauszuarbeiten; • die Relevanz dieser Transformationsprozesse anhand einer konkreten Fallstudie zu überprüfen.	

Admission requirements: Keine	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.029: Development Economics of India**	6 C 4 WLH

Learning outcome, core skills: Students are able to analyse selected issues in development economics related to India based on research literature, case studies, and more, and know how to contextualize these issues by applying theoretical and methodological approaches. Students are familiar with crucial research debates (and can analyse them critically and relate them to Indian contexts) and are able to present their knowledge and well-founded arguments orally and in writing.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar oder Vorlesung	2 WLH
Course: Tutorium oder Übung	2 WLH
Examination: Portfolio (max. 15 Seiten) oder Klausur (90 Minuten)	6 C

Examination requirements: Students have to be able to: analyse selected issues in development economics related to India and to contextualise them; apply theoretical and methodological approaches; critically analyse crucial research debates and relate them to Indian contexts; and independently develop and communicate well-founded ideas.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.030: Development Economics of India Seminar**	6 C 2 WLH

Learning outcome, core skills: Students are able to analyse selected issues in development economics related to India based on research literature, case studies, and more, and know how to contextualize these issues by applying theoretical and methodological approaches. Students are familiar with crucial research debates (and can analyse them critically and relate them to Indian contexts) and demonstrate high levels of methodological reflection when presenting their knowledge (both orally and in writing).	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar	2 WLH
Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 10 Seiten)	6 C

Examination requirements: Students have to be able to: analyse selected issues in development economics related to India and to contextualise them; apply theoretical and methodological approaches; critically analyse crucial research debates and relate them to Indian contexts; and independently develop and communicate ideas demonstrating high levels of methodological reflection.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen	6 C
Module M.MIS.031: Introductory Economics for Modern Indian Studies	2 WLH

Learning outcome, core skills:	Workload:
Vermittelt werde wirtschaftswissenschaftliche Grundlagen für die Modernen Indienstudien in den Bereichen Mikroökonomie, Makroökonomie und Ökonometrie. Studierende vertiefen ihre Kenntnisse in grundlegenden ökonomische Perspektiven und statistischen Methoden.	Attendance time: 28 h Self-study time: 152 h

Course: Vorlesung oder Seminar oder Übung	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements:	
Die Studierenden beherrschen grundlegende Perspektiven und Methoden aus den Bereichen der Mikroökonomie, Makroökonomie und Ökonometrie.	

Admission requirements: keine	Recommended previous knowledge: keine
Language: German, English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.MIS.032: Studies in the Anthropology of Power I: Group-wise Hierarchies**	6 C 4 WLH

Learning outcome, core skills: Students acquire a systematic overview of the institutional bases and typical cultural features of inherited group-wise hierarchies. We focus in particular on caste in the Indian context, but comparative examples consider ethno-racial status hierarchies elsewhere in the world. We consider the role of these hierarchies in organizing and stabilizing exploitative economic arrangements. Special attention is devoted to endogamous kinship systems, understood as social structures based ultimately on group-wise hoarding of wealth and social prerogatives, and requiring high degrees of intergenerational sexual control.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Course: Übung	2 WLH

Examination requirements: Students understand the basic principles of socio-cultural and socio-economic differentiation and hierarchisation in Indian society and can relate them to social, cultural, economic and historical contexts; can reflect critically on the underlying theorical concepts and their role in both the societal praxis and the anthropological understanding of power.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Nathaniel Roberts
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.033: Studies in the Anthropology of Power II: the Social Organisation of Production and Reproduction**	6 C 4 WLH

Learning outcome, core skills: This module familiarizes students with the social organization of production, reproduction, and exchange. It draws on studies in the anthropology of inequality and economic anthropology, and uses examples from India and a broad range of social formations, from hunter-gatherer to modern market economies. We cover gendered divisions of labor and the distinctions among wage labor, feudal service, debt bondage, slavery, and domestic production. We also consider different models of exchange, such as generalized reciprocity, redistribution, and negative reciprocity.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Course: Übung	2 WLH

Examination requirements: Students understand the basic principles of the social organisation of production and reproduction and can relate them to social, cultural, economic and historical contexts in a range of social formations; and can analyse concrete examples of the relationship between the social organisation of production and reproduction, structures of inequality and economic processes.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Nathaniel Roberts
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.034: Theories and Methods in Social-Cultural Anthropology I: Ethnography**	6 C 4 WLH

Learning outcome, core skills: This module introduces students to the empirical backbone of social and cultural anthropology: the practice of ethnographic fieldwork. What unique reality does fieldwork claim to discover, and on the basis of what evidence? How does ethnographic fieldwork differ from mere "qualitative research"? What are the ethical obligations of the researcher to his or her subjects? And, most importantly, how does one prepare for ethnographic research and what methods does one use? Students who successfully complete this module will receive the basic training needed to begin ethnographic research. They will also acquire some of the tools needed to critically evaluate the use of ethnographic evidence in published research.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Course: Übung	2 WLH

Examination requirements: Students gain knowledge of theoretical, methodological and epistemological aspects of ethnographic fieldwork from an anthropological perspective and practical skills important to design, undertake and reflect ethnographic fieldwork. These skills will be acquired by completing a series of collaborative or individual exercises.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Nathaniel Roberts
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.035: Theories and Methods in Social-Cultural Anthropology II: Anthropology as Social Science**	6 C 4 WLH

Learning outcome, core skills:	Workload:
This module introduces students to the major theoretical frameworks of social science, with special reference to social and cultural anthropology. What does it mean to scientifically study society? How does social science differ from natural science? What unique reality does social science claim to discover, and on the basis of what evidence? Major themes include the distinction between methodological individualism and holism, the structure–agency problem, functionalism, explanation versus interpretation, and theories of causation.	Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Course: Übung	2 WLH

Examination requirements:	
Expected outcomes include knowledge of the major theoretical, methodological and epistemological themes of anthropology as a social science as well as an understanding of the underlying epistemological framework and implicit social ontologies of arguments in the social sciences.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Dr. Nathaniel Roberts
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.036: Theory and Methods in Modern Indian Studies I: History and Society (Concepts)**	6 C 4 WLH

Learning outcome, core skills: The students acquire the abilities to analyze and outline a set of interrelated and theories of history and society and to assess critically their relevance and heuristic potential for the development of specific qualitative research projects in history and social sciences. They learn to distinguish the argumentative architecture of complex theoretical texts and extract key arguments. They also acquire the ability to examine the internal coherence and logical consistency of the argumentative architecture and the key arguments of these texts.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: term paper (task: conspectus of readings (max. 15 pp.)	6 C

Course: Übung	2 WLH

Examination requirements: The students are familiar with the central theoretical debates in a particular field of qualitative historical and social science research. They have acquired the ability to organize and present the argumentative architecture and key arguments of a complex theoretical text in the form of a conspectus that facilitates future use and application to their own specific research interests.	

Admission requirements: M.MIS.100 and M.MIS.200	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.037: Theory and Methods in Modern Indian Studies I: History and Society: Case Studies**	6 C 4 WLH

Learning outcome, core skills: The students acquire the abilities to analyze and outline a set of interrelated and theories of history and society and to assess critically their relevance and heuristic potential for the development of specific qualitative research projects in history and social sciences. They learn to distinguish the argumentative architecture of complex theoretical texts and extract key arguments. They also acquire the ability to critically and creatively apply the argumentative architecture and the key arguments of relevant theories to specific problems of South Asian history and society.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: term paper (task: thematic case study (max. 15 pp.))	6 C

Course: Übung	2 WLH

Examination requirements: The students are familiar with the central theoretical debates in a particular field of qualitative historical and social science research. They have acquired the ability to use concepts that have been developed in these debates critically for the analysis of a specific research problem of South Asian history and society in the form of a case study.	

Admission requirements: M.MIS.100 and M.MIS.200	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.038: Topics in Modern Indian Studies: Related Fields I**	9 C 4 WLH

Learning outcome, core skills: The students acquire knowledge of specific aspects and questions of a research field in social sciences and/or the humanities related to Modern Indian Studies. They train their interdisciplinary perspectives and are able to apply these critically to the academic literature by discussing subject-specific topics and defending their arguments independently.	**Workload:** Attendance time: 56 h Self-study time: 214 h

Course: Lecture or Seminar or Exercise	2 WLH
Course: Seminar or Exercise or Self Study or Directed Reading Course	2 WLH

Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 15 S.) oder Hausarbeit (max. 20 S.) oder Klausur (90 Min.) oder Portfolio (max. 20 Seiten)	9 C

Examination requirements: The students know the relevant academic literature of selected topics related to Modern Indian Studies in a research field in social sciences and/or the humanities; are able to apply these to different questions across different disciplines; are able to develop, present, and defend their own theses.	

Admission requirements: none	Recommended previous knowledge: none
Language: German, English	**Person responsible for module:** PD Dr. Michael Dickhardt
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.039: Topics in Modern Indian Studies: Related Fields II**	6 C 2 WLH

Learning outcome, core skills: The students acquire knowledge of specific aspects and questions of a research field in social sciences and/or the humanities related to Modern Indian Studies. They train their interdisciplinary perspectives and are able to apply these critically to the academic literature by discussing subject-specific topics and defending their arguments independently.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Lecture or Seminar or Exercise	2 WLH
Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 15 S.) oder Hausarbeit (max. 20 S.) oder Klausur (90 Min.) oder Portfolio (max. 20 Seiten)	6 C

Examination requirements: The students know the relevant academic literature of selected topics related to Modern Indian Studies in a research field in social sciences and/or the humanities; are able to apply these to different questions across different disciplines; are able to develop, present, and defend their own theses.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** PD Dr. Michael Dickhardt
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.040: Topics in Modern Indian Studies: Culture, Society, State and History**	6 C 4 WLH

Learning outcome, core skills: Students gain in-depth knowledge of specific aspects and questions of modern Indian studies related to culture, society, state and history from an interdisciplinary perspective, and are able to apply these critically to the academic literature as well as examine them on the basis of primary sources in the methodological framework of different disciplines. They are familiar with the current state of research on the subject presented to them, and are able to discuss subject-specific topics and defend their arguments independently.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 10 Seiten)	6 C

Course: Übung	2 WLH

Examination requirements: The students know the relevant academic literature of select topics of Modern Indian Studies related to culture, society, state and history and are able to apply these to different aspects and problems of different disciplines. They are able to develop their own theses and can present and defend them. They have in-depth knowledge of methods of modern Indian Studies.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** PD Dr. Michael Dickhardt
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen	9 C
Module M.MIS.100: Interdisciplinary Studies of Modern India I	3 WLH

Learning outcome, core skills:	**Workload:**
This module constitutes the first part of a year-long interdisciplinary foundation course. Students: • acquire an understanding of the central academic debates taking place in the disciplines involved, and they learn to critically assess and independently analyse them; • are enabled to independently analyse questions regarding core problems of Indian Studies from the perspectives of the various disciplines involved; • are familiarised with the methods and resources used in Indian Studies and enabled to use them independently.	Attendance time: 42 h Self-study time: 228 h

Course: Seminar (Seminar)	1 WLH
Course: Seminar (Seminar)	1 WLH
Course: Seminar (Seminar)	1 WLH
Examination: Learning journal (max. 20 pages) **Examination prerequisites:** Regular attendance	9 C

Examination requirements:	
The students are able to: • critically assess and independently analyse central academic debates taking place in the disciplines involved; • independently analyse core problems of Indian Studies from the perspectives of the various disciplines involved; • employ the resources used in Indian Studies independently.	

Admission requirements: None	**Recommended previous knowledge:** None
Language: English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.MIS.200: Interdisciplinary Studies of Modern India II**	9 C 3 WLH

Learning outcome, core skills: This module constitutes the second part of a year-long interdisciplinary foundation course. Students: • acquire in-depth knowledge of the academic debates taking place in the various disciplines of India-related research, and they learn to critically assess and independently analyse them; • are enabled to independently analyse questions regarding problems of Indian Studies from the perspectives of the various disciplines involved; • are familiarised with the methods and resources used in Indian Studies and enabled to use them independently.	**Workload:** Attendance time: 42 h Self-study time: 228 h

Course: Seminar (Seminar)	1 WLH
Course: Seminar (Seminar)	1 WLH
Course: Seminar (Seminar)	1 WLH
Examination: Learning journal (max. 20 pages) **Examination prerequisites:** Regular attendance	9 C

Examination requirements: The students are able to: • critically and independently analyse their newly acquired in-depth knowledge regarding the academic debates taking place in the related disciplines; • independently analyse problems of Indian Studies from the perspectives of the various disciplines involved; • employ the resources used in Indian Studies independently.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.MIS.211: Diversity and Inequality: Comparative Approaches: Case Studies**	6 C 4 WLH

Learning outcome, core skills: Students analyse social and economic differences in India from a comparative perspective, analyse the foundations and history of globally influential theories of social and economic differences, analyse one research topic and relevant case studies using a selected comparative approach and place this approach in the global political context.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Masterseminar oder Vorlesung	2 WLH
Course: Übung	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Examination requirements: Students demonstrate the ability to: • relate social and economic differences in India to similar phenomena in other parts of the world using comparative perspectives, • explicate the impact of globally influential theories of social and economic differences on developments in South Asia, • explain positive and negative effects of a change in conceptions and approaches of economic policies on specific policies and political systems, • analyse a research topic and relevant case studies using a selected comparative approach and place this approach in the global political context, • and develop and present comparative research questions.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Rupa Viswanath-Roberts
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.212: Diversity and Inequality: Comparative Approaches**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Students analyse social and economic differences in India from a comparative perspective, analyse the foundations and history of globally influential theories of social and economic differences, work with various empirical data to identify the explanatory potential and drawbacks of different comparative methods, place comparative approaches in the global political context, and analyse the development of comparative research approaches.	Attendance time: 56 h Self-study time: 124 h

Course: Masterseminar oder Vorlesung	2 WLH
Course: Übung	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Examination requirements:	
Students demonstrate the ability to: • relate social and economic differences in India to similar phenomena in other parts of the world using comparative perspectives, • explicate the impact of globally influential theories of social and economic differences on developments in South Asia, • identify the most suitable comparative methods for a given set of data, • explain positive and negative effects of a change in conceptions and approaches of economic policies on specific policies and political systems, • understand the political context of comparative approaches, • and develop and present comparative research questions.	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Rupa Viswanath-Roberts
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
25	

Georg-August-Universität Göttingen **Module M.MIS.215: Metamorphoses of the Political II**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Students gain in-depth knowledge of the political changes in colonial and post-colonial India as well as interdisciplinary debates on Indian politics, know comparative and theoretical debates on politics, can present theoretical and empirical studies on Indian politics from the perspective of different disciplines and methodological approaches, and learn how to conceptualise a research project on Indian politics.	Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Learning journal (max. 10 pages)	6 C

Examination requirements:	
Students have an in-depth knowledge of primary sources and secondary literature on Indian politics and know how to analyse them. They are expected to apply theoretical arguments and to relate them to the current state of research, be able to work with literature and methods from different disciplines, and to write critical reviews and summaries of the course readings and related literature expanding the scope of the course.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.216: Metamorphoses of the Political II: Case Studies**	6 C 4 WLH

Learning outcome, core skills: Students have an in-depth knowledge of primary sources and secondary literature on Indian politics and know how to analyse them. They are expected to apply theoretical arguments and relate them to individual case studies, be able to work with literature and methods from different disciplines, and to write critical reviews and summaries of the course readings and related literature expanding the scope of the course.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Term Paper (max. 10 pages)	6 C

Examination requirements: Students have an in-depth knowledge of primary sources and secondary literature on Indian politics and know how to analyse them. They are expected to apply theoretical arguments and to relate them to the current state of research, be able to work with literature and methods from different disciplines, and to write critical reviews and summaries of the course readings and related literature expanding the scope of the course.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Srirupa Roy
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

| Georg-August-Universität Göttingen | 6 C |
| Module M.MIS.218: Media and the Public Sphere in Modern India | 4 WLH |

Learning outcome, core skills:	Workload:
In this module students learn about the modern media and the public sphere related to India. The students have an understanding of the particularities of media and the public sphere in modern societies; are familiar with theoretical approaches relevant to the research on media and the public sphere and are able to apply these approaches to various regional and societal contexts; have knowledge about crucial current issues related to media in modern India and how these are dealt with in different scientific disciplines; have an understanding of the social relevance of media and the public sphere in modern India.	Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Portfolio (15 p. max.) or essay (15. p. max.)	6 C

Examination requirements:	
The students are able to explain perspectives related to the media used to analyse society, culture and politics in modern India; know how to reflect on theoretical approaches relevant to an understanding of media and the public sphere and how to apply such theoretical approaches to various regional and societal contexts; analyse the social relevance of media and the public sphere in modern India.	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	Person responsible for module:
English	Prof. Patrick Eisenlohr
Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	Recommended semester:
twice	
Maximum number of students:	
25	

Georg-August-Universität Göttingen **Module M.MIS.219: Media and the Public Sphere in Modern India: Case Studies**	6 C 4 WLH

Learning outcome, core skills: In this module students learn about the modern media and the public sphere related to India. The students have an understanding of the particularities of media and the public sphere in modern societies; are familiar with theoretical approaches relevant to the research on media and the public sphere and are able to apply these approaches to various regional and societal contexts; have knowledge about crucial current issues related to media in modern India and how these are dealt with in different scientific disciplines; have an understanding of the social relevance of media and the public sphere in modern India.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Seminar	2 WLH
Course: Übung	2 WLH
Examination: Portfolio (15 p. max.) or essay (15. p. max.)	6 C

Examination requirements: The students are able to explain perspectives related to the media used to analyse society, culture and politics in modern India; know how to reflect on theoretical approaches relevant to an understanding of media and the public sphere and how to apply such theoretical approaches to various regional and societal contexts; analyse the social relevance of media and the public sphere in modern India.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Patrick Eisenlohr
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.220: Capitalism and Social Transformation in Modern India**	6 C 3 WLH

Learning outcome, core skills: Students get familiarised with the integration of the modern Indian society in the capitalistic world economy and the related processes of commodification, socio-structural transformation and constellations of societal conflicts. Students learn to understand basic processes of capitalistic transformation and their consequences for modern societies; get familiarised with various relevant theoretical approaches and learn the limitations of these theories for analyzing specific regional contexts; gain insight in current debates in different disciplines on the relationship of capitalism and social transformation in modern India; know how to analyse concrete societal phenomena against the background of theoretical debates and relevant research literature on modern India.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	1 WLH

Examination: Referat (ca. 15 Min.) mit schriftlicher Ausarbeitung (max. 10 Seiten)	6 C

Examination requirements: Students have to be able to: • reflect critically and apply selectively theoretical approaches relevant to understand basic processes of capitalistic transformation and their consequences for modern Indian societies; • present in detail the specific characteristics of capitalist transformation in the context of Indian society; • and examine the relevance of these transformation processes for concrete social phenomena in modern India.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.MIS.221: Capitalism and Social Transformation in Modern India: Case Studies**	6 C 3 WLH

Learning outcome, core skills: Students get familiarised with the integration of the modern Indian society in the capitalistic world economy and the related processes of commodification, socio-structural transformation and constellations of societal conflicts. Students learn to understand basic processes of capitalistic transformation and their consequences for modern societies; get familiarised with various relevant theoretical approaches and learn the limitations of these theories for analyzing specific regional contexts; gain insight in current debates in different disciplines on the relationship of capitalism and social transformation in modern India; know how to analyse specific case studies by working with a particular theoretical approach.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Seminar	2 WLH
Course: Übung	1 WLH
Examination: Term Paper (max. 15 pages)	6 C

Examination requirements: Students have to be able to: reflect critically and apply selectively theoretical approaches relevant to understand basic processes of capitalistic transformation and their consequences for modern Indian societies; present in detail the specific characteristics of capitalist transformation in the context of Indian society; and examine the relevance of these transformation processes for a specific case study.	

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Ravi Ahuja
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen Module M.Mat.3110: Higher analysis	9 C 6 WLH
Learning outcome, core skills: **Learning outcome:** Weighted differently depending on the current course offer, after having successfully passed the module, students are familiar with basic principles of functional analysis respectively the description of linear elliptical differential equations in functional analysis. They • are familiar with the most known examples of function and sequence spaces like spaces of continuous functions, Lp, lp and Sobolev spaces on bounded and unbounded areas; • identify compactness of operators and analyse the solvability of general linear operator equations, especially of boundary value problems for linear elliptical differential equations with variable coefficients with the aid of the Riesz Fredholm theory; • analyse the regularity of solutions of elliptical boundary value problems inside the domain in question and on its boundary; • use basic theorems of linear operators in Banach spaces, especially the Banach-Steinhaus theorem, the Hahn-Banach theorem and the open mapping theorem; • discuss weak convergence concepts and basic characteristics of dual and double-dual spaces; • are familiar with basic concepts of spectral theory and the spectral theorem for bounded, self-adjoint operators. **Core skills:** After having successfully completed the module, students will be able to • formulate and analyse differential equations and other problems in the language of functional analysis; • identify and describe the relevance of characteristics of functional analysis like choice of a suitable function space, completeness, boundedness or compactness; • evaluate the influence of boundary conditions and function spaces for existence, uniqueness and stability of solutions of differential equations.	**Workload:** Attendance time: 84 h Self-study time: 186 h

Course: Functional analysis / Partial differential equations (Lecture)	4 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** M.Mat.3110.Ue: Achievement of at least 50% of the exercise points and presentation, twice, of solutions in the exercise sessions	9 C

Course: Functional analysis / Partial differential equations - exercise session (Exercise)	2 WLH
Examination requirements:	

Proof of the advanced knowledge about functional analysis or partial differential equations	

Admission requirements:	Recommended previous knowledge:
none	B.Mat.0021, B.Mat.0022, B.Mat.1100
Language:	**Person responsible for module:**
English	Dean of studies
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	Bachelor: 4 - 6; Master: 1 - 4
Maximum number of students:	
not limited	

Additional notes and regulations:
- **Instructor:** Lecturers at the Mathematical Institute or at the Institute of Numerical and Applied Mathematics
- **Written examination:** This module can be completed by taking a lecture course counting towards the modules B.Mat.2100 or B.Mat.2110. Compared to the exams of the modules B.Mat.2100 respectively B.Mat.2110, exams of the module "Higher analysis" have a higher level of difficulty and test advanced knowledge.
- **Exclusions:** The module "Higher analysis" cannot be completed by taking a lecture course that has already been accounted in the Bachelor's studies.

Georg-August-Universität Göttingen **Module M.Mat.3130: Operations research**	9 C 6 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome:	Attendance time:
The successful completion of the module enables students to learn methods, concepts, theories and applications in the area of the theory of operations research. Depending on the current course offer the following content-related competencies may be pursued. Students	84 h Self-study time: 186 h
• are able to identify problems of operations research in application-oriented problems and formulate them as optimisation problems;	
• know methods for the modelling of application-oriented problems and are able to apply them;	
• evaluate the target function included in a model and the side conditions on the basis of their particular important characteristics;	
• analyse the complexity of the particular resulting optimisation problem;	
• are able to develop optimisation methods for the solution of a problem of operation research or adapt general methods to special problems;	
• know methods with which the quality of optimal solutions can be estimated to the upper and lower and apply them to the problem in question;	
• differentiate between accurate solution methods, approximation methods with quality guarantee and heuristics and evaluate different methods on the basis of the quality of the found solutions and their computing time;	
• interpret the found solutions for the underlying practical problem and evaluate the model and solution method on this basis.	
Core skills:	
After having successfully completed the module, students will be able to	
• discuss basic concepts of the area "Operations research";	
• explain basic ideas of proof in the area "Operations research";	
• identify typical applications in the area "Operations research".	

Course: Lecture course (Lecture)	4 WLH

Examination: Oral examinationappr. 20 minutes, alternatively written examination, 120 minutes **Examination prerequisites:** M.Mat.3130.Ue: Achievement of at least 50% of the exercise points and presentation, twice, of solutions in the exercise sessions	9 C

Course: Exercise session (Exercise)	2 WLH

Examination requirements: Successful proof of the acquired skills and competencies in the area "Operations research"	

Admission requirements:	**Recommended previous knowledge:**

none	B.Mat.2310
Language: English	**Person responsible for module:** Dean of studies
Course frequency: not specified	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 1 - 3
Maximum number of students: not limited	

Additional notes and regulations: **Instructor:** Lecturers at the Institute of Numerical and Applied Mathematics

Georg-August-Universität Göttingen	9 C
Module M.Mat.3140: Mathematical statistics	6 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome:	Attendance time:
After having successfully completed the module "Mathematical statistics", students are familiar with the basic concepts and methods of mathematical statistics. They	84 h Self-study time: 186 h
• understand most important methods of mathematical statistics like estimates, testing, confidence propositions and classification and are able to use them in simple models of mathematical statistics;	
• evaluate statistical methods mathematically precisely, amongst others via suitable risk and loss concepts;	
• analyse optimality characteristics of statistical estimate methods via lower and upper bounds;	
• are familiar with basic statistical distribution models;	
• are familiar with references of mathematical statistics to other mathematical areas.	
Core skills:	
After having successfully completed the module, students have acquired basic competencies in mathematical statistics. They will be able to	
• apply statistical ways of thinking as well as basic mathematical methods of statistics;	
• formulate statistical models mathematical precisely;	
• analyse practical statistical problems mathematically precisely with the learned methods.	

Course: Lecture course (Lecture)	4 WLH

Examination: Written examination120 minutes, alternatively, oral examination, appr. 20 minutes **Examination prerequisites:** M.Mat.3140.Ue: Achievement of at least 50% of the exercise points and presentation, twice, of solutions in the exercise sessions	9 C

Course: Exercise session (Exercise)	2 WLH

Examination requirements: Successful proof of the acquired skills and competencies in the area "Mathematical statistics"	

Admission requirements: none	**Recommended previous knowledge:** B.Mat.1400
Language: English	**Person responsible for module:** Dean of studies
Course frequency:	**Duration:**

not specified	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 1 - 3
Maximum number of students: not limited	

Additional notes and regulations: **Instructor:** Lecturers at the Institute of Mathematical Stochastics

| Georg-August-Universität Göttingen | 6 C |
| Module M.MtL.1001: Introduction to Biophysics | 6 WLH |

Learning outcome, core skills:	**Workload:**
After attending this course, students will have basic knowledge of • the construction of cells and the function of the components • transport phenomena on small length scales, derivation and solution of the diffusion equation • laminar hydrodynamics and its application in biological systems (flow, swimming, motility) • reaction kinetics and cooperativity, including enzymes • non-covalent interaction forces • self-assembly • biological (lipid) membrane contruction and dynamics • biopolymer physics and cytoskeletal filaments, including filament and cell mechanics • neurobiophysics • experimental methods, including state-of-the-art microscopy Learning outcomes: After completing this course students will understand the fundamental principles necessary to study the physics of biological systems. They will have a good grounding in both theoretical and experimental methods and their applications.	Attendance time: 84 h Self-study time: 96 h

Admission requirements:	**Recommended previous knowledge:**
none	none
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.MtL.1002: Introduction to Physics of Complex Systems**	6 C 6 WLH

Learning outcome, core skills: This course is an introduction to the tools and techniques used to analyse dynamical systems. The fundamental theories are applied to real-world examples e.g. models relevant to climate change, ecology and epidemics. Learning outcomes: On completion of this module students will have a sound knowledge of essential methods and concepts from Nonlinear Dynamics and Complex Systems Theory, including practical skills for analysis and simulation (using, for example, the programming language python) of dynamical systems.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Introduction to Physics of Complex Systems (Lecture)	4 WLH

Examination: written examination (120 Min.) or oral examination (approx. 30 Min.) **Examination prerequisites:** At least 50% of the homework exercises have to be solved successfully. **Examination requirements:** Knowledge of fundamental principles and methods of nonlinear physics, modern experimental techniques and theoretical models of complex systems theory.	6 C

Course: Introduction to Physics of Complex Systems (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Basic programming skills (for the exercises)
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 1
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.MtL.1005: Advanced Complex Systems and Biological Physics**	10 C 4 WLH

Learning outcome, core skills:	**Workload:**
Learning outcomes Students will extend their knowledge in the physics of complex systems and biophysics through the study of selected advanced topics. The emphasis is on connecting textbook-level knowledge with current research though a combination of introductory presentations by the lecturer(s), student presentations, self-study and scientific group discussions. Students will learn and practise applying the concepts from the introductory lectures on biophysics and physics of complex systems to specific problems in the physics of living systems and to critically assess current scientific literature. Core skills: Critical evaluation of the scientific literature, scientific discussion and debate, presentation and communication skills, application of previous knowledge in unfamiliar contexts.	Attendance time: 56 h Self-study time: 244 h

Course: Advanced Complex Systems and Biological Physics (Lecture, Seminar)	4 WLH
Examination: Oral examination (approx. 45 minutes) **Examination prerequisites:** Presentation (approx. 20 min.) **Examination requirements:** In the final oral examination, the students demonstrate their broad knowledge of biophysics and the physics of complex systems. They should show that they recognize the interrelationships between these areas and that they can place specific scientific questions within the context of these relationships.	10 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics, Introduction to Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.MtL.1006: Modern Experimental Methods**	6 C 6 WLH

Learning outcome, core skills: Knowledge about advanced applied optics, radiation-matter interaction, spectroscopy, microscopy and imaging techniques in biophysics After taking this course, students will have quantitative insight into modern experimental techniques for biophysics, in particular optical techniques from basic to advances microscopy including confocal, light sheet and nanoscopy, optical spectroscopy including time-resolved techniques (transient absorption), single molecule techniques (e.g. FCS), electron microscopy, neutron and x-ray diffraction (including protein crystallography), NMR spectroscopy, and X-ray imaging. Students have the competence to reduce the complexity to underlying physics of radiation-matter interaction, to use Fourier-based methods in signal theory, concepts of wave and quantum optics, as well as quantitative data analysis. Hand-on examples of experimental applications and data recording will be introduced by short teaching units in the laboratory along with the courses, and a deeper unit of a 3 days practical in one of the technquies.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Modern Experimental Methods (Lecture, Exercise)	6 WLH
Examination: written examination (120 min.) or oral exam (approx. 30 min.) or presentation (approx. 30 min., 2 weeks preparation time) **Examination requirements:** Theoretical and practical knowledge of modern methods of experimental methods of biophysics.	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics
Language: English	**Person responsible for module:** Prof. Dr. Tim Salditt
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 2
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.MtL.1007: Biochemistry and Biophysics**	6 C 7 WLH

Learning outcome, core skills: Molecular Biochemistry and Biophysics of different classes of biomolecules, modern biophysical methods for analysis of biomolecules. Work with state of the art equipment, critical review of current topics in biochemistry, detailed analysis of experiments and corresponding presentation, independent acquisition of expert knowhow from publications.	**Workload:** Attendance time: 98 h Self-study time: 82 h

Course: Biochemistry and Biophysics (Lecture) *Contents*: Spectroscopy of biomolecules (fluorescence, FT-IR, CD, UV/Vis), modern microscopic methods (optical microscopy, scanning probe microscopy), functional analysis of different classes of biomolecules.	1,5 WLH
Course: Biochemistry and Biophysics (Tutorial)	0,5 WLH
Course: Methods course: Biochemistry and Biophysics (Internship)	5 WLH
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** regular participation in the lab course and report for the lab course (max. 20 pages) **Examination requirements:** Basics in modern analysis methods used for biomolecules	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Claudia Steinem
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.MtL.1010: Synthetic Chemistry**	6 C 4 WLH

Learning outcome, core skills: The module is an introduction to synthetic chemistry. The aim is to introduce students to the fundamental concepts required to understand the chemistry necessary for futher study in matter to life and confidently engage with the research in Matter to Life which makes use of synthetic chemistry techniques. Learning Outcomes: Upon successful completion of the module, students will have a basic understanding of reaction mechanisms in classical synthetic chemistry. They are able to assess the possible reactivity of individual chemical groups and thus establish reaction mechanisms of chemical substances and have an idea of the experimental implementation of these reactions. They can understand reaction mechanisms and assess their relevance.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Synthetic Chemistry *Contents*: The course covers basic principles of stabilities, reactivities and reaction mechanisms involving organic and transition metal compounds, as well asbasic mechanistic understanding of important organic reactions and selected topics related to bio-organic and bio-inorganic systems. Distance Learning *Course frequency:* each winter semester	4 WLH

Examination: Written Exam (120 min) or Oral Exam (approx 30 min) **Examination requirements:** • basic understanding of reaction mechanisms in classical synthetic chemistry • able to assess the possible reactivity of individual chemical groups • understand reaction mechanisms and assess their relevance	6 C

Admission requirements: none	**Recommended previous knowledge:** MtL Chemistry Preparation Course
Language: English	**Person responsible for module:** Prof. Dr. Claudia Steinem
Course frequency: 1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.MtL.1011: Bioengineering/Synthetic Biology**	5 C 3 WLH

Learning outcome, core skills:	**Workload:**
Students will obtain an understanding of the concepts and methods of synthetic biology and bioengineering at the molecular to cellular level. They will learn approaches to design biological structures, devices, and systems and will further be introduced to key applications of synthetic biology. Upon successful completion of the module, students have 1. a detailed understanding of quantitative aspects of gene expression and gene regulatory processes; 2. an overview of the main research directions within synthetic biology and the major related technologies; 3. the ability to apply their knowledge to design simple gene circuits themselves; 4. a very good understanding of nonlinear dynamics and dynamic systems in synthetic biological systems and the ability to independently analyze dynamical systems; 5. a good understanding of the role of stochastic processes in synthetic biology and key analytical methods. The students are able to analyze and simulate stochastic processes in the computer model; 6. the ability to assess and evaluate current developments in synthetic biology	Attendance time: 42 h Self-study time: 108 h

Course: Synthetic biology (Lecture) Distance Learning	2 WLH

Course: Synthetic Biology (Exercise)	1 WLH

Examination: Written Examination (120 minutes) or Oral Examination (approx. 25 minutes) **Examination requirements:** biomacromolecules, biological nanostructures, molecular machines and devices, chemical reaction networks, synthetic gene circuits, design of dynamic functions and behaviors, cell-free synthetic biology and artificial cells	5 C

Admission requirements: none	**Recommended previous knowledge:** Some knowledge of Elementary Physical Chemistry, Biophysics and/or Biochemistry
Language: English	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz Prof. Dr. Friedrich Simmel (TU München)
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1
Maximum number of students:	

30	

Georg-August-Universität Göttingen	3 C
Module M.MtL.1103: Remote Laboratory Work	1 WLH

Learning outcome, core skills:	**Workload:**
An introduction to laboratory experiments performed remotely. Students will collaborate to operate a research microscope in person and remotely. They will collect data, analyse the resultant images and report their results.	Attendance time: 14 h Self-study time: 76 h
By the end of the module students will:	
Be familiar with the workings of a research microscope	
Understand and be compentent in using video particle tracking and image analysis	
Develop a data analysis pipeline	
Be able to collaborate in remote teams	

Course: Remote Laboratory Work (Practical course)	
Examination: Written Report (max. 10 pages) **Examination requirements:** A written report demonstrating the successful use of advanced experimental methods to analyse systems relevant to Matter to Life.	3 C

Admission requirements: None	**Recommended previous knowledge:** None
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1 - 2
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.MtL.1104: Lab Rotation I**	13 C

Learning outcome, core skills: By working under supervision of a PhD student on a current scientific research project, students will be familiarized with an advanced topic in the field of Biophysics/Physics of Complex Systems. They will learn to successfully perform a sub-task within a larger research project and finally present the results to a professional audience. Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Biophysics/Physics of Complex Systems, obeying the rules of good scientific practice.	**Workload:** Attendance time: 0 h Self-study time: 390 h

Course: Lab Rotation in Biophysics and Physics of Complex Systems	WLH
Examination: written report (max. 10 pages) **Examination requirements:** Methods for in-depth familiarization in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	13 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics, Introduction to Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.MtL.1105: Lab Rotation II**	13 C

Learning outcome, core skills: By working under supervision of a PhD student on another current scientific research project, students will be familiarized with another advanced topic in the field of Biophysics/Physics of Complex Systems. They will learn to successfully perform a sub-task within a larger research project and finally present the results to a professional audience. Students will be more able to organize, conduct, evaluate and present small, manageable projects in the field of Biophysics/Physics of Complex Systems, obeying the rules of good scientific practice.	**Workload:** Attendance time: 0 h Self-study time: 390 h

Course: Lab Rotation in Biophysics and Physics of Complex Systems II	WLH
Examination: written report (max. 10 pages) **Examination requirements:** Methods for in-depth familiarization in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	13 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Biophysics, Introduction to Physics of Complex Systems
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.MtL.1106: Matter to Life Internship**	6 C 6 WLH

Learning outcome, core skills: After successful completion of the module, students should be competant to work within a research group on a topic related to matter to life. The students should independently familiarise themselves with the group's research topic and be able to perform research under supervision and as part of a team. The results of this work should be presented as a talk or poster.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Matter to Life Internship (Internship)	6 WLH
Examination: Poster Presentation or Oral Presentation (30 minutes) **Examination prerequisites:** Internship **Examination requirements:** Familiarity with and ability to apply advanced techniques to address research questions related to matter to life.	6 C

Admission requirements: This module can be selected only on the recommendation of a lecturer.	**Recommended previous knowledge:** None
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.MtL.1201: Ethics in Synthetic Biology**	3 C 2 WLH

Learning outcome, core skills: Upon successful completion of the module, students will have a basic understanding of relevant ethical issues in Synthetic Biology. They will be able to explain and discuss ethical difficulties within the discipline as well as to interested laypersons and contribute to the social discourse on these topics.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Ethics in Synthetic Biology (Lecture) Distance Learning	2 WLH
Examination: Written examination (120 minutes) **Examination requirements:** biosafety; dual-use research; cultural concepts of natural and artificial, living and non-living; economic aspects of synthetic biology, patentability; mechanisms of participation and societal decision-making related to synthetic biology	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 1
Maximum number of students: 30	

Georg-August-Universität Göttingen	3 C
Module M.MtL.1202: Professional Skills in Science	2 WLH

Learning outcome, core skills:	Workload:
The students will be trained in scientific writing and oral presentation skills which will enable them to adequately structure and compose scientific texts, particularly for written and oral reports on experimental and theoretical findings in the field of their studies. They will be introduced to the principles of good scientific practice and measures required to secure ethical standards in science. In addition, the students will gain an understanding of laboratory safety principles and knowledge of measures and procedures to work safely in a research laboratory.. Other topics covered include intellectual property, commercialisation of ideas and critical evaluation of the scientific literature.	Attendance time: 28 h Self-study time: 62 h

Course: Professional skills in science (Key competence)	2 WLH
Examination: Oral presentation (approx. 30 min.), not graded **Examination requirements:** Demonstration of writing competence, oral presentation skills, lab safety rules and regulations in a scientific context in the English language at an advanced level.	3 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp Köster, Sarah, Prof. Dr.
Course frequency: once a year	**Duration:** 2 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1 - 2
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.MtL.1203: Results of the Research Projects**	3 C 2 WLH

Learning outcome, core skills: The specific skills practiced in the seminar include efficient and concise presentation of own scientific results in English, development of a differentiated scientific vocabulary, and the critical discussion of the scientific data in the broader context of their relevance for current research.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Results of the Research Projects (Key competence)	2 WLH
Examination: oral presentation (approx. 20 min.), not graded **Examination requirements:** Demonstration of adequate oral presentation skills including the critical discussion and evaluation of the data presented.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sarah Köster Prof. Dr. Stefan Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 3
Maximum number of students: 15	

| **Georg-August-Universität Göttingen** | 1 C |
| **Module M.MtL.1204: Preparation for Interdisciplinary Studies** | |

| **Learning outcome, core skills:** | **Workload:** |
| Obtain a basic undertanding of a field (Physics/Chemistry/Mathematics/Biology) necessary for further study in Matter to Life. This should be in a field which is distinct from a student's undergraduate studies. | Attendance time: 0 h Self-study time: 30 h |

| **Course: Preparation for Interdisciplinary Studies** () *Contents*: Self paced virtual course via the Matter to Life Virtual Campus | |
| **Examination: Written report (Schrilftlicher Bericht) demonstrating the knowledge accquired (Max 5 pages), not graded** **Examination requirements:** Good grounding in the topic studied. Able to understand fundamental concepts and apply them to Matter to Life | 1 C |

Admission requirements: None	**Recommended previous knowledge:** None
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** Master: 1
Maximum number of students: 10	

| **Additional notes and regulations:** Only for Matter to Life students |

Georg-August-Universität Göttingen **Module M.MtL.1406: Research seminar Matter to Life**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Research seminar Matter to Life (Seminar)	2 WLH
Examination: Oral Presentation (approx. 60 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	**Person responsible for module:** Prof. Dr. Stefan Klumpp
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: once	**Recommended semester:** 1 - 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.OAW.MS.001: State of the Art: History of Modern China**	9 C 2 WLH

Learning outcome, core skills: The module covers the current state of the art regarding modern Chinese history. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: State of the Art: History of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.002: State of the Art: Philosophy of Modern China**	9 C 2 WLH

Learning outcome, core skills: The module covers the current state of the art regarding modern Chinese philosophy. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Philosophy of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen	9 C
Module M.OAW.MS.004: State of the Art: Politics of Modern China	2 WLH

Learning outcome, core skills:	**Workload:**
The module covers the current state of the art regarding modern Chinese politics. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	Attendance time: 28 h Self-study time: 242 h

Course: Politics of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements:	
Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Carolin Kautz
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.005: State of the Art: Society of Modern China**	9 C 2 WLH

Learning outcome, core skills: The module covers the current state of the art regarding modern Chinese society. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Society of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.006: State of the Art: Law of Modern China**	9 C 2 WLH

Learning outcome, core skills: The module covers the current state of the art regarding modern Chinese law. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Law of Modern China (Seminar) *Course frequency:* winter or summer semester, on demand	2 WLH

Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Carolin Kautz
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.007: State of the Art: Economy of Modern China**	9 C 2 WLH

Learning outcome, core skills: The module covers the current state of the art regarding modern Chinese economy. The students are introduced to key questions of the discipline by reading recent research publications. They discuss and compare Western and Chinese state of the art, among others focusing on theoretical assumptions and their relevance to core questions of the discipline. They pay particular attention to the question whether and how scientific theories developed when studying Western phenomena can be transposed to Non-Western areas of research. Additionally, general theoretical texts relevant to the issue of the transposition of Western theories are given to the students in order to develop further questions and reflections on the concrete topics of the course. The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Economy of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific area of research, understand key questions and are aware of their methodological and theoretical implications and challenges. They critically analyze dominant theoretical assumptions and reflect in how far these are appropriate to the Chinese case or have to be adapted.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.008: Case Studies: History of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese history. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: History of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.009: Case Studies: Philosophy of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese philosophy. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Philosophy of Modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.010: Case Studies: Religion of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese religion. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Religion of modern China (Seminar) *Course frequency:* winter or summer semester, on demand	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.011: Case Studies: Politics of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese politics. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Politics of modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Carolin Kautz
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.012: Case Studies: Society of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese society. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Society of modern China (Seminar)	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.013: Case Studies: Law of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese law. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Law of modern China (Seminar) *Course frequency:* winter or summer semester, on demand	2 WLH
Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Carolin Kautz
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.014: Case Studies: Economy of Modern China**	9 C 2 WLH

Learning outcome, core skills: The students enlarge on one specific topic of modern Chinese economy. By thoroughly reading and discussing Western and Chinese secondary literature students develop a research question and, on the basis of this, a research project (the students select adequate methods and theories; critically transpose scientific theories developed when studying Western phenomena to Non-Western areas of research; identify relevant materials and sources and make them accessible in publications and archives; set up a realistic work plan). The students enlarge on one specific topic by a) preparing a presentation and b) writing a term paper.	**Workload:** Attendance time: 28 h Self-study time: 242 h

Course: Economy of modern China (Seminar)	2 WLH

Examination: Presentation (ca. 30. min.) and term paper (max. 10,000 words) **Examination prerequisites:** regular and active participation	9 C

Examination requirements: Students know the Chinese and Western state of the art on a specific and circumscribed topic of research and how to apply methodical and theoretical skills to an aspect of this topic and to use Chinese primary materials and sources in this. They develop a research project organizationally, methodologically and theoretically, and have to read the compulsory readings.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.016a: Case Studies: Chinese Technical and Primary Source Materials: Social Sciences**	6 C 2 WLH

Learning outcome, core skills: The students are trained in reading Chinese primary texts relevant to research topics, e.g. documents related to the political, economic and societal processes. Selected Chinese primary texts are read, terminologically analyzed, historically contextualized and partially translated.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Exercise course (Exercise)	2 WLH

Examination: Term Paper (max. 5 pages) **Examination prerequisites:** regular participation, written translations of course readings (1 text per session, max. 3 pages A4) **Examination requirements:** Students know how to understand the language, the terminology and the content of primary texts and how to adequately translate these texts into English. This includes the ability to research information on the persons and occurrences mentioned in the texts and to contextualize them historically and politically.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module M.OAW.MS.016b: Case Studies: Chinese Technical and Primary Source Materials: Humanities**	6 C 2 WLH

Learning outcome, core skills: The students are trained in reading Chinese primary texts relevant to research topics, e.g. documents related to the historical, philosophical and religious processes and developments. Selected Chinese primary texts are read, terminologically analyzed, historically contextualized and partially translated.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Exercise course (Exercise)	2 WLH
Examination: Term Paper (max. 5 pages) **Examination prerequisites:** regular participation, written translations of course readings (1 text per session, max. 3 pages A4) **Examination requirements:** Students know how to understand the language, the terminology and the content of primary texts and how to adequately translate these texts into English. This includes the ability to research information on the persons and occurrences mentioned in the texts and to contextualize them historically and politically.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module M.OAW.MS.019: Colloquium**	12 C 2 WLH

Learning outcome, core skills: In this module students are trained in developing their own research projects particularly with regard to research approach, research question and methodological and theoretical concepts to be used for their project. They get the opportunity to present their research project underlying their MA thesis and can thereby profit from the respective discussions and comments, helping them with their further research. All students have to read relevant academic literature on the topics of the different presentations and research projects as well as on the relevant theoretical approaches.	**Workload:** Attendance time: 28 h Self-study time: 332 h

Course: Master colloquium (Seminar)	2 WLH
Examination: Oral Presentation (approx. 30 minutes), not graded **Examination prerequisites:** regular participation, written exposé (max. 5000 words) **Examination requirements:** Students have draft an exposé of the planned MA thesis together with their supervisor and present topic, research approach and progress of their research to their fellow students as well as respond to critical questions.	12 C

Examination requirements: Students have draft an exposé of the planned MA thesis together with their supervisor and present topic, research approach and progress of their research to their fellow students as well as respond to critical questions.	

Admission requirements: Successful completion of at least one of the following modules: M.OAW.MS.001 to M.OAW.MS.014 (see remark)	**Recommended previous knowledge:** None
Language: English, Chinesisch	**Person responsible for module:** Prof. Dr. Axel Schneider Prof. Dr. Dominic Sachsenmaier
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 24	

Additional notes and regulations: Students studying Modern Sinology totaling 78 C have to have completed at least two of the modules mentioned. Students studying Modern Sinology totaling 42 C have to have completed at least one of the modules mentioned.

Georg-August-Universität Göttingen **Module M.OAW.MS.021: Modern Chinese VII**	6 C 4 WLH

Learning outcome, core skills: After completing this module students are able to follow and comprehend talks and presentations in Chinese, understand discussions in their area of specialization and take part in discussions in standard Chinese on topics such as labour relations and current events . They can understand news broadcastings and current reporting (TV and radio) as well as films in standard Chinese. The language skills of the students are sufficient to discuss general topics and express their opinions They do not spend time searching for the right word, use complex sentence structures and show a good command of grammar. They no longer make mistakes that lead to misunderstandings.	**Workload:** Attendance time: 112 h Self-study time: 68 h

Course: Speaking and Listening (Exercise)	4 WLH
Examination: Language proficiency test: written part (text editing, grammar, vocabulary and translation 120 min.) and oral part (speaking and listening; approx. 20 min.)	6 C

Examination requirements: The students have to prove their language skills in listening, speaking, reading and writing in intercultural contexts of oral and written communication (receptive skills on level C1.1 of the Common European Framework of Reference for Languages).	

Admission requirements: M.OAW.MS.020	**Recommended previous knowledge:** none
Language: Chinesisch	**Person responsible for module:** Lingling Ni
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.OAW.MS.118: Modern Written Language II**	3 C 2 WLH

Learning outcome, core skills: In this module skills in modern Chinese written language are enlarged and consolidated. In particular, skills are trained in adequately giving an account of written Chinese and in written communication.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Modern written language II (Exercise)	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regular and active participation **Examination requirements:** Written exam on the comprehension of written texts.	3 C

Examination requirements: The students have to be able to understand sophisticated and demanding academic texts. They have to give an account in colloquial Chinese and to respond to them (in correspondence etc.)	

Admission requirements: M.OAW.MS.120	**Recommended previous knowledge:** none
Language: Chinesisch	**Person responsible for module:** Lingling Ni
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 24	

Georg-August-Universität Göttingen **Module M.OAW.MS.120: Modern Chinese VI**	9 C 8 WLH

Learning outcome, core skills: After completing this module, students can follow and understand Chinese-language lectures, including technical discussions in their field of specialization, and participate in discussions conducted in standard Chinese relating to issues such as work and current events. They can understand newscasts and current affairs programs (TV, radio), as well as feature films, provided they are in the standard language. Students have sufficient language skills to express themselves clearly on general topics and share their personal views. They need not spend too much time searching for the right word, use complex sentence structures and show a fairly good command of grammar. They no longer make mistakes that lead to misunderstandings.	**Workload:** Attendance time: 112 h Self-study time: 158 h

Course: Speaking and Listening (Exercise)	8 WLH
Examination: Language proficiency test: written part (text editing, grammar, vocabulary and translation 120 min.) and oral part (speaking and listening; approx. 20 min.) **Examination requirements:**	9 C

Examination requirements: The students have to prove their language skills in listening, speaking, reading and writing in intercultural contexts of oral and written communication (receptive skills on level B2.2 of the Common European Framework of Reference for Languages).	

Admission requirements: B.A. degree with a level of language skills equivalent to the level achieved in the B.A. "Moderne Sinologie" or "Chinesisch als Fremdsprache" of the University of Göttingen	**Recommended previous knowledge:** Chinesischkenntnisse, die mündlich und schriftlich mindestens auf Niveau B2.1 liegen.
Language: Chinesisch	**Person responsible for module:** Lingling Ni
Course frequency: each winter semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 25	

Additional notes and regulations: The teaching language in this module is Chinese as the module is aimed at advancing and improving language skills. Translations will be done from Chinese into English by students of the study program "MA

Modern Sinology" and into German by students of the study program "Master of Education Chinesisch als Fremdsprache".

Georg-August-Universität Göttingen **Module M.Phy-AM.001: Active Galactic Nuclei**	6 C 2 WLH

Learning outcome, core skills: **Learning outcome:** Observational properties of active galaxies, taxonomy of AGN, continuum and emission line physics, structure and cinematics of the central region, supermassive black holes, unified models, environment, evolution of AGN. **Core skills:** After successful completion of the modul students should be able to describe and explain spectroscopy and physical properties of active galaxies.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Lecture with exercises	
Examination: Oral Exam (ca. 30 Min.)	6 C

Examination requirements: Classification, spectral properties and physics of the central region in active galaxies surrounding the central supermassive black hole, properties of the hostgalaxies, large scale environment, evolution of AGN.	

Admission requirements: Previous AstroMundus courses (1.+2. Sem.)	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Wolfram Kollatschny
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Phy-AM.002: Stellar structure and evolution**	6 C 2 WLH

Learning outcome, core skills: **Learning outcome:** The physics of stellar interiors and the evolution of stars belong to the fundamentals of astrophysics. The following topics will be studied in detail: Equations of stellar structure - Energy transport by diffusion of radiation, convection, and conduction - Equation of state, opacity and nuclear energy generation - Methods for the solution of the equations of stellar structure - Simple stellar models (polytropes) and their application - Stellar evolution: Pre - main sequence evolution, main sequence phase, post - main sequence evolution, final stages of stellar evolution.. **Core skills:** After successful completion of the modul students should be able to describe and explain the fundamentals of stellar structure and evolution, application of the concepts and results of the subject to other areas of astrophysics	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Lecture	

Examination: Oral Exam (ca. 30 Min.) **Examination prerequisites:** Solution of exercises	6 C

Examination requirements: Knowledge of the physics of stellar structure and evolution, the mechanics and thermodynamics of stellar structure, the methods for the solution of the equations of stellar structure, the various stages of stellar evolution and their interpretation.	

Admission requirements: Previous AstroMundus courses (1.+2. Sem.)	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Wolfram Kollatschny
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.Phy-AM.011: Computer simulation methods in statistical physics**	3 C 2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: The use of computers to solve problems in statistical physics is well established, and extremely useful in cases where exact solutions are not available. In this course, the Monte Carlosimulation method will be presented, whose applications are widespread, and include the field of biology. Starting with the basic Metropolis algorithm for the Ising model, this course will gradually move on to consider more complex systems, and show how the Monte Carlo method can be used to extract thermodynamic limit properties with relative ease. **Core skills:** Implement state-of-the-art MC simulations	Attendance time: 28 h Self-study time: 62 h

Course: Lecture	2 WLH
Examination: Oral Exam (ca. 30 Min.)	3 C

Examination requirements: The aim of the course is to present the Monte Carlo simulation method,with the focus of application on many-body problems as encountered in statistical physics.	

Admission requirements: Previous AstroMundus courses (1.+2. Sem.)	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Wolfram Kollatschny
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy-AM.012: Astrophysical Properties: From planets to cosmology**	12 C 8 WLH

Learning outcome, core skills: After successful completion of the modul the students should have competence in different fields of observational as well as theoretical astrophysics. The topics of these lectures range from the nearby universe covering the Sun, Space Weather, helioseismology and planets up to more distant stars. Another subject is the physics and evolution of galaxies including their central supermassive Black Holes. Finally, aspects of the evolution of the universe (cosmology) will be addressed.	**Workload:** Attendance time: 112 h Self-study time: 248 h

Course: students choose 4 courses of the following contents *Contents*: - Cosmology, Early Universe, String theory - Galaxies, Supermassive Black Holes, Interstellar Medium - Stars, Planets - Solar Physics, (Helio)seismology, Space Weather - Observational Astrophysics - Numerical Experiments in Astrophysics	

Examination: Oral examination (approx. 60 minutes) **Examination requirements:** The basic physical principals that have been taught in the individual lectures have to be understood in the context of the astrophysical relevance. This includes competence in numerical methods for the lecture on numerical experiments in astrophysics.	12 C

Admission requirements: 1st year AstroMundus courses	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Wolfram Kollatschny
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 15	

Georg-August-Universität Göttingen	3 C
Module M.Phy-NF.7601: X-ray Tomography for Students of Medicine, Biology, Agriculture, Forestry	2 WLH

Learning outcome, core skills:	**Workload:**
Knowledge in: • basic principles of phase contrast radiography and tomography • radiation Safety / reconstruction Algorithms • practical tomographic workflow, instrument operation • quantitative assessment of image quality • image segmentation Taking the course students will be able to : • run own tomographic scans on pre-aligned instruments • reconstruct and inspect data based on Matlab toolbox (GUI version) • perform segmentation	Attendance time: 28 h Self-study time: 62 h

Course: Course: X-ray Tomography	
Contents: • one week self-study in preparation based on tutorials 3-4 day course with • morning introductory lectures • afternoon tomography training in the laboratory • training on established workflow • Matlab-based reconstruction (GUI-guided) • Data inspection and visualisation (Avizo)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** • knowledge about fundaments and workflow • successful example (tomography scan & reconstruction)	3 C

Admission requirements:	**Recommended previous knowledge:**
none	Electrodynamics, Matlab/Python
Language:	**Person responsible for module:**
English	Prof. Dr. Tim Salditt
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4
Maximum number of students:	
10	

Additional notes and regulations:
1 week in October before start of lectures.

Partial overlap with Physicists' tomography course.

| Georg-August-Universität Göttingen | 6 C |
| Module M.Phy.1401: Advanced Lab Course I | 6 WLH |

Learning outcome, core skills:	**Workload:**
After successful completion of the module, students have • familiarised themselves independently with complex issues, • performed experimental tasks under guidance in a team, • and have written scientific protocols within good scientific practice.	Attendance time: 84 h Self-study time: 96 h

Course: Advanced Lab Course I	
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** 4 successful performed experiments. **Examination requirements:** Advanced experimental methods for solving physical problems.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.Phy.1402: Advanced Lab Course II	6 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of the module, students have • familiarised themselves independently with complex issues, • performed experimental tasks under guidance in a team, • and have written scientific protocols within good scientific practice.	Attendance time: 84 h Self-study time: 96 h

Course: Advanced Lab Course II	
Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** 4 successfull performed experiments **Examination requirements:** Advanced experimental methods for solving physical problems.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.Phy.1403: Internship	6 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of the module, students should familiarise oneself independently in complex issues and perform tasks under guidance in team work. The students should be able to present the obtained results in a talk or as a poster.	Attendance time: 84 h Self-study time: 96 h

Course: Internship	
Examination: Posterpresentation (approx. 30 min.) **Examination prerequisites:** Internship **Examination requirements:** Advanced methods for solving physical problems in the area of the chosen focus.	6 C

Admission requirements: This module can be selected only on the recommendation of a lecturer.	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2

Georg-August-Universität Göttingen	6 C
Module M.Phy.1404: Methods of Computational Physics	6 WLH

Learning outcome, core skills:	Workload:
After successful completion of the module students will be familiar with the key methods and algorithms of computational physics.	Attendance time: 84 h
Students will be able to select and deploy appropriate computational approaches in order to model and analyse a range of classical and quantum systems.	Self-study time: 96 h

Course: Computational lab course	2 WLH

Course: Methods of Computational Physics (Lecture)	4 WLH

Examination: written (120 min.) or oral exam (approx. 30 min.)	6 C
Examination prerequisites: Successful completion of 4 computational projects **Examination requirements:** Projects may include: Monte Carlo for phase transitions, rare event simulations, exact numerics for quantum systems, quantum Monte Carlo, simulations of disordered/glassy systems.	

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge of equilibrium statistical mechanics and 1-particle quantum mechanics.
Language: English, German	**Person responsible for module:** Prof. Dr. Fabian Heidrich-Meisner
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 3
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.1405: Advanced Computational Physics**	6 C 6 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of the module students should be familiar with the complete project cycle of advanced computational physics work. Students will be able to build and refine appropriate models for solutions of specific physical problems, select and implement advanced computational approaches using both existing software and own codes, and analyse the resulting data.	Attendance time: 84 h Self-study time: 96 h

Course: Computational lab course	

Examination: Oral examination (approx. 30 minutes) **Examination prerequisites:** Successful completion of 3 problem-driven computational projects (50% of the achievable score in each project) **Examination requirements:** Projects may include: Monte Carlo for phase transitions, rare event simulations, exact numerics for quantum systems, quantum Monte Carlo, simulations of disordered/glassy systems.	6 C

Admission requirements: none	**Recommended previous knowledge:** • *Methods of Computational Physics* • *Advanced Statistical Physics* • *Advanced Quantum Mechanics*
Language: English, German	**Person responsible for module:** Prof. Dr. Marcus Müller
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.1601: Development and Realization of Scientific Projects in Astro-/Geophysics**	9 C

Learning outcome, core skills:	**Workload:**
After successful completion of the module, students should be able to carry out the planning and the "controlling" of scientific research projects independently. They should ... • tbe able o use Literature Databases systematically; • have a good command of modern word processors; • have skills in good scientific practice.	Attendance time: 0 h Self-study time: 270 h

Course: Development and Realization of Scientific Projects in Astro-/Geophysics	
Examination: written report (max. 30 S.)	9 C

Examination requirements:	
Use of Literature Databases, good command of modern word processors	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen	9 C
Module M.Phy.1602: Development and Realization of Scientific Projects in Biophysics/Complex Systems	

Learning outcome, core skills:	Workload:
After successful completion of the module, students should be able to carry out the planning and the "controlling" of scientific research projects independently.	Attendance time: 0 h
They should ...	Self-study time: 270 h
- tbe able o use Literature Databases systematically; - have a good command of modern word processors; - have skills in good scientific practice.	

Course: Development and Realization of Scientific Projects in Biophysics/ Complex Systems	
Examination: written report (max. 30 S.)	9 C

Examination requirements:	
Use of Literature Databases, good command of modern word processors	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English, German	Dean of Studies of the Faculty of Physics
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	3 - 4
Maximum number of students:	
150	

Georg-August-Universität Göttingen **Module M.Phy.1603: Development and Realization of Scientific Projects in Solid State/Materials Physics**	9 C

Learning outcome, core skills: After successful completion of the module, students should be able to carry out the planning and the "controlling" of scientific research projects independently. They should ... • tbe able o use Literature Databases systematically; • have a good command of modern word processors; • have skills in good scientific practice.	**Workload:** Attendance time: 0 h Self-study time: 270 h

Course: Development and Realization of Scientific Projects in Solid State/ Materials Physics	
Examination: written report (max. 30 S.)	9 C

Examination requirements: Use of Literature Databases, good command of modern word processors	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen	9 C
Module M.Phy.1604: Development and Realization of Scientific Projects in Nuclear/Particle Physics	

Learning outcome, core skills:	**Workload:**
After successful completion of the module, students should be able to carry out the planning and the "controlling" of scientific research projects independently.	Attendance time: 0 h
They should ...	Self-study time: 270 h
- tbe able o use Literature Databases systematically; - have a good command of modern word processors; - have skills in good scientific practice.	

Course: Development and Realization of Scientific Projects in Nuclear/Particle Physics	
Examination: written report (max. 30 S.)	9 C

Examination requirements:	
Use of Literature Databases, good command of modern word processors	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen **Module M.Phy.1605: Networking in Astro-/Geophysics**	3 C

Learning outcome, core skills: **Objectives:** Formulation of proposals, registration, funding and participation in congresses **Competences:** After successful completion of the module the student should have gained networking skills.	**Workload:** Attendance time: 0 h Self-study time: 90 h

Course: Networking in Astro-/Geophysics	
Examination: written report (max. 10 S.), not graded	3 C

Examination requirements: Networking and application in scientific and professional environment on student's own initiative.	

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Studiendekan/in der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen **Module M.Phy.1606: Networking in Biophysics/Physics of Complex Systems**	3 C

Learning outcome, core skills:	Workload:
Objectives: Formulation of proposals, registration, funding and participation in congresses **Competences:** After successful completion of the module the student should have gained networking skills.	Attendance time: 0 h Self-study time: 90 h

Course: Networking in Biophysics/Physics of Complex Systems	
Examination: written report (max. 10 S.), not graded	3 C

Examination requirements:	
Networking and application in scientific and professional environment on student's own initiative.	

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Studiendekan/in der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen	3 C
Module M.Phy.1607: Networking in Solid State/Materials Physics	

Learning outcome, core skills:	**Workload:**
Objectives: Formulation of proposals, registration, funding and participation in congresses	Attendance time: 0 h
Competences: After successful completion of the module the student should have gained networking skills.	Self-study time: 90 h

Course: Networking in Solid State/Materials Physics	
Examination: written report (max. 10 S.), not graded	3 C

Examination requirements:	
Networking and application in scientific and professional environment on student's own initiative.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Studiendekan/in der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen **Module M.Phy.1608: Networking in Nuclear/Particle Physics**	3 C

Learning outcome, core skills: **Objectives:** Formulation of proposals, registration, funding and participation in congresses **Competences:** After successful completion of the module the student should have gained networking skills.	**Workload:** Attendance time: 0 h Self-study time: 90 h

Course: Networking in Nuclear/Particle Physics	
Examination: written report (max. 10 S.), not graded	3 C

Examination requirements: Networking and application in scientific and professional environment on student's own initiative.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Studiendekan/in der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 150	

Georg-August-Universität Göttingen **Module M.Phy.1609: Networking in Theoretical Physics**	3 C

Learning outcome, core skills:	**Workload:**
Objectives: Formulation of proposals, registration, funding and participation in congresses **Competences:** After successful completion of the module the student should have gained networking skills.	Attendance time: 0 h Self-study time: 90 h

Course: Networking in Theoretical Physics	
Examination: written report (max. 10 p.), not graded	3 C

Examination requirements: Networking and application in scientific and professional environment on student's own initiative.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Studiendekan/in der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.1610: Development and Realization of Scientific Projects in Theoretical Physics**	9 C

Learning outcome, core skills: After successful completion of the module, students should be able to carry out the planning and the implementation of scientific research projects independently. They should ... • tbe able to use Literature Databases systematically; • have a good command of modern word processors; • have skills in good scientific practice.	**Workload:** Attendance time: 0 h Self-study time: 270 h

Course: Development and Realization of Scientific Projects in Theoretical Physics	
Examination: written report (max. 30 p.)	9 C

Examination requirements: Use of Literature Databases, good command of modern word processors	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen	18 C
Module M.Phy.405: Research Lab Course in Astro- and Geophysics	

Learning outcome, core skills:	**Workload:**
Learning Outcome:	Attendance time: 0 h
By working independently within a current scientific research project students are fostered to familiarize themselves with a new advanced topic in the field of Astro-/ Geophysics. They will learn to successfully perform a sub-task and finally present the reults to a professional audience.	Self-study time: 540 h
Core skills:	
Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Astro-/Geophysics, obeying the rules of good scientific practice.	

Course: Research Lab Course in Astro- and Geophysics	
Examination: Lecture(2 weeks preparation time) (approx. 30 minutes) **Examination requirements:** Methods for in-depth familiarisation in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	18 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Alle Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen	18 C
Module M.Phy.406: Research Lab Course in Biophysics and Physics of Complex Systems	

Learning outcome, core skills:	**Workload:**
Learning Outcome:	Attendance time:
	0 h
By working independently within a current scientific research project students are fostered to familiarize themselves with a new advanced topic in the field of Biophysics/ Complex Systems. They will learn to successfully perform a sub-task and finally present the reults to a professional audience.	Self-study time: 540 h
Core skills:	
Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Biophysics/Complex Systems, obeying the rules of good scientific practice.	

Course: Research Lab Course in Biophysics and Physics of Complex Systems	
Examination: Lecture(2 weeks preparation time) (approx. 30 minutes) **Examination requirements:** Methods for in-depth familiarisation in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	18 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Alle Dean of Studies of the Faculty of Physics
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen	18 C
Module M.Phy.407: Research Lab Course in Solid State/Materials Physics	

Learning outcome, core skills:	Workload:
Learning Outcome:	Attendance time:
By working independently within a current scientific research project students are fostered to familiarize themselves with a new advanced topic in the field of Solid State/ Materials Physics. They will learn to successfully perform a sub-task and finally present the reults to a professional audience.	0 h Self-study time: 540 h
Core skills:	
Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Solid State/Materials Physics, obeying the rules of good scientific practice.	

Course: Research Lab Course in Solid State/Materials Physics	
Examination: Lecture(2 weeks preparation time) (approx. 30 minutes)	18 C
Examination requirements:	
Methods for in-depth familiarisation in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English, German	Dean of Studies of the Faculty of Physics
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4
Maximum number of students:	
40	

Georg-August-Universität Göttingen **Module M.Phy.408: Research Lab Course in Nuclear and Particle Physics**	18 C

Learning outcome, core skills: **Learning Outcome:** By working independently within a current scientific research project students are fostered to familiarize themselves with a new advanced topic in the field of Course in Nuclear and Particle Physics. They will learn to successfully perform a sub-task and finally present the reults to a professional audience. **Core skills:** Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Nuclear and Particle Physics, obeying the rules of good scientific practice.	**Workload:** Attendance time: 0 h Self-study time: 540 h

Course: Research Lab Course in Particle Physics	
Examination: Lecture(2 weeks preparation time) (approx. 30 minutes) **Examination requirements:** Methods for in-depth familiarisation in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	18 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.409: Research Seminar Astro-/Geophysics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Research Seminar Astro-/Geophysics	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.410: Research Seminar Biophysics/Physics of Complex Systems**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Research Seminar Biophysics/Physics of Complex Systems	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination prerequisites:** active partizipation **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.411: Research Seminar Solid State/Materials Physics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Research Seminar Solid State/Materials Physics	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination prerequisites:** active participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.412: Research Seminar Particle Physics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Research Seminar Particle Physics	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination prerequisites:** active participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.413: General Seminar**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students should be able to develop the content of scientific publications (usually in English) independently and present it to a wide audience. They should be also able to evaluate it criticaly.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: General Seminar	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination prerequisites:** active participation **Examination requirements:** Use of presentation media, presentation of complex issues in front of expert and non-expert audiences, communication and discussion skills, critical awareness and expressiveness.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 150	

Additional notes and regulations: We recomend to chose the seminar not of the own research focus.

Georg-August-Universität Göttingen	18 C
Module M.Phy.414: Research Lab Course in Theoretical Physics	

Learning outcome, core skills:	**Workload:**
Learning Outcome:	Attendance time:
	0 h
By working independently within a current scientific research project students are fostered to familiarize themselves with a new advanced topic in the field of Theoretical Physics. They will learn to successfully perform a sub-task and finally present the reults to a professional audience.	Self-study time: 540 h
Core skills:	
Students will be able to organize, conduct, evaluate and present small, manageable projects in the field of Theoretical Physics, obeying the rules of good scientific practice.	

Course: Research Lab Course in Theoretical Physics	
Examination: Lecture(2 weeks preparation time) (approx. 30 minutes) **Examination requirements:** Methods for in-depth familiarisation in a scientific field of work, critical review of literature, scientific presentation, good scientific practice.	18 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Alle Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.415: Research Seminar Theoretical Physics**	4 C 2 WLH

Learning outcome, core skills:	Workload:
After successful completion of the module, students are able to present complex lines of reasoning and evaluate own and others' presentations in critical discussion.	Attendance time: 28 h Self-study time: 92 h

Course: Research Seminar Theoretical Physics	
Examination: Lecture(4 weeks preparation time) (approx. 60 minutes) **Examination prerequisites:** active participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussions.	4 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Prof. Laura Covi
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen	4 C
Module M.Phy.5002: Contemporary Physics	2 WLH

Learning outcome, core skills:	Workload:
Lernziele: To understand cutting-edge research in 6 topics in physics by attending the physics colloquia. Introductory lectures will be provided to bridge the gap between students lectures and the scientific level of the colloquium. **Kompetenzen**: After successful completion of modul students should be able to... • independent learning; • independent analysis; • work in teams; • write scientific reports; • read scientifc literature; • extract the important research questions and results from the physics colloquia.	Attendance time: 28 h Self-study time: 92 h

Course: Contemporary Physics	2 WLH
Examination: written report (max. 5 pages) **Examination requirements:** Ability to combine the information given in the introductory lecture, the physics colloquium and current literature in 6 written reports on each of the colloquium topics.	4 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module M.Phy.5401: Advanced Statistical Physics	6 WLH

Learning outcome, core skills:	Workload:
After successful completion of the module students will be familiar with the core concepts and mathematical methods of statistical physics both in and out of equilibrium.	Attendance time: 84 h
Students will be able to model and analyse interacting or fluctuation-dominated systems using methods from statistical physics, and be aware of a range of application domains including soft matter, biophysics and network dynamics.	Self-study time: 96 h

Course: Advanced Statistical Physics (Lecture)	4 WLH

Examination: written (120 min.) or oral exam (approx. 30 min.) **Examination prerequisites:** At least 50% of the homework of the excercises have to be solved successfully.	6 C

Course: Advanced Statistical Physics (Exercise)	2 WLH

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge of statistical mechanics of equilibrium
Language: English	**Person responsible for module:** Prof. Dr. Matthias Krüger
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module M.Phy.5403: Seminar Classical-Quantum Connections in Theoretical Physics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module students should be familiar with core concepts and mathematical methods that find use in the study of both classical and quantum systems. Students will be able to explore specific questions with the help of book chapters or journal publications and to present the topic in a seminar talk	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar Classical-Quantum Connections in Theoretical Physics	
Examination: Oral Presentation (approx. 45 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Topics will typically include: Classical & quantum path integrals, diagrammatics and perturbation theory, universality and phase transitions, effective field theories and coarse graining, quantum versus classical fluctuations theorems, quantum-classical mappings (d to d+1 dim.)	4 C

Admission requirements: none	**Recommended previous knowledge:** Advanced statistical mechanics and quantum mechanics equivalent to modules: • *Advanced Statistical Physics* • *Advanced Quantum Mechanics*
Language: English	**Person responsible for module:** Prof. Dr. Steffen Schumann
Course frequency: every 4th semester; summer term	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2 - 4
Maximum number of students: 28	

Georg-August-Universität Göttingen **Module M.Phy.5404: Computational Quantum Many-Body Physics**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Lernziele: After successful completion of the module students should be familiar with advanced computational methods for quantum many-body systems and their application to problems from condensed matter theory. **Kompetenzen**: Students are able to implement advanced computational algorithms for computational many-body physics and are familiar with the theory of the algorithms and standard applications.	Attendance time: 56 h Self-study time: 124 h

Course: **Computational Many-Body Physics** (Lecture)	4 WLH
Course: **Computational Many-Body Physics** (Exercise)	2 WLH
Examination: Oral exam (approx. 30 min.) or written exam (120 min.) and term paper (max. 5 pages)	6 C

Admission requirements: none	Recommended previous knowledge: basic knowledge of statistical mechanics of equilibrium and quantum mechanics, second quantization, advanced quantum mechanics
Language: English	Person responsible for module: Prof. Dr. Fabian Heidrich-Meisner
Course frequency: every 4th semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: 2
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module M.Phy.5405: Non-equilibrium Statistical Physics	6 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of the module students will be able to understand advanced methods and concepts of non-equilibrium statistical physics to current research topics. Students will be able to describe and discuss state-of-the-art issues and problems in non-equilibrium statistical physics.	Attendance time: 84 h Self-study time: 96 h

Course: A course in the field of Non-equilibrium Statistical Physics	
Examination: Oral exam (approx. 30 min.) or written exam (120 min.) or presentation (approx. 30 min.) **Examination requirements:** Advanced topics in non-equilibrium statistical physics	6 C

Admission requirements: none	**Recommended previous knowledge:** Solid background in equilibrium and basic non-equilibrium statistical physics at the level of the module „Advanced Statistical Physics"
Language: English	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 80	

Georg-August-Universität Göttingen **Module M.Phy.5406: Current topics in theoretical physics**	4 C 4 WLH

Learning outcome, core skills: After successful completion of the module students will be familiar with a range of advanced concepts and methods from modern theoretical physics. Students will be able to deploy advanced methods to analyse systems and models that are of interest to current theoretical physics research, covering topics from classical to quantum and from equilibrium to non-equilibrium systems.	**Workload:** Attendance time: 56 h Self-study time: 64 h

Course: Current topics in theoretical physics (Lecture)	
Examination: oral exam (approx. 30 Min.) or written report (max. 15 p.) **Examination prerequisites:** none **Examination requirements:** At least 2 topics from 4-6 lecture blocks (to be announced at the start of the lectures) will be assessed. Topics will be taken from soft condensed matter, theor. biophysics, statistical mech., cond. matter theory, quantum many-body physics, quantum field theory, particle physics, theor. astrophysics, complex systems modelling.	4 C

Admission requirements: none	**Recommended previous knowledge:** • *Advanced Statistical Physics* • *Advanced Quantum Mechanics*
Language: English	**Person responsible for module:** Prof. Laura Covi
Course frequency: every 4th semester; summer term	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2 - 4

Georg-August-Universität Göttingen	6 C
Module M.Phy.541: Advanced Topics in Classical Theoretical Physics I	6 C 6 WLH

Learning outcome, core skills:	Workload:
Learning outcome: After successful completion of the modul students will be able to understand and apply advanced concepts of Classical Theoretical Physics to current research topics. **Core skills:** Students will be able to describe and discuss state-of-the-art problems of Classical Theoretical Physics.	Attendance time: 84 h Self-study time: 96 h

Course: A Course (6 C) in the field of Classical Theoretical Physics *Course frequency:* each semester	
Examination: Written examination (120 Min.) or oral examination approx. 30 Min.) or talk (approx. 30 Min.),2 weeks preparation time **Examination requirements:** Advanced techniques and models in Classical Theoretical Physics	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English, German	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.542: Advanced Topics in Classical Theoretical Physics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students will be familiar with advanced concepts of Classical Theoretical Physics	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: A Course (3 C) in the field of Classical Theoretical Physics *Course frequency:* each semester	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced techniques and models in Classical Theoretical Physics	3 C

Course: A Course (3 C) in the field of Classical Theoretical Physics *Course frequency:* each semester	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced techniques and models in Classical Theoretical Physics	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Peter Sollich
Course frequency: every 4th semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.543: Advanced Topics in Theoretical Quantum Physics I**	6 C 6 WLH

Learning outcome, core skills: **Learning outcome:** After successful completion of the modul students will be able to understand and apply advanced concepts of Theoretical Quantum Physics to current research topics. **Core skills:** Students will be able to describe and discuss state-of-the-art problems of Theoretical Quantum Physics .	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: A Course (6 C) in the field of Theoretical Quantum Physics *Course frequency:* each semester	
Examination: Written examination (120 Min.) or oral examination approx. 30 Min.) or talk (approx. 30 Min.),2 weeks preparation time **Examination requirements:** Advanced Advanced techniques and models in Theoretical Quantum Physics	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Stefan Kehrein
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.544: Advanced Topics in Theoretical Quantum Physics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students will be familiar with advanced concepts of Theoretical Quantum Physics	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: A Course (3 C) in the field of Theoretical Quantum Physics *Course frequency:* each semester	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced techniques and models in Theoretical Quantum Physics	3 C

Course: A Course (3 C) in the field of Theoretical Quantum Physics *Course frequency:* each semester	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced techniques and models in Theoretical Quantum Physics	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Prof. Dr. Steffen Schumann
Course frequency: every 4th semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen	4 C
Module M.Phy.546: Seminar Advanced Topics in Theoretical Physics	2 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of this module, students will be able to reproduce and present complex chains of arguments, assess their own and other students' presentation critically.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar Advanced Topics in Theoretical Physics	
Examination: Lecture4 weeks preparation time (approx. 60 minutes) **Examination prerequisites:** Active participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussion.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

| Georg-August-Universität Göttingen | 3 C |
| Module M.Phy.5502: Numerical experiments in stellar astrophysics | 2 WLH |

Learning outcome, core skills:	Workload:
After successful completion of the modul students should have hands-on experience in computing stellar models and solving oscillation eigenvalue problems.	Attendance time: 28 h Self-study time: 62 h

Course: Numerical experiments in stellar astrophysics (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** - Use of numerical codes to model the internal structure and oscillations of stars. - Hands-on experience with the codes. - Computation of stellar models and their oscillation frequencies. - Experimenting with parameters and physical inputs.	3 C

Admission requirements:	Recommended previous knowledge:
keine	keine
Language: English	**Person responsible for module:** Prof. Dr. Laurent Gizon
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 2 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen	6 C
Module M.Phy.551: Advanced Topics in Astro-/Geophysics I	6 WLH

Learning outcome, core skills:	Workload:
Learning outcome:	Attendance time:
After successful completion of the modul students will be able to understand and apply advanced concepts of astro- and geophysics to current research topics.	84 h Self-study time: 96 h
Core skills:	
Students will be able to describe and discuss state-of-the-art problems of astro-/ geophysics.	

Course: Course (6 C) in the field of Astro- or Geophysics	
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time	6 C
Examination requirements: Advanced experimental techniques or theoretical models in astro- or geophysics	

Admission requirements:	Recommended previous knowledge:
none	none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.552: Advanced Topics in Astro-/Geophysics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with advanced concepts of astrophysics and Geophysics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Topics in Astro-/Geophysics IIa	2 WLH
Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) or talk (approx. 30 Min.), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in astro- or geophysics	3 C

Course: Advanced Topics in Astro-/Geophysics IIb	2 WLH
Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) or talk (approx. 30 Min.), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in astro- or geophysics	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.556: Seminar Advanced Topics in Astro-/Geophysics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with the presentation of complex problems, scientific discussion as well as evaluation of contents of the presentations.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar Advanced Topics in Astro-/Geophysics I	
Examination: Lecture4 weeks preparation time (approx. 60 minutes) **Examination prerequisites:** active Participation **Examination requirements:** Advanced experimental techniques or theoretical models in astro- or geophysics	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Stefan Dreizler
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5601: Seminar Computational Neuroscience/Neuro-informatics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module, students ... • have deepened their knowledge of computational neuroscience / neuroinformatics by an independent elaboration of a topic; • have learned methods of presentation of topics from computer science; • are able to deal with (English-language) literature; • are able to present an informatic topic; • are able to lead a scientific discussion.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar (Seminar) *Course frequency:* each semester	
Examination: Presentation (approx. 45 Min.) with written report (max. 7 S.) **Examination prerequisites:** regular participation **Examination requirements:** Independent preparation and presentation of research-related topics from the area of computational neuroscience / neuroinformatics as well as biophysics of neuronal systems.	4 C

Admission requirements: none	**Recommended previous knowledge:** B.Phy.5614
Language: English	**Person responsible for module:** Prof. Dr. Florentin Andreas Wörgötter
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Master: 1 - 3
Maximum number of students: 14	

Georg-August-Universität Göttingen **Module M.Phy.5604: Biomedicine imaging physics and medical physics**	6 C 4 WLH

Learning outcome, core skills: After taking this course, students will have quantitative insight into the physical, mathematical and algorithmic foundations of imaging techniques for biomedical applications, in particular CT, MRI, tomographic reconstruction, image processing, nuclear techniques, ultrasound and laser-tissue interaction up to emerging techniques such as phase contrast radiography. Further, the course leads a basic understanding of medical physics in a broader sense, including radiotherapy, radiobiology.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung (Lecture)	

Examination: Written examination (120 Min.) or oral examination (approx. 30 Min.) or Presentation (approx. 30 Min., 2 weeks preparation time) **Examination requirements:** Knowledge of physical principles in medical diagnostics and therapy, in particular modern imaging techniques: Radiography (Absorptions- and Phase contrast), tomography, magnetic resonance imaging () positron-emissions-tomography, single photon emission tomography (SPECT), nuclear methods and probes, ultrasound imaging, optical microscopy. Along with the experimental principles, the algorithmic and mathematical concepts of image reconstruction and processing have to be mastered.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Tim Salditt
Course frequency: every 4th semester; alle 2 Jahre	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 2 - 4
Maximum number of students: 50	

Georg-August-Universität Göttingen	6 C
Module M.Phy.5605: Nanooptics and Plasmonics	4 WLH

Learning outcome, core skills:	**Workload:**
Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden über fundierte Kenntnisse auf dem sich rasant entwickelnden Gebiet der Nanooptik und Plasmonics verfügen, sowohl in theoretischer als auch in experimenteller Hinsicht.	Attendance time: 56 h Self-study time: 124 h

Course: Vorlesung mit Selbststudium Literatur (Lecture)	

Examination: Oral examination (approx. 30 minutes)	6 C
Examination requirements: Theorie der Wechselwirkung von Licht und Materie auf der Nanometerskala; Grundlagen der optischen Mikroskopie und Spektroskopie, welche in der Nanooptik angewendet werden; Physik einzelner optischer Quantenemitter; Physik optischer Fallen; Physik optischer Emitter in Nanoresonatoren; Physik optischer Metamaterialien.	

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: English	**Person responsible for module:** Prof. Dr. Jörg Enderlein
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 4
Maximum number of students: 20	

Additional notes and regulations: Schwerpunkt: BK, FM

Georg-August-Universität Göttingen **Module M.Phy.5608: Liquid State Physics**	4 C 2 WLH

Learning outcome, core skills: Lernziele/Kompetenzen: Students should learn the core concepts of the theories and experimental phenomenology of the liquid state, from simple to macromolecular/polymeric to granular liquids. Through readings of the important papers, both seminal or at the fore-front of research, they should learn how to understand the modern open questions regarding the liquid state. Students should also explore a specific topic that is currently subject of active research, and prepare an oral presentation and a written handout at the end of the semester.	**Workload:** Attendance time: 28 h Self-study time: 92 h
Course: Liquid State Physics *Contents*: This course will cover the foundations of the theoretical and experimental description of simple liquids, macromolecular/polymeric liquids and granular liquids and gases. We will learn about the statistico-mechanical approach to the liquid state, including distribution function theories, Boltzmann equation and Navier-Stokes equation. We will then move on to the dynamics of macromolecular liquids such as polymers. Based on concepts like viscosity and visco-elasticity, we will also explore thin film flows and non-Newtonian phenomena. The final part of the course will consider liquids composed of "macroscopic molecules" like sand grains. While their flow behavior is often reminiscent of molecular liquids, the dissipative nature of their interaction makes them an intrinsic out of equilibrium phenomenon.	
Examination: Presentation (ca. 40 min.) and handout on special topic of choice **Examination prerequisites:** Participation in course discussion and assignments **Examination requirements:** Students will perform an in-depth investigation on a particular course topic, and present this in a symposium at the end of the course.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik; Ansprechpartner Dr. Marco Mazza
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 4

Maximum number of students:	
50	

Additional notes and regulations:

SP: Biophysik/nichtlineare Dynamik; Festkörperphysik; Materialphysik; Astrophysik; Geophysik

Georg-August-Universität Göttingen **Module M.Phy.5609: Turbulence Meets Active Matter**	4 C 4 WLH

Learning outcome, core skills:	Workload:
Lernziele: This course introduces elements from turbulence theory and active matter theory. In particular, we will focus on emergent behavior of active agents as well as their collective behavior in disordered environments such as turbulent flows. The essential background will be conveyed in introductory lectures. The major part of the course is dedicated to hands-on projects, in which we will address the following questions: What are the challenges in describing and predicting turbulent flows? How can simple mathematical rules give rise to large-scale order and emergent behavior? How can complex patterns emerge in non-equilibrium systems and how can we describe them mathematically? How does spatio-temporal disorder impact emergent behavior? As part of the projects, the students will set up and conduct numerical experiments in small groups. The progress of the individual projects will be discussed in weekly meetings. Finally, the students will present their findings at the end of the semester. **Kompetenzen:** The students gain an understanding of fundamental aspects of fluid mechanics and turbulence, agent-based models for collective behavior as well as elements of pattern formation. Furthermore, they acquire a basic understanding of numerical integration of partial differential equations, post-processing and statistical analysis of simulation data, and scientific visualization of simulation results.	Attendance time: 56 h Self-study time: 64 h

Course: Turbulence Meets Active Matter (Lecture)	2 WLH

Examination: Oral Presentation (approx. 45 minutes) **Examination prerequisites:** none **Examination requirements:** Understanding of the fundamentals taught in the fields of fluid physics and active matter, implementation of the acquired knowledge in accompanied research and programming projects, preparation of the presentation of the results and their classification in existing literature.	4 C

Course: Turbulence Meets Active Matter (Exercise)	2 WLH

Admission requirements: none	Recommended previous knowledge: Basic knowledge in mechanics and continuum mechanics, background in complex systems and stochastic processes
Language: English, German	**Person responsible for module:** Prof. Dr. Eberhard Bodenschatz
Course frequency: every 4th semester; Wintersemester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4

Maximum number of students:	
not limited	

Georg-August-Universität Göttingen	6 C
Module M.Phy.561: Advanced Topics in Biophysics/Physics of complex systems I	6 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome:	Attendance time:
After successful completion of the modul students will be able to understand and apply advanced concepts of Biophysics/Physics of complex systems to current research topics.	84 h
	Self-study time:
	96 h
Core skills:	
Students will be able to describe and discuss state-of-the-art problems of Biophysics/ Physics of complex systems.	

Course: Course (6 C) in the field of Biophysics and Physics of Complex Systems	
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time	
Examination requirements:	
Advanced experimental techniques or theoretical models in Biophysics and Physics of Complex Systems.	

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English, German	Dean of Studies
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	1 - 4
Maximum number of students:	
40	

Georg-August-Universität Göttingen **Module M.Phy.5610: X-ray Tomography for Students of Physics and Mathematics**	3 C 2 WLH

Learning outcome, core skills: Knowledge in: - Principles of Radiography and Tomography - Radiation Safety / Reconstruction Algorithms and practical Implementation of algorithms, testing of algorithms, cone beam reconstruction - phase retrieval and phase contrast - treatment of artefacts, filters - quantitative assessment of image quality - image segmentation Taking the course students will be able to : - operate laboratory equipment, perform tomographic alignment and to setup tomographic scans - to reconstruct data based on Matlab toolbox (Salditt Group) - to analyse data, perform segmentation	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Course: X-ray Tomography *Contents*: - one week self-study in preparation based on tutorials and the textbook by Salditt/ Aspelmeier /Aeffner (De Gruyter 2017), a full one week course with - morning lectures including Matlab tutorials - afternoon tomography practice in the laboratory using three different instruments (liquid metal jet, rotating anode, high energy), - overnight scans - Matlab-based reconstruction (Server IRP, Toolbox Salditt Group)	
Examination: Oral examination (approx. 45 minutes) **Examination requirements:** - Presentation of a successful scan and reconstruction, - oral discussion of the data and analysis	3 C

Admission requirements: none	**Recommended previous knowledge:** Electrodynamics, Matlab/Python
Language: English	**Person responsible for module:** Prof. Dr. Tim Salditt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students:	

15	

Additional notes and regulations:

1 week in October before start of lectures.

Partial overlap with Physicists' tomography course.

Georg-August-Universität Göttingen	3 C
Module M.Phy.5613: Lecture: Principles and Applications of Synchrotron and Free Electron Laser Radiation	4 WLH

Learning outcome, core skills:	**Workload:**
Lernziele:	Attendance time:
Ziel der Lehrveranstaltung ist die enge Verknüpfung der Lehre auf dem Gebiet der Röntgenphysik mit der Arbeit an Großforschungseinrichtungen, insbesondere der Forschung im Bereich Photon Science bei DESY.	88 h
In der Vorlesung erhalten die Studierenden eine Einführung in die Forschung mit Synchrotronstrahlung und Strahlung von Freien Elektronen Lasern: Erzeugung der Strahlung und Charakteristika der Quellen, Grundlagen der Beschleunigerphysik, Experimentieraufbauten (Strahlrohre), Grundlagen der Röntgenbeugung und der Röntgenspektroskopie, Röntgenkurzzeitphysik.	Self-study time: 2 h
Im Blockkursus erlernen sie die Anwendung röntgenphysikalischer Methoden (mit jährlich wechselnden Schwerpunkten): kohärente Abbildung, mathematische Beschreibung, Anwendungen in der Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc. (jeweils als Einführung).	
Kompetenzen:	
Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden...	
• über fundamentales Wissen über die Prinzipien der Erzeugung von Synchrotronstrahlung und der Strahlung von Freien Elektronenlasern deren Anwendungen verfügen;	
• Fähigkeiten in der mathematischen Beschreibung von Röntgenbeugung an ausgewählten, aktuellen Beispielen aus der Biophysik, Molekülphysik, Kristallographie etc. entwickelt haben.	

Course: Vorlesung (Lecture)	WLH
Contents:	
Einführung in die Forschung mit Synchrotronstrahlung und Strahlung von Freien Elektronen Lasern: Erzeugung der Strahlung und Charakteristika der Quellen, Grundlagen der Beschleunigerphysik, Experimentieraufbauten (Strahlrohre), Grundlagen der Röntgenbeugung und der Röntgen-spektroskopie, Röntgenkurzzeitphysik.	

Course: Blockkurs Desy Campus, Hamburg (2,5 Tage)	
Contents:	
Einführung in die Anwendungen röntgenphysikalischer Methoden (mit jährlich wechselnden Schwerpunkten) unter Anwendung hochenergetischer Strahlung: Einführung in die kohärente Abbildung, mathematische Beschreibung der Röntgenbildgebung, Anwendungen in der Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc.	

Examination: Oral examination (approx. 45 minutes)	3 C
Examination prerequisites:	
Aktive Teilnahme	
Examination requirements:	

Verständnis über die physikalischen Grundlagen der Forschung mit Synchrotronstrahlung und mit Strahlung von Freien Elektronen Lasern: Erzeugung der Strahlung und Charakteristika der Quellen, Grundlagen der Beschleunigerphysik, Experimentieraufbauten (Strahlrohre), Grundlagen der Röntgenbeugung, der Röntgenbildgebung und der Röntgenspektroskopie; Grundlagen der Röntgenkurzzeitphysik, Anwendung röntgenphysikalischer Methoden (mit jährlich wechselnden Schwerpunkten): kohärente Abbildung, mathematische Beschreibung, Anwendungen in der Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc. (jeweils Einführung).

Admission requirements: keine	**Recommended previous knowledge:** Einführung in die Röntgenphysik
Language: English	**Person responsible for module:** Prof. Dr. Simone Techert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 4
Maximum number of students: 30	

Additional notes and regulations: Einbringbar in folgende Schwerpunkte: Biophysik/komplexe Systeme, Festkörper/Materialphysik

Georg-August-Universität Göttingen	3 C
Module M.Phy.5614: Lab Course: Principles and Applications of Synchrotron and Free Electron Laser Radiation	2 WLH

Learning outcome, core skills:	**Workload:**
Lernziele:	Attendance time:
Ziel des Praktikums ist die enge Verknüpfung der praktisch orientierten Röntgenphysik-Hochschulausbildung mit der wissenschaftsorientierten, experimentellen Arbeit an Großforschungseinrichtungen, insbesondere der Forschung im Bereich Photon Science bei DESY.	88 h
	Self-study time:
	2 h
Im Blockpraktikum sollen die Studierenden ein praktisches Verständnis für komplexe Röntgenexperimente an Hochenergiestrahlungsquellen entwickeln, insbesondere an den (exemplarisch aufgelisteten) Strahlrohren P04, P08, P11, P24 des Speicherrings Petra III und der Strahlrohre PES und CAMP des Freien Elektronenlasers FLASH und FLASH II.	
Kompetenzen:	
Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden...	
• experimentelle Fähigkeiten und Basiswissen in Röntgenexperimenten entwickelt haben an ausgewählten, wissenschaftlich aktuellen Beispielen aus der Biophysik, Molekülphysik, Kristallographie etc.,	
• grundlegende experimentelle Expertise in Röntgenexperimenten an Hochenergiestrahlungsquellen erworben haben, u.a. auf dem Gebieten der Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc.	

Course: Einwöchiges Blockpraktikum am Desy	2 WLH
Contents:	
Inhalte:	
Erlangung von experimentellen Fähigkeiten und Expertise von komplexen Röntgenexperimenten mit Hochenergiestrahlungsquellen;	
tieferes Verständnis von Röntgensynchrotron-Strahlungs-Experimente exemplarisch an Experimenten der Strahlrohre P04, P08, P11 oder P24 des Speicherrings Petra III und der Strahlrohre PES und CAMP des Freien Elektronenlasers FLASH oder FLASH II (wechselnde Schwerpunkte);	
Einführung in die Praxis röntgenphysikalischer: kohärente Abbildung, mathematische Beschreibung, Anwendungen in der Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc.	

Examination: Oral examination (approx. 45 minutes)	3 C
Examination prerequisites:	
Aktive Teilnahme	
Examination requirements:	
Vorliegendes Protokoll zum Blockpraktikum mit eigenständig erarbeitetem Auswerteinhalt (Einführungsniveau).	
Grundlegende Kenntnisse zu Experimenten mit Synchrotronstrahlung und Strahlung von Freien Elektronen Lasern. Exemplarisch: Grundlegendes Verständnis an aktueller Beispiele von Röntgenexperimenten aus den Gebieten der Biophysik, Molekülphysik, Biophysik, Molekülphysik, Kristallographie, Kurzzeitphysik, etc. (je nach Praktikumort an	

P04, P08, P11 oder P24 des Speicherrings Petra III und der Strahlrohre PES und CAMP des Freien Elektronenlasers FLASH oder FLASH II).

Nachweis experimenteller Fähigkeiten, Nachweis von mathematische Expertise (weitreichendere Grundlagen) zur Auswertung von Röntgenexperimenten, Reflektion der durchgeführten Experimente.

Admission requirements:	Recommended previous knowledge:
none	Einführung in die Röntgenphysik
Language:	**Person responsible for module:**
English	Prof. Dr. Simone Techert
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	Master: 1 - 4
Maximum number of students:	
10	

Additional notes and regulations:

Einbringbar in folgende Schwerpunkte:

Biophysik/komplexe Systeme, Festkörper/Materialphysik

Georg-August-Universität Göttingen **Module M.Phy.562: Advanced Topics in Biophysics/Physics of complex systems II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with advanced concepts of Biophysics and Physics of Complex Systems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Course (3 C) in the Field of Biophysics/Physics of complex systems	2 WLH

Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Biophysics and Physics of Complex Systems	3 C

Course: Course (3 C) in the Field of Biophysics/Physics of complex systems	2 WLH

Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Biophysics and Physics of Complex Systems	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.566: Seminar Advanced Topics in Biophysics/ Complex Systems**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with the presentation of complext problems, scientific discussion as well as evaluation of contents of the presentations.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar Advanced Topics in Biophysics/Complex Systems	
Examination: Lecture4 weeks preparation time (approx. 60 minutes) **Examination prerequisites:** active Participation **Examination requirements:** Advanced experimental techniques or theoretical models in astro- or geophysics	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5701: Advanced Solid State Theory**	6 C 6 WLH

Learning outcome, core skills: After successful completion of the modul students should be able to perform calculations using many-body techniques, describe and model simple experimental observations, understand and use the language of modern solid-state theory.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Lecture	4 WLH

Examination: written exam (90 min.) or oral exam (approx. 30 min.) **Examination requirements:** Quantum-field theoretical description of solids, elements of ab initio methods, symmetries and binding, optical properties of solids, correlated electron systems, elements of transport theory. Formulation of theories based on experimental observation, description and interpretation of experiments in solids, knowledge of manybody techniques	6 C

Course: Exercises	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Introduction to Solid State Physics Quantum mechanics I
Language: English	**Person responsible for module:** Dean of Studies, Faculty of Physics
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 2 - 3
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5705: Materials Physics I: Microstructure-Property-Relations**	4 C 3 WLH

Learning outcome, core skills: AAfter successful completion of this Module, the student will have obtained an overview about the realistic structure of materials (realistic = including defects and irregularities). Inaddition, a deepened understanding of the relation between micro-structure andfundamental material properties will have been gained via the discussion of theoreticalmodels and experimental results.	**Workload:** Attendance time: 42 h Self-study time: 78 h

Course: Materials Physics I: Microstructure-Property-Relations *Contents*: Basic concepts of structure-property relations and defects, topology,thermodynamics and properties of defects, microstructure and mechanical properties.	
Examination: Presentation (approximately 30 minutes) or written examination (120 minutes) or oral examination (approximately 30 minutes) **Examination prerequisites:** At least 50% of the homework problems need to be solved correctly. **Examination requirements:** Global and local symmetries in materials, elastic continuum theory, structure of pointdefects, dislocations and grain boundaries, thermodynamics of defects, mechanical /chemical / electronic / transport properties of defects, as well as methods for the investigation of micro-structure and related properties.	4 C

Admission requirements: none	**Recommended previous knowledge:** Introductory courses in materials science and solid state physics.
Language: English	**Person responsible for module:** Prof.in Cynthia Volkert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.Phy.5706: Materials Physics II: Kinetics and Phase Transformations**	4 C 3 WLH

Learning outcome, core skills: After successful completion of this Module, the student will have obtained an overview of theoretical concepts and mechanisms of phase transformations in materials. In addition, a deeper understanding of the description of kinetic processes in the framework of irreversible thermodynamics will have been gained.	**Workload:** Attendance time: 42 h Self-study time: 78 h

Course: Materials Physics II: Kinetics and Phase Transformations *Contents*: Fundamentals and specific examples of the behavior of condensed mattersystems in non-equilibrium situations.	
Examination: Presentation (approximately 30 minutes) or written exam (120 minutes) or oral examination (approximately 30 minutes) **Examination prerequisites:** At least 50% of the homework problems need to be solved correctly. **Examination requirements:** Non-equilibrium thermodynamics, generalized driving forces, diffusion, nucleation, motion and instabilities of interfaces, solidification, precipitation, domain growth, spinodal decomposition, order-disorder phase transitions, kinetically controlled transformations.	4 C

Admission requirements: none	**Recommended previous knowledge:** Introductory courses in materials science and solid state physics, as well as the course Materials Physics I.
Language: English	**Person responsible for module:** Prof.in Cynthia Volkert
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 2 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.Phy.5707: Materials research with electrons**	3 C 2 WLH

Learning outcome, core skills: Fundamentals of the application of electron microscopy to the characterization and analysis of materials, with emphasis on: • Interactions between electrons and solids • Preparation of samples, limits of electron microscopy • Fundamentals and advanced concepts of electron microscopy • Diffraction and imaging • Analytical applications (EDX, EELS, GPA, …) • Overview of current research topics After successful completion of this Module, the student will be able to understand further developments of electron microscopy and gain access to current research themes.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Materials research with electrons (Lecture)	
Examination: Oral examination(approximately 30 minutes) **Examination requirements:** Understanding of fundamental concepts, facts, and methods. Basic understanding of diffraction, imaging, and analysis.	3 C

Admission requirements: none	**Recommended previous knowledge:** Introductory courses in materials science and solid state physics.
Language: English	**Person responsible for module:** apl. Prof. Dr. Michael Seibt
Course frequency: Every 2 years, summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen	3 C
Module M.Phy.5709: Physics of Semiconductors	2 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of this module the students will be able to understand basic and advanced concepts of the physics of semiconductors and their devices with emphasis on: • **electronic transport** • **doping** • **electronic states** • **optical properties** • **semiconductor junctions** • **nanostructures**	Attendance time: 28 h Self-study time: 62 h

Course: Physics of Semiconductors (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Basic and advanced concepts of the physics of semiconductors.	3 C

Admission requirements: none	**Recommended previous knowledge:** Einführung in die Festkörperphysik, Solid State Physics II
Language: English	**Person responsible for module:** apl. Prof. Dr. Michael Seibt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen	6 C
Module M.Phy.571: Advanced Topics in Solid State/Materials Physics I	6 WLH

Learning outcome, core skills:	Workload:
Learning outcome:	Attendance time:
After successful completion of the modul students will be able to understand and apply	84 h
advanced concepts of Solid State/Materials Physics to current research topics.	Self-study time:
Core skills:	96 h
Students will be able to describe and discuss state-of-the-art problems of Solid State/ Materials Physics.	

Course: A course (6 C) in the field of Solid State/Materials Physics	
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time	6 C
Examination requirements:	
Advanced experimental techniques or theoretical models in Solid State/Materials Physics	

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English, German	Dean of Studies
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	Master: 1 - 4
Maximum number of students:	
40	

Georg-August-Universität Göttingen **Module M.Phy.5710: Physics of Semiconductors and Semiconductor Devices**	6 C 4 WLH

Learning outcome, core skills:
After successful completion of this module the students will be able to understand basic and advanced concepts of the physics of semiconductors and their devices with emphasis on:
 	
  • electronic transport
  • doping
  • electronic states
  • optical properties
  • semiconductor junctions
  • nanostructures
  • physics of electronic and opto-electronic devices
	Workload:
	Attendance time:
	56 h
	Self-study time:
	124 h

Course: Physics of Semiconductors and Semiconductor Devices (Lecture with seminar) (Lecture, Seminar)	4 WLH
Examination: Presentation (approx. 60 min.) or oral examination (approx. 30 min.) **Examination prerequisites:** regular attendance in seminar **Examination requirements:** Basic and advanced concepts of the physics of semiconductors and their devices.	6 C

Admission requirements: none	**Recommended previous knowledge:** Einführung in die Festkörperphysik, Solid State Physics II
Language: English	**Person responsible for module:** apl. Prof. Dr. Michael Seibt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen	3 C
Module M.Phy.5711: Surface Physics	2 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: After having successfully completed the module students should understand the fundamental concepts of the rapidly evolving field of surface physics. They should be able to transfer this knowledge to other areas like the physics of nanostructures and interfaces. More specifically, the students will have basic knowledge in the following topics: 1. Geometry of surfaces (e.g. relaxation, reconstruction, Wood's notation) 2. Electronic states of surfaces (e.g. surface states, projected band structure) 3. Processes at surfaces (e.g. adsorption, growth, diffusion) 4. Preparation and analysis of surfaces (e.g. UHV techniques, STM, LEED, PES) 5. Surface Excitations (e.g. surface phonons, surface plasmons) 6. Interfaces, Nanostructures **Core skills:** The students will have a fundamental understanding of the general structural and electronic properties of solid state surfaces. They will have a basic knowledge of current surface preparation and surface analysis methods.	Attendance time: 28 h Self-study time: 62 h

Course: Surface Physics (Lecture)	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Basic knowledge and understanding of surface physics, i.e. atomic and electronic structure of solid surfaces including concepts like e.g. reconstruction, surface states, surface phonons, adsorption, experimental methods.	3 C

Admission requirements: none	**Recommended previous knowledge:** B.Phy.1521: Introduction to Solid State Physics
Language: English, German	**Person responsible for module:** Prof. Dr. Martin Wenderoth
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.5712: Topology in Condensed Matter Physics**	6 C 6 WLH

Learning outcome, core skills: After a successful completion of the course, the students will be familiar with the basic concepts and properties of topological states of matter in condensed matter physics and representative examples.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Topology in Condensed Matter Physics (Lecture)	4 WLH
Examination: Written or oral examWritten exam (120 min.) or oral exam (ca. 30 min.) - determination of exam type: see UniVZ **Examination requirements:** Basic concepts of topological states of matter in condensed matter physics and knowledge and understanding of representative examples.	6 C

Course: Topology in Condensed Matter Physics (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** • Solid State Physics, • Introduction to Solid State Theory, • Quantum mechanics I
Language: English	**Person responsible for module:** Prof. Dr. Fabian Heidrich-Meisner
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.572: Advanced Topics in Solid State/Materials Physics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with advanced concepts of Solid State/Materials Physics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Course (3 C) in the field of Solid State/Materials Physics	2 WLH

Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Solid State/Materials Physics	3 C

Course: Course (3 C) in the field of Solid State/Materials Physics	2 WLH

Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Solid State/Materials Physics	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.576: Seminar Advanced Topics in Solid State/ Materials Physics**	4 C 2 WLH

Learning outcome, core skills:	Workload:
After successful completion of the modul students should be familiar with the presentation of complex problems, scientific discussion as well as evaluation of contents of the presentations.	Attendance time: 28 h Self-study time: 92 h

Course: Seminar Advanced Topics in Solid State/Materials Physics	
Examination: Lecture4 weeks preparation time (approx. 60 minutes) **Examination prerequisites:** active participation **Examination requirements:** Advanced experimental techniques or theoretical models in Solid State/Materials Physics	4 C

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5801: Detectors for particle physics and imaging**	3 C 3 WLH

Learning outcome, core skills: After successful completion of this module, students should bfamiliar with modern methods and questions about detector physics in high energy physics, imaging and related fields.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Detectors for particle physics and imaging	
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Based on the introductory lecture "interactions between radiation and matter" this lecture covers special topics of detector physics such as the layout of certain detector types (i.e. semiconductor detectors, ionisation detectors etc.), readout systems and noise contribution, radiation damage of detector material and readout as well as the application of such detectors.	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: every 4th semester; irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Phy.5803: Symmetries in Quantum Field Theory**	3 C 2 WLH

Learning outcome, core skills: Nach erfolgreichem Absolvieren des Moduls sollten die Studierenden zwischen unterschiedlichen Symmetrie-Konzepten differenzieren können sowie die angemessenen mathematischen Begriffsbildungen und übergreifenden Methoden kennen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Vorlesung (Blockveranstaltung, eine Semesterhälfte) (Lecture)	

Examination: Hausarbeit (maximal 15 S.) oder mündliche Prüfung (ca. 30 min.) **Examination requirements:** Klassische Symmetrien, Gruppen und Darstellungen. Symmetrien in der Quantentheorie, Automorphismen und Derivationen, unitäre Operatoren und Generatoren, Implementierbarkeit und spontane Symmetriebrechung. Anwendungen in der Quantenfeldtheorie.	3 C

Admission requirements: none	**Recommended previous knowledge:** Quantenmechanik I; Feldtheorie der Quantentheorie
Language: English	**Person responsible for module:** StudiendekanIn der Fakultät für Physik
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 3
Maximum number of students: 20	

Additional notes and regulations: Schwerpunkt: KT, FM

Georg-August-Universität Göttingen **Module M.Phy.5804: Simulation methods for theoretical particle physics**	3 C 3 WLH

Learning outcome, core skills:	Workload:
The aim of the lecture is to convey the theoretical foundations of simulations of particle-physics scattering experiments. While the relevant theoretical concepts get introduced and discussed in the lectures, the tutorials provide hands-on experience with corresponding computer codes. The successful participation in the module the students will have experience with the tools and methods used in high-energy particle physics research. They will be in a position to carry out corresponding calculations and understand contemporary research subjects	Attendance time: 42 h Self-study time: 48 h

Course: Tutorial Simulation methods for theoretical particle physics	1 WLH
Course: Lecture Simulation methods for theoretical particle physics (Lecture)	2 WLH

Examination: Written exam (30 Min.) or oral exam (approx. 30 Min.) **Examination requirements:** Solid understanding of the foundations of the theoretical description of high-energy scattering experiments. Ability to carry out corresponding calculations and simulations.	3 C

Admission requirements: keine	Recommended previous knowledge: Quantum mechanics II, Quantum Field Theory
Language: English	**Person responsible for module:** Prof. Dr. Steffen Schumann
Course frequency: every 4th semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.Phy.5805: Quantum Field Theory II**	3 C 3 WLH

Learning outcome, core skills: **Lernziele**: Ziel der Veranstaltung ist es, dass Verständnis der theoretischen Konzepte von Quantenfeldtheorien zu vertiefen und erweitern. Alternativ zur kanonischen Feldquantisierung wird die Methode der Pfadintegralquantisierung vorgestellt. Ein zweiter Schwerpunkt liegt auf der Renormierung der Theorien. Als praktische Beispiele dienen teilchenphysikalische Modelle und dabei insbesondere nicht-abelsche Eichfeldtheorien. **Kompetenzen**: Die Studierenden sollen mit den Methoden der Quantenfeldtheorie vertraut werden. Ein vertieftes Verständnis der Quantisierungs- und Renormierungsprozeduren wird vermittelt. Die Studierenden werde damit in die Lage versetzt, Fragestellungen der aktuellen Forschung zu verstehen.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Quantum Field Theory II	2 WLH
Examination: Klausur (90 Min.) oder mündliche Prüfung (ca. 30 Min.)	3 C

Course: Quantum Field Theory	1 WLH

Admission requirements: none	**Recommended previous knowledge:** QM II, QFT
Language: English	**Person responsible for module:** Prof. Dr. Andreas Tilgner
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 1
Maximum number of students: 30	

Additional notes and regulations: SP KT

Georg-August-Universität Göttingen **Module M.Phy.5806: Detectors for particle physics and imaging**	3 C 3 WLH

Learning outcome, core skills: **Lernziele**: Aufbauend auf der Einführungsveranstaltung „Wechselwirkung zwischen Strahlung und Materie" sollen speziellere Themen der Detektorphysik wie der Aufbau bestimmter Detektortypen (z.B. Halbleiterdetektoren oder andere Ionisationsdetektoren), Auslesesysteme und Rauschbeiträge in der Auslese, Strahlenschäden am Detektormaterial/der Auslese, etc. und die Anwendung solcher Detektoren betrachtet werden. **Kompetenzen**: Die Studierenden sollen mit aktuellen Fragestellungen der Detektorphysik in der Hochenergiephysik, der Bildgebung und ähnlichen Anwendungsgebieten vertraut gemacht werden.	**Workload:** Attendance time: 42 h Self-study time: 48 h

Course: Detectors for particle physics and imaging *Course frequency:* irregular	

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Detailliertes Verständnis der Funktionsweise der besprochenen Detektortypen sowie deren Anwendung	3 C

Examination requirements: ECTS-Bedingungen de	

Admission requirements: none	**Recommended previous knowledge:** Einführung Detektorphysik
Language: English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 1
Maximum number of students: not limited	

Additional notes and regulations: SP KT

Georg-August-Universität Göttingen	6 C
Module M.Phy.5807: Particle Physics III - of and with leptons	6 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of this module, students should be familiar with the properties and interactions of leptons as well as with experimental methods and experiments which lead to their discovery and are used for precise studies.	Attendance time: 84 h Self-study time: 96 h

Course: Lecture and exercises - Particle Physics III	
Examination: Oral examination (approx. 45 minutes) **Examination requirements:** Discovery of leptons, properties of leptons, weak interactions and V-A structure, neutral currents, standard model of particle physics, e+e- physics at LEP, fermion pair production at varying center of mass energy, lineshape of cross-section at Z-pole, number of light neutrino generations, forward-backward-asymmetry, tau-polarisation, e+e- physics at the LHC, (g-2)_myon, neutrinos and neutrino oscillations, solar neutrinos, atmospheric neutrinos, long-baseline experiments, neutrino factories, neutrino mass, neutrinoless double-beta decay.	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to Nuclear/Particle Physics
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** Master: 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.Phy.5808: Particle Physics 3 - of and with leptons**	6 C 6 WLH

Learning outcome, core skills: **Lernziele**: Entdeckung der Leptonen, Eigenschaften der Leptonen, schwache Wechselwirkung und V-A Struktur, neutrale Ströme, Standardmodell der Teilchenphysik, e+e- Physik bei LEP, Fermionpaar-Produktion bei verschiedenen Schwerpunktsenergie, Lineshape des Wirkungsquerschnitts am Z-Pol, Anzahl leichter Neutrino-Generationen, Vorwärts-Rückwärts-Asymmetrie, Tau-Polarisation, e+e- Physik bei ILC, (g-2)myon, Netrinos und Neutrinooszillationen, solare Neutrinos, athmosphärische Neutrinos, long-baseline Experimente, Neutrino-Fabriken, Neutrino Masse, neutrinoloser Doppel-Betazerfall der Neutrinos **Kompetenzen**: Die Studierenden sollen die Eigenschaften und Wechselwirkungen der Leptonen erlernen und sich mit den experimentellen Methoden und Experimente zu deren Entdeckung bzw präzisen Untersuchung vertraut machen.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Particle Physics 3 - of and with leptons	4 WLH
Course: Particle Physics 3 - of and with leptons	2 WLH

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Konzepte und Experimente zu Entdeckung, Eigenschaften und Wechselwirkung der Quarks	6 C

Admission requirements: keine	**Recommended previous knowledge:** Einführung in die Kern-/Teilchenphysik (B.Phy.504)
Language: German, English	**Person responsible for module:** Prof. Dr. Arnulf Quadt
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** from 5
Maximum number of students: 30	

Additional notes and regulations: Bachelor/Master ab 5. FS (KT)

Georg-August-Universität Göttingen	3 C
Module M.Phy.5809: Axiomatic Quantum Field Theory	3 WLH

Learning outcome, core skills:	**Workload:**
Acquisition of knowledge: Axiomatic settings and general structure theorems of relativistic quantum field theory; Symmetries and representations; Exact models (two spacetime dimensions, especially with conformal symmetry).	Attendance time: 42 h
Competences:	Self-study time: 48 h
The students shall be familiar with the model-independent concepts and structures of relativistic Quantum Field Theory. They understand the transfer between complementary approaches.	

Course: Axiomatic Quantum Field Theory (Lecture)	2 WLH
Examination: Written or oral examwritten (120 min.) or oral (ca. 30 min.) exam Examination requirements:	3 C
Mastery of the conceptual framework and elementary methods of proof. Application in concrete situations.	

Course: Axiomatic Quantum Field Theory (Exercise)	1 WLH
Contents:	
in-class problems	

Admission requirements:	**Recommended previous knowledge:**
none	Classical Field Theory I, QM I, II
Language:	**Person responsible for module:**
English	apl. Prof. Dr. Karl-Henning Rehren
Course frequency:	**Duration:**
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
three times	1 - 4
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.Phy.581: Advanced Topics in Nuclear and Particle Physics I**	6 C 6 WLH

Learning outcome, core skills:	**Workload:**
Learning outcome: After successful completion of the modul students will be able to understand and apply advanced concepts of Nuclear and Particle Physics to current research topics. **Core skills:** Students will be able to describe and discuss state-of-the-art problems of Nuclear and Particle Physics.	Attendance time: 84 h Self-study time: 96 h

Course: A Course (6 C) in the field of Nuclear and Particle Physics	
Examination: Written examination (120 Min.) or oral examination approx. 30 Min.) or talk (approx. 30 Min.),2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Nuclear and Particle Physics	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5810: Physics and Applications of Ion solid interaction**	6 C 6 WLH

Learning outcome, core skills: After successful completion of the module students should be familiar with theoretical background and advanced concepts of ion solid interaction, electronic and nuclear energy loss, thermal spikes, ion sputtering, ion beam analysis techniques, ion implantation, ion accelerators and ion sources, simulation of ion solid interaction, ion induced surface pattern formation, ion microscopy and focused ion beam techniques.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: Physics and Applications of Ion solid interaction in the field of Solid State/Materials Physics (Lecture)	4 WLH
Course: Practical lab excercises Physics and Applications of Ion solid interaction in the field of Solid State/Materials Physics	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Advanced experimental techniques and theoretical models in ion-solid interaction	6 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to solid state physics
Language: English, German	**Person responsible for module:** Prof. Dr. Hans Christian Hofsäss
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.5811: Nuclear Solid State Physics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of the module students should be familiar with the physics of hyperfine interactions and interaction of nuclear moments with external magnetic and electric fields, Mössbauer spectroscopy and perturbed angular correlation of gamma radiation, nuclear magnetic resonance techniques, myon spin rotation, positron annihilation spectroscopy, neutron scattering and electron emission channeling.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Nuclear solid state physics in the field of Nuclear and Particle Physics and/or Solid State and Materials Physics (Lecture)	4 WLH
Course: Exercises in the field of Nuclear and Particle Physics and/or Solid State and Materials Physics (Exercise)	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Nuclear solid state physics concepts and techniques, physics of hyper fine interactions, interaction of neutrons with matter, physics of nuclear resonance techniques, application of positrons, myons and decay electrons to materials characterization.	4 C

Admission requirements: none	**Recommended previous knowledge:** Introduction to nuclear and particle physics Introduction to solid state physics
Language: English, German	**Person responsible for module:** Prof. Dr. Hans Christian Hofsäss
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.Phy.582: Advanced Topics in Nuclear and Particle Physics II**	6 C 4 WLH

Learning outcome, core skills: After successful completion of the modul students should be familiar with advanced concepts of Nuclear and Particle Physics	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: A Course (3 C) in the field of Nuclear and Particle Physics	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Nuclear and Particle Physics	3 C

Course: A Course (3 C) in the field of Nuclear and Particle Physics	2 WLH
Examination: Written exam (120 min) or oral exam (ca. 30 min) or talk (ca. 30 min), 2 weeks preparation time **Examination requirements:** Advanced experimental techniques or theoretical models in Nuclear and Particle Physics	3 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: 40	

Georg-August-Universität Göttingen **Module M.Phy.586: Seminar Advanced Topics in Nuclear and Particle Physics**	4 C 2 WLH

Learning outcome, core skills: After successful completion of this module, students should be able to reproduce and present complex chains of arguments, assess their own and other students' presentation critically.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Seminar Advanced Topics in Nuclear and Particle Physics	
Examination: Lecture4 weeks preparation time (approx. 60 minutes) **Examination prerequisites:** Active participation **Examination requirements:** Preparation of complex topics for presentation and scientific discussion.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English, German	**Person responsible for module:** Dean of Studies
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 40	

Georg-August-Universität Göttingen	6 C
Module M.Phy.603: Writing scientific articles	2 WLH

Learning outcome, core skills:	Workload:
Objective: Basics of writing a scientific paper, form and and content of a Scientific paper, correspondence with scientific journals, understanding and imparting of content of current research, scientific discussion with co - authors **Competences:** After successfully completing the module students should know how to... • write a scientific article • submit a publication in the respective field • impart their independently developed effort	Attendance time: 28 h Self-study time: 152 h

Course: Workshop	1 WLH
Course: Accompanying Seminar	1 WLH
Examination: written report (max. 20 S.), not graded **Examination prerequisites:** active participation	6 C

Examination requirements:	
a) Writing scientific articles b) Submit sciientific publications	

Admission requirements:	Recommended previous knowledge:
The Bachelor Thesis has to... • meet high academic standards • be a scientific progress in the science • be an independent performance The determination of the access authorization is performed by the module responsible. She/He may request the opinion of an authorized examinator in the related field.	none
Language: English, German	**Person responsible for module:** Dean of Studies of the Faculty of Physics
Course frequency: each semester; nach Bedarf	**Duration:** 2 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.A02M: Epidemiology of international and tropical animal infectious diseases	

Learning outcome, core skills:	**Workload:**
Based on a scientific and practical up-to-date level, students know to evaluate and develop modern and effective livestock hygiene and husbandry concepts and to integrate them into complex quality management programs. Graduates are trained to be competent in implementing and communicating their knowledge in a multidisciplinary occupational setting that establishes epizootic control programs.	Attendance time: 84 h Self-study time: 96 h

Course: Epidemiology of international and tropical animal infectious diseases	4 WLH
(Lecture, Exercise)	
Contents:	
Infectious diseases play an enormous role in international animal health control. National health and veterinary authorities, as well as international organizations (WHO, FAO) are very much involved in the surveillance of epidemics and establishment of health and hygiene monitoring programs. These efforts will increase in future, because of a further globalization of international markets, and will require well-educated experts collaborating worldwide in this multidisciplinary field.	
This module will give a generalized view of current epidemics together with a specialized understanding of infectious diseases and hygienic programs in subtropical and tropical countries. Characteristics of the biology of relevant infectious agents like parasites, fungi and bacteria together with their toxins, viruses, and prions will be presented in detail. Some of these germs included in this unit cause severe zoonotic diseases with a lethal danger for humans. Immunological host-defence mechanisms of wild and domestic farm animals against pathogens will be discussed together with modern strategies of active and passive immunizations. Diagnostic methods presently available and new biotechnological approaches in future assay and vaccine development will be demonstrated. The adaptation of practical health and standardized quality management processes to various animal production systems (ruminants, pigs, poultry) and the corresponding management measurements will be explained. The view will deeply focus on environmental impacts (water, soil, air hygiene), epizootiology and modern tools in epizootiological research. It will include biology and eradication of vectors (insects, ticks) transmitting pathogens of animal and zoonotic diseases, as well as biological and chemical methods for vector control.	
In the laboratory course, this module will also communicate well-established techniques of microbiological and parasitological diagnostics. Students will be practically trained in classical methods and in modern biochemical, immunological, biotechnological and molecular biological techniques for the detection of infectious agents, toxins and noxious substances. Tissue culture procedures for vaccine or antibody development are also used. Modification of livestock-environment interactions through human management are discussed.	

Examination: Oral examination (approx. 90 minutes)	6 C

Examination requirements:

Knowledge of current veterinary epidemic and infectious diseases inclusive emerging diseases. Background of hygiene and eradication programs. Profound knowledge in important infectious agents (parasites, fungi, bacteria, viruses) as well as toxins and prions. Skills in immunologic defense mechanisms of wildlife, zoo and domesticated animals in connection with modern active and passive vaccination strategies and biotechnological vaccine development. Knowledge in modern diagnostic tools as well as in biology and control of biological vectors (ticks, midges).

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Admission requirements:	Recommended previous knowledge:
none	Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Language: English	**Person responsible for module:** Prof. Dr. Jens Tetens
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Additional notes and regulations:

Literature:

Lecture based materials.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.A03M: International and tropical food microbiology and hygiene**	6 C 4 WLH

Learning outcome, core skills: Based on a scientific and practical up-to-date level, students know to evaluate and develop modern and effective food hygiene concepts and to integrate them into complex quality management programs. Graduates are competent to implement and to communicate their knowledge in a multidisciplinary occupational area establishing epizootic control programs in food microbiology and hygiene. They are able to understand international experts of public health authorities and collaborate in international and multidisciplinary platforms including control, monitoring, and research.	**Workload:** Attendance time: 84 h Self-study time: 96 h

Course: International and tropical food microbiology and hygiene (Lecture, Exercise) *Contents*: Infectious and toxic pathogens cause most of the food-borne impacts on human health all over the world. Global markets require an international surveillance system together with standardized food hygiene regulations. This module will give a generalized view of currently and internationally relevant food-borne zoonotic diseases, epidemics and food hygiene programs together with a specialized view on the conditions in subtropical and tropical countries. The biology of infectious agents (parasites, fungi, yeasts, bacteria, viruses, prions, together with their toxins) responsible for contaminations and intoxications of human food of animal origin will be discussed in detail. Some of these germs cause severe zoonotic diseases with a lethal potential for humans or certain age groups. Special characteristics of germ resistance in the food matrices meet, milk and eggs as well as in the corresponding products are elucidated along the complete manufacturing processes: from stable to table. Deterioration and spoilage of foodstuffs by microorganisms will be discussed as well. Diagnostic methods presently available for the detection of contaminated or spoiled nourishments and new biotechnological approaches in future assay designs will be analysed. The adaptation of practical hygiene and standardized quality management adjustment factors to various animal production systems (ruminants, pigs, poultry) as well as to the subsequent production processes will be explained together with the corresponding management measurements. This includes food conservation procedures, germ depletion and eradication techniques (cleaning, disinfection, autoclaving, sterilization). Beside negative microbial effects influencing food quality, positive effects especially of bacteria and fungi in food production will also be presented. Biotechnological aspects of genetic engineering of foodstuff supplements or directed genetic germ design will be discussed. In a laboratory course on food microbiology, this module will also communicate well-established techniques of microbiological and parasitological diagnostics in food matrices. Students will be practically trained in classical methods and in modern biochemical, immunological, biotechnological and molecular biological techniques for the detection of food-borne infectious agents, toxins and noxious substances.	4 WLH

Vorlesungsbegleitende Materialien	
Examination: Oral examination (approx. 90 minutes) **Examination requirements:** Knowledge in current food-borne zoonoses, programs in food hygiene and requirements for their implementation in tropical and subtropical countries. Background of the biology of infectious agents, tenacity of special microorganisms and microbial spoilage of foodstuffs, available diagnostic tools for detection of contaminated or spoiled foodstuffs and about new biotechnological diagnostic assays. Skills in practical hygiene norms, normative documents and standardized international quality management systems, foodstuff conservation, germ depletion and inactivation as well as in positive influences of bacteria and fungi on foodstuff production.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Language: English	**Person responsible for module:** N. N.
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: **Literature:** Lecture based materials.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.A04: Livestock reproduction physiology	

Learning outcome, core skills:	Workload:
Acquire in-depth knowledge of the physiology of reproduction of agricultural livestock; Ability to critically consider what has been learned and to independently identify and solve problems of global challenges in the reproduction of farm animals	Attendance time: 56 h Self-study time: 124 h

Course: Livestock reproduction physiology (Lecture, Excursion, Exercise, Seminar)	4 WLH
Contents: Anatomical and physiological principles of reproduction in farm animals (endocrinology, growth factors, oogenesis, spermatogenesis, reproductive cycles, reproductive-specific behavior, insemination and fertilization, pregnancy, parturition, lactation and care of offspring); Reproductive Biotechnologies, Assisted Reproductive Technologies (artificial insemination, pregnancy diagnosis, gamete preservation, embryo transfer, in vitro fertilization, sex determination on gametes and fetuses, cloning techniques, creation of transgenes); stem cells; ethics.	
Hafez B., Hafez, E.S.E. 2000: Reproduction in Farm Animals 7th ed. Lippincott Williams & Wilkins Publishing; Bearden, H.J., Fuquay, J.W., Willard, S.T. 2004: Applied Animal Reproduction, 6th ed. Pearson Prentice Hall Publishing; Squires, E.J. 2003: Applied Animal Endocrinology 1st ed. CABI Publishing; Pineda, M.H., Dooley, M.P. 2003: Mc Donald's Veterinary Endocrinology and Reproduction 5th ed. Blackwell Publishing. Senger P.L. (2003): Pathways to pregnancy and parturition (2nd edition). Current conceptions, Inc.	

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** The exam will ask knowledge and transfer questions related to the lecture content (i.e. endocrinology, physiology of reproduction, genetics, animal husbandry, animal nutrition, animal hygiene and reproductive biotechnologies). Emphasis is placed on being able to assess the interaction of the individual disciplines in reproductive management.	6 C

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge of animal sciences

Language:	Person responsible for module:
English	Prof. Dr. Michael Hölker

Course frequency:	Duration:
each summer semester; Göttingen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	

Maximum number of students:	

20	

Additional notes and regulations:
After successful conclusion of M.Agr.0069, M.Agr.0070 and B.Agr.0331 students can not complete
M.SIA.A04

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.A07: Unconventional livestock and wildlife-management, utilization and conservation	6 C

Learning outcome, core skills: Based on the historical development of agriculture, particularly the domestication of animals, students know the differences between livestock and wildlife and the importance and potential of unconventional livestock and wildlife for rural development and human livelihoods in different regions of the world. Students obtain an overview over the wide variety of unconventional livestock, their adaptive features, biology and ecology and the various production systems under which they are kept. Students familiarize with the variety of wildlife species, their biology, ecology, and population dynamics and the potential of their exploitation. They know the major international conventions pertaining to wildlife conservation and are familiar with the nature and magnitude of human/wildlife conflicts. They know about costs and benefits associated with human-wildlife-co-existence and understand the dilemma between (inter)national conservation objectives and local household livelihood objectives. Students obtain an overview over different terminal and non-terminal options of wildlife utilisation and management and their respective potential contribution to the above conflicting objectives.	Workload: Attendance time: 60 h Self-study time: 120 h

Course: Unconventtional livestock and wildlife-management, utilization and conservation (Block course, Excursion, Seminar) *Contents*: History of domestication of livestock. Unconventional livestock in Asia/Oceania, Africa and Latin America: Biology, management and, production systems. Commercial and subsistence products from little known domesticated animal species – such as insects, snails, reptiles, rodents, up to little-used ungulates. Local and national economic potential and contribution to local livelihoods. Wildlife in Asia, Africa and Latin America: Biology, wildlife demography and modelling of population dynamics, human/wildlife conflicts, international conventions on (agro)-biodiversity and conservation, strategies for wildlife conservation through utilisation, different wildlife utilisation concepts, wildlife-based tourism, terminal wildlife utilisation of different intensity ("Hunting/Trophy hunting", "Game-Ranching", "Game Farming", "Feedlot" with beginning domestication), community-based utilisation cum conservation approaches. Contribution of wildlife utilisation to the livelihood of rural communities. Regulations, possibilities and constraints for wildlife conservation. Diamond, J. 1999: Guns, Germs, and Steel: The Fates of Human Societies. W.W.Norton and Company, New York, 480 p.; Board on Science and Technology for International Development 1991: Microlivestock Little-Known Small Animals with a Promising Economic Future. National Academy Press, Washington D.C., 449; Bonner, R.. 1993: At the Hand of Man - Peril and Hope for Africa's Wildlife. Alfred A. Knopf Inc., New York, 322 p.; Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973/1979 at http://www.cites.org/ (incl. appendices)	WLH

Examination: Written exam (90 minutes, 70%) and oral seminar presentation (ca. 20 minutes, 30%)	6 C
Examination requirements: Domestication / taming; unconventional domesticated animals: Biology, management, husbandry, economic potential. Wildlife: Biology, population dynamics, modelling of population dynamics; human-wildlife conflicts, international conventions on biodiversity and species conservation. Wildlife utilization: Tourism, game ranching, game hunting, trophy hunting.	

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Language: English	**Person responsible for module:** Prof. Dr. Eva Schlecht
Course frequency: SoSe, jedes 2 Jahr, alternieernd mit dem Modul M.SIA.A08; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Literature:

Diamond, J. 1999: Guns, Germs, and Steel: The Fates of Human Societies. W.W.Norton and Company, New York, 480 p.; Board on Science and Technology for International Development 1991: Microlivestock Little-Known Small Animals with a Promising Economic Future. National Academy Press, Washington D.C., 449; Bonner, R.. 1993: At the Hand of Man - Peril and Hope for Africa's Wildlife. Alfred A. Knopf Inc., New York, 322 p.; Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973/1979 at http://www.cites.org/ (incl. appendices)

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.A10: Livestock nutrition and breeding under (sub)tropical conditions**	6 C 4 WLH

Learning outcome, core skills: Students are able: • to describe the effects of abiotic and biotic environmental influences on behaviour and physiology of different livestock species and to discuss respective adaptation strategies of animals; • to analyse the opportunities and limitations of feeding, management and breeding strategies for an optimization of livestock production under specific agro-ecological settings; • to individually explain and discuss such topics for a selected livestock species or breed in an oral seminar presentation or written essay.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Livestock nutrition and breeding under (sub)tropical conditions (Lecture, Seminar) *Contents*: This module analyses the physiological basis of livestock husbandry in the Tropics and Subtropics. The adaptation of the most widely used livestock species (cattle, small ruminants, camelids, buffalo, poultry, pigs) to the climatic conditions and to qualitatively and quantitatively variable fodder supply is studied. Possibilities to reduce the negative impact of environmental factors on animal production through adapted management strategies are analyzed. Opportunities and limitations of breeding strategies for the improvement of animal production under the given ecological and economic conditions are discussed and evaluated. Allocation of lecturing time: 50% animal nutrition, 50% animal breeding Payne; W.J.A., Wilson, R.T. 1999: An Introduction to Animal Husbandry in the Tropics. Blackwell Science Ltd., Oxford, UK; Van Soest, P.J. 1994: Nutritional Ecology of the Ruminant. Cornell University Press, Ithaca, US; Wiener, G. 1994: Animal Breeding (Tropical Agriculturist). Macmillan Education, Edinburgh, UK [ISBN-13: 978-0333572986].	4 WLH
Examination: Oral exam (ca. 20 minutes, 75%) and homework (max. 5 pages, 25%) **Examination requirements:** Nutrition part (10 minutes, 50% weight): basics of animal nutrition in (sub-)tropical environments; macro- and micro-nutrients, digestive physiology, feed conversion; interdependency between animal nutrition and health, concept of nutritional wisdom. Breeding part (10 minutes, 50% weight): basics of animal breeding in (sub-)tropical environments; production traits, secondary traits, lifetime productivity, heritability, breeding value, methods to determine breeding value; breeding strategies for the most important livestock species in (sub-)tropical counties.	6 C

Admission requirements: none	**Recommended previous knowledge:**

	Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Language: English	**Person responsible for module:** Prof. Dr. Eva Schlecht
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
Literature:
Payne; W.J.A., Wilson, R.T. 1999: An Introduction to Animal Husbandry in the Tropics. Blackwell Science Ltd., Oxford, UK;   Van Soest, P.J. 1994: Nutritional Ecology of the Ruminant. Cornell University Press, Ithaca, US;   Wiener, G. 1994: Animal Breeding (Tropical Agriculturist). Macmillan Education, Edinburgh, UK [ISBN-13: 978-0333572986].

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.A11: Tropical animal husbandry systems**	6 C 4 WLH

Learning outcome, core skills: Students are able to: understand the impact of the natural and economic environment on the evolution of different types of husbandry systems as well as on their orientation and intensity of production; gain understanding for parameters that have to be considered when aiming at the improvement of livestock husbandry systems within a given framework; individually analyse and present a specific tropical livestock production system.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Tropical animal husbandry systems (Lecture, Seminar) *Contents*: This module provides an extensive overview on the different forms of animal husbandry systems in developing and transformation countries of Africa, Asia and Latin America, ranging from camel nomadism in deserts to beef ranching and intensive dairying in tropical highlands. The system-specific strategies of livestock management are analysed in view of their ecological and economic sustainability. The (potential) interactions of livestock with other components of the farming system are explored, thereby differentiating between market and subsistence oriented systems. The role of additional factors influencing livestock production systems such as cultural, social, economical and political frame conditions are discussed. Delgado, C., Rosegrant, M., Steinfeld, H., Ehui, S., Courbois, C. 1999: Livestock to 2020. The next food revolution. FAO Discussion Paper 28, FAO Rome, Italy; Devendra, C., Thomas, D., Jabbar, M.A. and Zerbini, E., 2000: Improvement of Livestock Production in Crop-Animal Systems in Agro-ecological Zones of South Asia. ILRI, Nairobi, Kenya; Falvey, L., Chantalakhana, C. (eds) 1999: Smallholder Dairying in the Tropics. ILRI, Nairobi, Kenya	4 WLH
Examination: Written exam (90 minutes, 75%) and oral seminar presentation (ca. 15 minutes, 25%) **Examination requirements:** abiotic and biotic conditions of animal husbandry in the (sub-)Tropics; characteristics, opportunities/constraints of pastoral, agro-pastoral, silvo-pastoral, aquatic, industrial and urban systems; species-specific management and production (cattle, sheep, goat, camel, yak, pig, poultry).	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge (B.Sc. level) of plant and animal sciences or agricultural economics
Language:	**Person responsible for module:**

English	Prof. Dr. Eva Schlecht
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Literature:

Delgado, C., Rosegrant, M., Steinfeld, H., Ehui, S., Courbois, C. 1999: Livestock to 2020. The next food revolution. FAO Discussion Paper 28, FAO Rome, Italy; Devendra, C., Thomas, D., Jabbar, M.A. and Zerbini, E., 2000: Improvement of Livestock Production in Crop-Animal Systems in Agro-ecological Zones of South Asia. ILRI, Nairobi, Kenya; Falvey, L., Chantalakhana, C. (eds) 1999: Smallholder Dairying in the Tropics. ILRI, Nairobi, Kenya

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.A13M: Livestock-based sustainable land use	6 C 4 WLH

Learning outcome, core skills:	Workload:
To understand the interactions of livestock with the natural resource base and their site- and management specific positive or negative environmental impacts; To get acquainted with and test methodological approaches used in field research on livestock-environment interactions; To learn about simple modelling approaches and the significance of their results.	Attendance time: 56 h Self-study time: 124 h

Course: Livestock-based sustainable land use (Lecture, Exercise) *Contents*: This module highlights the general positive and negative impacts of livestock and livestock management on the natural resources (air, water, soil vegetation), specifically under (sub)tropical conditions, at the plot to the watershed scale. It discusses options for sustainable livestock-based land use, thereby building upon the beneficial impacts of animals on soils and plants. Management options for reducing negative environmental effects of livestock (gaseous emissions, nutrient excretion) are highlighted, and possibilities for consolidating the interests of livestock keepers with international conventions are discussed. The students are introduced, in lectures, own reading and practical field tests to up-to-date quantitative and qualitative methods that are used in studies on animal-environment interactions. Simple modelling approaches that depict animal-environment interactions at the plot level up to the watershed scale are presented and tested by the participants. Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., de Haan, C. 2006: Livestock's long shadow. Fao, Rome, Italy; Specific scientific articles, distributed in the course.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Influences of animal husbandry / the individual animal on its environment: soil fertility and soil erosion, pasture vegetation, nutrient transfers, greenhouse gas emissions; livestock keeping versus nature conservation; methods for assessing quality and quantity of pasture vegetation; methods to determine the animal's behavior at pasture and its feed intake.	6 C

Admission requirements: none	Recommended previous knowledge: Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Language: English	Person responsible for module: Prof. Dr. Eva Schlecht
Course frequency: each summer semester; Witzenhausen	Duration: 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: not limited	

Additional notes and regulations:

Literature:

Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., de Haan, C. 2006:
Livestock's long shadow. Fao, Rome, Italy; Specific scientific articles, distributed in the
course.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.A14: Organic livestock farming under temperate conditions**	6 C 4 WLH

Learning outcome, core skills: Animal nutrition and animal health: Students have a basic understanding of farm animal nutrition and health management; they understand the challenges emerging in organic livestock systems related to both animal nutrition and animal health and know how to assess, quantify, evaluate and approach these challenges. Animal welfare: Students have a basic understanding of animal welfare, familiarise with different organic husbandry systems, practical problems and scientific concepts including how to assess animal welfare both at farm and system level. Sustainable forage production systems: Students are able to assess the relationships between sward management and structural (yield, botanical composition) and functional (nutrient efficiency) sward characteristics.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Animal nutrition and animal health (Lecture) *Contents*: Principles and regulations of organic livestock farming in Europe; Nutrition in organic cattle, pigs and poultry; Animal health and production diseases; Production diseases in organic cattle, pigs and poultry; Health management in organic livestock farms	1,33 WLH
Course: Animal Welfare (Lecture) *Contents*: Principles of animal welfare in relation to organic farming; scientific methods of welfare assessment.	1,33 WLH
Course: Sustainable forage production systems (Lecture) *Contents*: • Design and management of a sustainable forage production • Management of forage quality and biodiversity on grassland • Minimizing nutrient losses towards water and atmosphere	1,33 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of basic terms relevant to organic livestock systems; insights into aspects of feeding, healthcare, welfare, forage production and forage quality assessment; linkages and interdependencies between the discussed fields.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge (B.Sc. level) of animal and forage sciences.
Language: English	**Person responsible for module:** Dr. Margret Krieger

Course frequency:	**Duration:**
each summer semester; Witzenhausen	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
35	

Additional notes and regulations:

Literature:

Appleby, M.C., Hughes, B.O. (eds) 1997: Animal welfare. CAB International, Wallingford; Vaarst, M. et al. (eds.) 2004: Animal health and welfare in organic Agriculture. CAB International, Wallingford; Hopkins, A. 2000: Grass, its production and utilization. Blackwell Science, Oxford, UK;   Cherney J.H. 1998: Grass for dairy cattle CABI Publishing, Exon, UK; Frame, J. 1992: Improved Grassland Management. Farming Press Books, Ipswich, UK; Marshall, A. & Collins, R. (eds.) 2018: Improving grassland and pasture management in temperate agriculture. Burleigh Dodds Science Publishing Limited, Cambridge, UK.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.A15M: Scientific writing in natural sciences	

Learning outcome, core skills:	**Workload:**
In the course of their study programme, when compiling their MSc thesis and for their further (academic) career, students have to deliver a variety of scientific texts. Therefore, this module aims at presenting and discussing the main principles of such texts. It provides training in how to write different types of essays, abstracts, grant winning proposals and complex texts (chapters) in preparation and writing of the master thesis research. At successful completion of this module, participants will be able to: - differentiate the <u>structure and format</u> of various types of scientific texts; - search <u>scientific literature</u>, set up and manage an electronic literature database and compile reference lists; - <u>write</u> term papers, grant proposals, conference abstracts, and final thesis (chapters); - compile scientific <u>tables and figures</u> and be able to decide which type of data is best expressed in which format; - apply the rules of <u>good scientific practice;</u> - give and receive constructive <u>feedback</u> on scientific texts.	Attendance time: 56 h Self-study time: 124 h

Course: Scientific writing in natural sciences	
Contents: To provide participants with theoretical basics and practice these, the module will offer a mixture of lecture and exercises. Within the course a variety of facets and techniques of scientific writing will be imparted that graduate SIA students should be able to master. Consequently, participants are introduced to scientific literature search and analysis, good scientific practice and how to avoid plagiarism. Additionally, guidelines for creating concise tables and figures are presented. To be prepared for their master thesis work, students will be taught how to write different scientific text documents such as grant proposals and conference abstracts. By reviewing and discussing a scientific article and peer-reviewing an abstract of a fellow student by using an online tool, module participants will train how to give and receive constructive feedback. Finally, students will choose a topic for their term paper (see below) to further apply the newly acquired knowledge.	
Examination: 3 short written assignments (approx. 4 pages, 50%) are to be handed in during the semester and one major text (term paper, approx. 6 pages 50%) is to be submitted at the end of the semester.	6 C

Admission requirements:	**Recommended previous knowledge:**
none	Basic knowledge of Word (Microsoft or Open Office) and Adobe Acrobat.
Language:	**Person responsible for module:**
English	Prof. Dr. Eva Schlecht

Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
30	

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.A16: Livestock Breeding Programs - Planning Procedures, Organization of Breeding Programs and International Case Studies**	6 C 4 WLH

Learning outcome, core skills: Students will gain knowledge on breeding planning concepts and cycles as well as on definition of breeding goals. They know the gene flow method as basis for calculating genetic gain in breeding goal traits. Based on recommended literature and invited lectures by external breeding experts, students will be able to analyze European breeding strategies for practicability and applicability in developing countries of sub-/ tropical regions. They will elaborate and present the application of breeding methods (pure-/crossbreeding) by selected case studies, and thereby gain an understanding of differences of the suitability of breeding methods for different livestock species. By active studying, skills to use planning approaches for pure- and crossbreeding programs in a production system context are acquired. International case studies (livestock species) will be selected based on students' preferences. Complementary literature will be provided to prepare for the lectures; it will be discussed during the lectures and in invited contributions of external breeding experts. The recommended literature should be read before the lecture to be used as a basis for joint discussions during lecture. Specific aspects will be deepened by the lectures and invited speakers, and questions of students are answered during lectures. The contents presented in the lectures will be complemented by selected topics that will be treated by the students in student seminars. In that way, every student has the possibility to study in more detail on one specific content/topic of the course. Independent acquiring of knowledge is learned. The aim of the student seminars is to sharpen the critical view and the attention for problems; to learn how to deal with literature and how to judge differing or contradictory statements; to develop/strengthen the ability of independent, profound, critical analysis and synthesis of literature, as well as the ability of presenting and discussing results of scientific research.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Livestock Breeding Programs - Planning Procedures, Organization of Breeding Programs and International Case Studies (Lecture, Seminar) *Contents*: 1. Definition of breeding goals; 2. Purebreeding: Design of livestock breeding programs, gene flow method, estimation of genetic gain; 3. Crossbreeding: Parameter estimation, prediction of performance in crossbred animals 4. International case studies on organization and process of purebreeding in cattle, sheep and goats; herdbook breeding, nucleus breeding 5. International case studies on organization and process of crossbreeding: Presentation of species-specific breeding methods in crossbreeding – e.g.	4 WLH

    commercial crosses in pigs, stratified crossbreeding in sheep with vertical and horizontal integration

6. Structure and efficiency of pure-/crossbreeding programs for different livestock species and feasibility under marginal conditions

Literature will be provided to prepare for the lectures and the students' seminars.

Examination: Written exam (90 minutes, 70%) and oral seminar presentation (approx. 20 minutes, 30%) **Examination requirements:** Knowledge of concepts for breeding planning and organization; knowledge of conventional and village (pure-/cross-)breeding schemes; insights into livestock breeding programs in Europe; ability to explain the problems associated with the implementation of breeding programs under marginal conditions	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of animal breeding (BSc level) Basic knowledge of tropical animal agriculture (M.SIA.A11 or M.SIA.A08)
Language: English	**Person responsible for module:** PD Dr. Regina Rößler
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4
Maximum number of students: 15	

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E02: Agricultural price theory	

Learning outcome, core skills:	**Workload:**
Significance of prices from individual and societal viewpoint, agricultural price structure, role of technical change, vertical and spatial price formation, price formation in quota markets, futures and forward contracts.	Attendance time: 56 h Self-study time: 124 h

Course: Agricultural price theory (Lecture)	4 WLH
Contents: This module is designed to provide students with an introduction to the theory and measurement of price formation on agricultural markets. Students will learn about price formation and price linkages over space and time, and how prices on markets in different locations and/or for products of different levels of processing are linked with one another. They will also learn about special examples of price determination that are unique (land markets) or especially common (markets influenced by quota schemes) in agriculture. A final focus will be placed on future markets and their possible use as a risk management tool in agriculture and agribusiness. Vorlesungsbegleitende Materialien	
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge of impact of prices from an individual and macroeconomic point of view, of agricultural price structure as well as the importance of the technical progress, vertical and spatial price formation, price formation in the farm land market and the quoted market, as well as of commodities future markets	6 C

Admission requirements:	**Recommended previous knowledge:**
none	Background in agricultural markets and policy recommended
Language: English	**Person responsible for module:** Prof. Dr. Bernhard Brümmer
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 60	

Additional notes and regulations:
Literature:
A script and a variety of supplemental reading will be provided.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E05M: Marketing research	

Learning outcome, core skills:	Workload:
Students	Attendance time:
	60 h
· are able to describe how marketing research relates to the marketing concept	Self-study time:
· are able to outline the steps in the marketing research process and show how the steps are interrelated	120 h
· know the factors to consider in defining the marketing problem or opportunity	
· are able to develop a research design	
· are able to state the specific advantages of the most important methods of data collection	
· know fundamentals of sampling theory	
· acquire personal skills for oral and written presentations in teamwork.	

Course: Marketing researches (Lecture, Seminar)	4 WLH
Contents:	
• Steps and management of marketing research	
• Development of research design	
• Methods of data collection	
• Oral and written presentation of market research topic	
Aaker, D.A., Kumar, V., Leone, R.P., Day, G.S. (2013): Marketing research. 11th ed., Hoboken: Wiley;	
Nunan, D., Birks, D.F., Malhotra, N.K. (2020): Marketing research, 6th ed., Harlow: Pearson Education	

Examination: Oral examination (30 minutes) 60%, oral and written presentation (20min + 5 p.) 40%	6 C

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge on marketing
Language:	**Person responsible for module:**
English	Prof. Dr. Katrin Zander
Course frequency:	**Duration:**
each summer semester; Witzenhausen	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
40	

Additional notes and regulations:

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E06: International organic food markets and marketing**	6 C 4 WLH

Learning outcome, core skills: Students • are able to describe international markets for organic food • know about international organic regulations • are able to outline the steps for developing a marketing strategy • know how to develop a marketing concept on international markets • acquire personal skills for oral and written presentations in teamwork.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: International markets and marketing for organic products (Lecture, Seminar) *Contents*: • Analysis of international markets for organic products • Organic regulations • Basics of food marketing for exporters • Oral and written presentation of marketing topic Vahlen, Munich. Armstrong, G, Kotler, K., Opresnik, M.O. 2016: Marketing: An Introduction, 13th ed., Pearson, Harlow, UK. Hollensen, S., Opresnik, M.O. 2015: Marketing: A Relationship Perspective.	4 WLH
Examination: Presentation (ca. 20 minutes) with written outline (max. 5 pages) (40%) and oral exam (approx. 30 minutes) (60%) **Examination requirements:** Knowledge of tasks and approaches in market research as well as knowledge of data survey methods, prognosis methods and analysis methods.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge on marketing
Language: English	**Person responsible for module:** Prof. Dr. Katrin Zander
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 35	

Additional notes and regulations:

Armstrong, G, Kotler, K., Opresnik, M.O. 2016: Marketing: An Introduction, 13th ed., Pearson, Harlow, UK.

Hollensen, S., Opresnik, M.O. 2015: Marketing: A Relationship Perspective.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E11: Socioeconomics of rural development and food security**	6 C 4 WLH

Learning outcome, core skills: Students learn concepts of development and problem-oriented thinking in a development and food security policy context. The identification of interdisciplinary linkages is trained. Building on case-study analyses, course participants can pinpoint appropriate economic and social policies and assess their impacts. These qualifications can also be transferred to unfamiliar situations.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Socioeconomics of rural development and food security (Lecture) *Contents*: This module provides students with an overview of socioeconomic aspects of hunger, malnutrition, and poverty in developing countries. Apart from more conceptual issues and development theories, policy strategies for sustainable rural development and poverty alleviation are discussed and analyzed. Special emphasis is put on problems in the small farm sector. Empirical examples are used to illustrate the main topics.	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Concepts and measurement of hunger, malnutrition, and poverty; classification and evaluation of rural development policies	6 C

Admission requirements: none	**Recommended previous knowledge:** Prior knowledge of microeconomics at the BSc level is useful
Language: English	**Person responsible for module:** Prof. Dr. Liesbeth Colen
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** until 1
Maximum number of students: 120	

Additional notes and regulations: **Literature:**   Text books, research articles and lecture notes.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.E12M: Quantitative research methods in rural development economics**	6 C 4 WLH

Learning outcome, core skills: Students are familiar with empirical, quantitative methods in rural development economics. They understand the basic elements of research-study design, data collection, and data analysis. Thus, they are able to initiate, develop, and implement their own research projects.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Quantitative research methods in rural development economics (Lecture) *Contents*: This module teaches the design of quantitative research in rural development economics, starting from formulating research questions and developing a research proposal to undertaking analysis. It trains methodological skills for the analysis of micro data in rural development economics. In particular, farm and household level data are used. Apart from statistical and econometric techniques, approaches of primary data collection are covered (questionnaire development, sampling design, and implementation of household surveys). Aspects of using secondary data are also covered. The statistical and econometric methods are used for concrete examples in the computer lab.	4 WLH
Examination: Written exam (90 Minutes) (85%) and homework assignment (max. 15 pages) (15%) **Examination requirements:** Types of research designs; use and interpretation of descriptive statistics and standard econometric methods; hypothesis testing; data management; sampling design.	6 C

Admission requirements: Familiarity with the contents of the module "Socioeconomics of Rural Development and Food Security" is assumed.	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Bethelhem Legesse Debela
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 40	

Additional notes and regulations: **Literature:** Text books, research articles and lecture notes.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E13M: Microeconomic theory and quantitative methods of agricultural production**	6 C 4 WLH

Learning outcome, core skills: Students are familiar with microeconomic approaches and can apply them to analyze issues related to agriculture and rural development. Students are also familiar with quantitative methods used for the analysis and planning of farms and enterprises in the agricultural sector.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Microeconomic theory of agricultural production (Lecture) *Contents*: Consumer theory, producer theory, markets, monopoly situations, risk and uncertainty, economics of technical change, farm household models, institutional innovations in the small farm sector.	2 WLH
Course: Quantitative methods in agricultural business economics (Lecture) *Contents*: Budgeting, accounting, annual balance sheets, linear programming, finance, investment analysis	2 WLH
Examination: Written examination (120 minutes) **Examination requirements:** Consumer theory; producer theory; risk; technological progress; farm household models; institutional innovations; budgeting and accounting; linear programming; finance; investment analysis	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Oliver Mußhoff Vanessa Bonke
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 40	

Additional notes and regulations: Literature: Text books, research articles and lecture notes. After successful conclusion of M.Agr.0060 students can not complete M.SIA.E13M. This module is designed for students with relatively little economics during their previous BSc studies.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E14: Evaluation of rural development projects and policies	

Learning outcome, core skills:	Workload:
Students understand the standard methods in the economic analysis and evaluation of development projects and policies. They are able to design and perform cost-benefit analyses as well as project evaluations independently.	Attendance time: 40 h Self-study time: 140 h

Course: Evaluation of rural development projects and policies (Lecture) *Contents*: This module teaches standard methods in the economic analysis and evaluation of development projects and policies. It covers the economic and financial assessment of rural development projects (in particular cost-benefit analysis), as well as experimental and quasi-experimental impact evaluation methods. These methods are illustrated with examples and students learn to apply these methods in different exercises.	4 WLH
Examination: Written exam (90 minutes, 70%) and homework assignments (max. 10 pages, 30%) **Examination requirements:** Cost-benefit analysis; impact evaluation	6 C

Admission requirements: none	Recommended previous knowledge: Knowledge of the content of the module "Socioeconomics of Rural Development and Food Security" and "Econometrics I" is required.
Language: English	**Person responsible for module:** Dr. Bethelhem Legesse Debela
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 45	

Additional notes and regulations: **Literature:** Text books, research articles and lecture notes.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E17M: Management and management accounting**	6 C 4 WLH

Learning outcome, core skills: The main aim of the module is to acquaint students with the theory and practice of management and management accounting/control, and the role of environmental, social and governance issues therein. More specifically, the aims of the module are: • To provide students with insights into different theoretical perspectives; an understanding of the implicit assumptions held by each perspective as well as the implications of these perspectives for management practice and research; • To provide students with the conceptual and practical skills necessary to effectively understand and critically analyse management/corporate practice; • To provide students with practical experience in and knowledge about "managing and accounting for sustainability"; • To enable students to understand why traditional accounting and accountability do not serve managers and other corporate stakeholders well in the light of increasing demands for social accountability, transparency and social responsibility	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Management and management accounting (Lecture, Seminar) *Contents*: • The fundamentals of management practice, the roles and functions undertaken by managers; • The development and evolution of management theory; • A critical reflection on the wider responsibilities of management (incl. moral decision-making, managing for sustainability); • An introduction to the traditional accounting and accountability theory and practice; key management accounting and control systems and concepts; performance measurement and management; • The developments in new accounting and accountability tools and their role (and limitations) in supporting managerial decision making and increasing transparency on environmental, social and sustainability performance. Lussier, R.N. 2006: Management fundamentals – Concepts, Applications, Skill Development, Thomson, London, UK; Robbins, S.P., Coulter, M. 2007: Management, 9th edition, Pearson, Upper Saddle River; Drury, C. 2005: Management Accounting for Business, Thomson, London, UK; Atkinson, A.A., Kaplan, R.S., Young, S.M. 2004: Management Accounting, 4th Edition, Upper Saddle River.	4 WLH
Examination: Presentation (ca. 15 minutes, 50%) and written examination (90 minutes, 50%) **Examination requirements:** Students should demonstrate a sound understanding of the management / management accounting concepts and frameworks (written exam). Students are also expected to apply the knowledge acquired in class to a case study company and to present and discuss their findings with others (workshops incl. role play and group work).	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Christian Herzig
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 35	

Additional notes and regulations: **Literature:** Lectures and short lectures combined with facilitated group discussion; seminars include case study-based group work and exercises

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E18: Organization of food supply chains**	6 C 4 WLH

Learning outcome, core skills: Students are introduced into various issues of the organizational design of food supply chains and agribusiness firms. Students learn to write a seminar paper and they are also able to independently acquire additional knowledge by advanced literature search. The preparation and presentation of selected topics as well as the contribution to oral discussions during seminar sessions will be examined. The comprehensive overview of various organizational theories enables the students to identify and classify complex organizational problems in food supply chains and develop solutions.	**Workload:** Attendance time: 68 h Self-study time: 112 h

Course: Organization of food supply chains (Seminar) *Contents*: The module introduces into basic concepts of organizational design in food supply chains and the agribusiness sector. The students write a paper based on the combination of a selected organizational theory and a practical example. The students present their papers and discuss the various organizational issues with high importance for the food and agribusiness sector. Key aspects of the lecture are: - Stakeholder management for farms and agribusiness firms - Efficient organizational design of food supply chains: Contracts, open markets, vertical integration - Competitive strategy and the organizational design of food supply chains - Certification schemes from an organizational perspective - Cooperatives and the organization of food supply chains - Transparency of food supply chains The seminar makes use of various organizational theories and provides students with insights into the practical implications of these theories. Vorlesungsbegleitende Materialien	4 WLH
Examination: Homework (max. 15 pages, 65%) and 2 presentations (about 45 min, 20% and about 15 min, 15%) **Examination requirements:** Ability to write a paper based on the combination of a selected organizational theory and a practical example, to present the paper, serve as a discussant of the paper of another group and discuss the various organizational issues with high importance for the food and agribusiness sector. 1. Presentation: ca. 45 minutes presenting the contents of the own homework; 2. Presentation: ca. 15 minutes discussing the homework of another group of participants.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge food supply chains and agribusiness management
Language: English	**Person responsible for module:** Dr. Christian Schaper

Course frequency:	**Duration:**
each summer semester; Göttingen	1 semester[s]

Number of repeat examinations permitted:	**Recommended semester:**
twice	

Maximum number of students:	
21	

Additional notes and regulations:
Students are not allowed to take the module M.Agr.0053 if they have passed M.SIA.E18.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.E19: Market integration and price transmission I	6 C 4 WLH

Learning outcome, core skills: Students gain insight into the functioning of the price mechanisms on agricultural markets and into the determinants of market integration. They learn to apply econometric analysis methods to the study of horizontal and vertical price transmission processes (time series methods, cointegration, including non-linear cointegration and non-linear error correction models).	Workload: Attendance time: 56 h Self-study time: 124 h

Course: Market integration and price transmission I (Lecture) *Contents*: Theory and empirical analysis of agricultural market integration A list of seminal papers (Gardner, Goodwin and Fackler, Barrett and others) will be provided to students Lecture notes and presentations are made available on StudIP	4 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Students are able to explain the economic theory of price transmission and market integration (e.g. how can we explain the prevalence of asymmetric price transmission on agricultural markets), and are able to apply the most important methods of empirical price transmission analysis (in particular the econometric estimation of error correction models).	6 C

Admission requirements: none	Recommended previous knowledge: Basic knowledge of econometrics
Language: English	Person responsible for module: Prof. Dr. Stephan von Cramon-Taubadel
Course frequency: Every second summer semester (Start: 2021)	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: from 2
Maximum number of students: 40	

Additional notes and regulations: Literature: A list of seminar papers (Garnder, Ravallion, Goodwin, Fackler, Barrett) will be circulated to students, together with a list of recent applications.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E21: Rural sociology**	6 C 4 WLH

Learning outcome, core skills: One of the primary objectives of this course is to introduce students to the principles of sociology in general and key concepts of rural sociology in particular. In addition, we want to provide the analytical tools for understanding the processes inherent to these concepts. Beyond that, the course aims at enhancing students' ability to identify different research perspectives and to critically discuss and analyse research strategies and methods.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Rural Sociology (Lecture, Seminar) *Contents*: As an introduction to rural sociology, this course is designed to give an overview of the sociological concepts of "demographic change", "social structural developments and social problems in rural areas" (deprivation, rural poverty): Lectures outline each of these issues and position them within the context of sociology. We will use seminars to debate key questions raised during lectures and to discuss selected issues based on academic publications.	4 WLH
Examination: Homework (max. 20 pages, 50%) and presentation (approx. 30 minutes, 50%) **Examination requirements:** Presentation of and critical discussion on concepts and methods in the field of rural- and agricultural sociology.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Claudia Neu
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Additional notes and regulations: **Literature:** Adequate literature is presented in the lecture; text book chapters supply basic knowledge and are complemented by scientific publications.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E23: Global agricultural value chains and developing countries	

Learning outcome, core skills:	Workload:
The students will become familiar with the application of these models through empirical examples and the discussion of journal articles.	Attendance time: 56 h Self-study time: 124 h

Course: Global Agricultural Value Chains and Developing Countries (Lecture)	4 WLH
Contents: This lecture deals with the impacts of restructured and globalized agricultural markets on small-scale farmers and traders in developing countries. Current developments and changes on agricultural markets are analyzed and the implications for developing countries discussed. Approaches of the value chain analysis and the promotion of pro-poor value chains are explained. Emphasis will be laid on the roles of institutions for the performance of markets in developing countries, especially against the background of recent developments. Models of contract theory, institutional and transaction costs economics are conveyed and used to analyze the situation in developing countries.	
Examination: Presentation (ca. 30 minutes, 50%) and written exam (45 minutes, 50%) **Examination requirements:** Specific knowledge of contract theory, economics of transaction costs and institutions as well as the application of the concepts to current aspects with the context of developing countries. Understanding of the role of institutions regarding the mechanism of agricultural markets.	6 C

Admission requirements:	Recommended previous knowledge:
none	none
Language: English	**Person responsible for module:** Prof. Dr. Meike Wollni
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
Literature:
Selected articles from academic journals and book chapters

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E24: Topics in rural development economics I**	6 C 4 WLH

Learning outcome, core skills: The objective of this course is to acquaint Master students with the reading and understanding of scientific journal articles on relevant topics of rural development economics. Student should learn how to develop a scientific research question, choose appropriate research methods and strucutre a scientific article.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Topics in Rural Development Economics I (Lecture) *Contents*: This course will provide Master Students with an overview of relevant topics in rural development economics, which will also enable them to develop own research questions and study approaches in this field. The module is structured as a reading course, building on selected articles from relevant international journals. Students are required to read announced articles before the classroom sessions, in order to enable a critical debate in class. The articles selected for the course are clustered around key topics relevant to rural development economics, such as listed below. Tentative Topics 1. The food system transformation and smallholder farmers 2. Rural livelihood strategies and income diversification 3. Adoption and impact of modern agricultural technology 4. Economics of nutrition and health 5. Gender and intra-household resource allocation Master students will have to write a summary of a selected journal article. Furthermore, the course should enable them to develop own research questions and study approaches in the field of rural development economics.	4 WLH
Examination: Presentation (approx. 10 minutes, 40%) and homework (max. 4 pages, 60%) **Examination requirements:** Constructive participation in the discussion during the lectures, which requires the reading of the articles indicated. In both the written and the oral assignments, students are supposed to demonstrate that they are able to identify the most relevant aspects of the articles and to critically evaluate the research questions, the methods and the results of the studies.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Liesbeth Colen
Course frequency:	**Duration:**

each summer semester; Göttingen	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations: **Literature:**   Selected articles from academic journals and book chapters

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.E30M: Social research methods	6 C 4 WLH

Learning outcome, core skills:	Workload:
• are able to independently plan and design their research. • are able to independently design questionnaires for qualitative and quantitative research. • know the principles of transcribing and coding qualitative data and the principles of data preparation of quantitative data • know the principles of data collection and interviewer and interviewee relationship • know the relevant qualitative and quantitative social research methods • are aware of the differences of qualitative and quantitative research methods • are able to implement qualitative and quantitative methods in a mixed methods research design • know fundamentals of qualitative and quantitative data analyses • acquire skills to independently conduct qualitative and quantitative social research methods	Attendance time: 60 h Self-study time: 120 h

Course: Social Research Methods (Lecture, Seminar) *Contents*: This course is designed to lay the foundations of good empirical research in the social sciences. The seminar will first focus on the fundamentals of social research, including: the logic of scientific inquiry, developing qualitative and quantitative questionnaires, sampling, and measurement. This seminar will expose you to the diverse methods available to social scientists, including survey, qualitative interviews, qualitative comparative analysis, and discuss their strengths and weaknesses. Students become acquainted with a variety of approaches to research design, and are helped to develop their own research projects and to evaluate the products of qualitative and quantitative research.	
Examination: Written examination (90 minutes, 60%) and presentation (30 minutes, 40%) **Examination requirements:** Knowledge of current qualitative and quantitative methods. Background of current forms of data analysis. Profound knowledge of the relevant terms of qualitative and quantitative research. Skills in the application of methods and knowledge of the interpretation of data. Students should be able to understand and explain qualitative and quantitative research processes and read and explain tables and figures.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Dr. Thomas Krikser
Course frequency: each summer semester; Witzenhausen	Duration: 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.E31: Strategic management	6 C 4 WLH

Learning outcome, core skills: • The contents and framework of strategic management; • An introduction to organisational & business strategies; • The importance of values and purpose in defining organisation's strategic goals; • The management of stakeholder relations; • Performance management and strategic control; • The management of strategic change;	Workload: Attendance time: 60 h Self-study time: 120 h

Course: Strategic management (Lecture, Seminar) *Contents*: • Concepts and frameworks used in strategic management; • The importance of values and purpose in defining an organisation's strategic goals; • The analysis of the complex environment of agrifood organisations and how it shapes the strategic behaviour of members of the value chain and an organisation's competitive environment; • A critical review of strategic frameworks (e.g. Porter's five forces, life cycle analysis); • The analysis of the internal environment (value creating activities, capabilities and resources); • An introduction to organisational and business strategies; • The management of stakeholder relations; • The relationship between organisation and strategy; • The management of strategic change and the role of strategic leadership.	4 WLH
Examination: Oral presentation (approx. 20 minutes, 50%) and written examination (60 minutes, 50%) **Examination requirements:** Students should demonstrate a sound understanding of the strategic management concepts and frameworks. Further requirements include: development of a research design to contribute to the development of a scenario analysis; collection and analysis of data in groups.	6 C

Admission requirements: none	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Christian Herzig
Course frequency: each summer semester; Witzenhausen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students:	

not limited	

Additional notes and regulations:

Lectures and short lectures combined with facilitated group discussion; seminars include research based learning elements such as case studies and research activities involving students (e.g. scenario analysis).

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.E33: Responsible and sustainable food business in global contexts**	6 C 4 WLH

Learning outcome, core skills: The aims of the module are: • To deepen the students' understanding of the role of food business in society and the social responsibility and accountability issues that arise in a global business setting; • To familiarise students with the concepts and frameworks used in responsible and sustainable food business, the development of business principles for responsible food businesses, to meet stakeholders' interests; To provide students with the knowledge and confidence to critically reflect corporate practice; • To raise awareness for different perspectives which provide contrasting and competing ways of making sense of responsible food business practices.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Responsible and sustainable food business in global contexts (Lecture, Seminar) *Contents*: This module explores issues related to responsible and sustainable food business in global contexts. Individual themes include: • The process of globalisation and its impact on the agrifood sector; • Corporate social responsibility, governance and accountability; • The role of transparency of products and markets in the context of an increasingly globalised world; • The scope, nature and types of international operations (and their managerial implications); • The management of global supply chains in the agrifood sector; • The management and reporting of environmental and social information in complex organisational settings (such as multinational food businesses); • The contrasting perspectives in social responsibility and accountability of business across borders.	4 WLH
Examination: Written report (in the form of a learning journal; 60%) and oral presentation (40%)	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Christian Herzig
Course frequency: each winter semester; Witzenhausen/Kassel	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students:	
35	

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E34: Economic valuation of ecosystem services in developing countries	

Learning outcome, core skills:	**Workload:**
Students get introduced to the essential concepts and methods of interdisciplinary Ecosystem Services (ES) research. Special emphasis will be put on the integrated and systematic assessment of ES, including their dependencies of and impacts on biodiversity, climate change and development. Students will familiarize themselves with common methods of economic valuation of ES and learn about different examples of practical implementation in developing countries. Within the scope of a presentation and a term paper, students will review and evaluate selected scientific literature, process the findings in an environmental-economic analysis and compile results and derived policy recommendations for better maintenance, sustainable use and integration of ES into development planning.	Attendance time: 56 h Self-study time: 124 h

Course: Economic Valuation of Ecosystem Services in Developing Countries (Seminar)	4 WLH
Contents: • Integrated and interdisciplinary analysis of ES • Dynamic linkages between ES, biodiversity, climate change and development • Methods and applications of economic valuation of ES • Implementation examples from developing countries • Integration of ES in development planning (entry points to the policy cycle) • Practical application in a case study (literature work, monetary quantification)	
Examination: Term paper (max. 20 pages, 70%) and oral presentation (approx. 30 minutes, 30%) **Examination requirements:** For a given case study students will develop appropriate analytical strategies and implement them with the help of identified scientific literature. Methodological knowledge provided during the lectures will be essential for the case work. Most relevant results will be summarized in a presentation. The compilation of the term paper requires basic techniques of scientific literature research.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.Agr.0079 Environmental Economics and Policy or similar skills
Language: English	**Person responsible for module:** Prof. Dr. Meike Wollni
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

| Maximum number of students:
30 | |

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.E36: Institutions and the food system	6 C 4 WLH

Learning outcome, core skills: Students: will become familiar with the role of institutions and governance in the food system from a social-ecological systems perspective; will be familiar with public choice and political science approaches to the analysis of constitutions and policies and their change; will be familiar with theories of decentral and central institutional change in the traditions of economics, political science and sociology; will apply this conceptual knowledge concerning the role, performance and change of institutions and governance of a variety of aspects of food systems in different countries in and outside Europe; will review global drivers of change of food and agricultural production systems	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Institutions and the food system (Lecture, Excursion, Seminar) *Contents*: Institutions are core elements structuring economic exchange in the food system. The course starts out with a discussion of what institutions are and what roles a stratified, multi-disciplinary concept of institutions has in food and agricultural systems and their change. Approaches will cover the study of institutions in classical and new institutional economics, in evolutionary economics, in economic sociology and in political sciences. Subsequently, discussions will be organized along public choice and constructivist approaches to understanding centrally driven institutional change on the one hand and economic and constructivist approaches to understanding decentral institutional change on the other. Discussions of the role of institutions for performance of the food and agricultural sectors and their change will be illustrated through ample recourse to examples drawn from studies of the food and agricultural production systems in and outside of Europe. That way, principal drivers of the change of food systems will be reviewed. In this regard, as far as possible examples will be drawn from one particular cultural, national or regional context. Ending the module, potentials and limits of researching the role of institutions in the food and agricultural sectors will be evaluated and corresponding research designs will discussed. Literature and seminar papers will be circulated to students at the beginning of term	4 WLH

Examination: oral exam 20 min. (60%) and term paper (1500 words) (40%) Examination requirements: Understanding of the role of institutions and governance in the food system from a social-ecological systems perspective; knowledge of public choice and political science approaches to the analysis of constitutions and policies and their change; knowledge of theories of decentral and central institutional change in the traditions of economics, political science and sociology; application of conceptual knowledge concerning the role, performance and change of institutions and governance to a variety of aspects of food systems in different countries in and outside Europe Knowledge of global drivers of change of food and agricultural production systems	6 C

Admission requirements:	Recommended previous knowledge:

none	Background in agricultural and environmental policy and economics
Language: English	**Person responsible for module:** Prof. Dr. Andreas Thiel
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Further examination prerequisites:

Participation in the excursion/ thematic day and its preparation/ evaluation

Literature:

Literature and seminar papers will be circulated to students at the beginning of term

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.E37: Agricultural policy analysis	6 C 6 WLH

Learning outcome, core skills:	Workload:
• Students get an overview on EU institutions and the history of the EU's common agricultural policy (CAP) • Students learn different theories and methods for the analysis of agricultural policies • Students learn how to analyse different policy measures and instruments and evaluate them	Attendance time: 56 h Self-study time: 124 h

Course: Agricultural policy analysis (Lecture) *Contents*: **1. Introduction into Economic Policy and Economic Theory** Definition of agricultural policy, Analytical framework of economic analysis, Objectives, measures, institutions, The coordination process, a model for the economic process **2. Market Failure** Public Goods & externalities, Market power & monopolistic behavior, State intervention due to Instability of markets, State intervention & government failure, principal-agent theory **3. The European Union – A short introduction** History of the EU, the importance of the agricultural sector in the EU, institutions and political structure of the EU, decision-process in the EU, **4. The EU's common agricultural policy: Description and Analysis** The history and analysis of the Common Agricultural Policy (CAP) of the EU **5. Introduction into Environmental policy** Objectives, measures and analysis and interaction with agricultural policy **Literatur**: B. Hill (2013): Understanding the Common Agricultural Policy, Earthscan A. Cunha & A. Swinbank (2011): An Inside View of the CAP Reform Process, Oxford University Press A. Oskam, G. Meester & H. Silvis (2011): EU policy for agriculture, food and rural areas, Wageningen, University Press Swinnen, Johan F.M. (2008): The Perfect Storm – the political Economicy oft he Fischler Reforms oft he Common Agricultural Policy, Centre for European Policy Studies, Brussels Krugman, P.R., M. Obstfeld & M.J. Melitz (2011), International Economics (9.Ed.), Pearson B. Hill (2013): Understanding the Common Agricultural Policy, Earthscan	6 WLH

A. Cunha & A. Swinbank (2011): An Inside View of the CAP Reform Process, Oxford University Press A. Oskam, G. Meester & H. Silvis (2011): EU policy for agriculture, food and rural areas, Wageningen, University Press Selected readings and lecture notes / slides provided by the lecturer on StudIP	

Examination: Written examination (90 minutes)
Examination requirements:
  • Fundamental knowledge of EU institutions and the EU's common agricultural Policy (CAP)
  • Knowledge of different theories and methods to analyze agricultural policies
  • Analysis of different measures and instruments of the EU's common agricultural policy (CAP)
	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic micro- and macroeconomics
Language: English	**Person responsible for module:** Prof. Dr. Stephan von Cramon-Taubadel
Course frequency: Every second summer semester (Start: 2020)	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 50	

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.E39: Critical and Collective Perspectives on the Global Food System	

Learning outcome, core skills:	**Workload:**
Students: will be aware of development tendencies of the global food system; will be able to critically analyse the global food system informed by political ecology; will be introduced to collective action theory and "Commoning" approaches in the Global Food System;will be familiar with different conceptions of society-nature relationships; will be acquainted with methods of political ecology will be acquainted with transition and transformation studies; will be acquainted with food regime studies; will be able to critically evaluate and apply the corresponding approaches	Attendance time: 60 h Self-study time: 120 h

Course: Critical and Collective Perspectives on the Global Food System (Lecture, Seminar) *Contents*: The course introduces students to critical approaches and studies of the global food system. It introduces the concepts, theories and methods of political ecology, food regime theory collective action theory and transitions studies and discusses these in relation to empirical studies worldwide.	4 WLH
Examination: Presentation (approx. 45 minutes, 40%) and term paper (max. 15 pages, 60%) **Examination prerequisites:** Submission of protocols (literature-related questions) in regard to 80% of assigned readings (max 8 articles) **Examination requirements:** Students will need to demonstrate: Understanding of political ecology, collective action and commoning perspectives, transition approaches and critical perspectives; understanding of a food systems approach; ability to apply political ecology approaches to the food system and its change; knowledge of global drivers of food and agricultural production systems; academic presentations, discussion and writing skills. Details on Examination: Presentation 20 min. + 25 minutes guided discussion (student-led seminar) (40%) and term paper (15 pages, 3000 words) (60%)	6 C

Admission requirements: none	**Recommended previous knowledge:** Background in agricultural and environmental policy and economics
Language: English	**Person responsible for module:** Prof. Dr. Andreas Thiel
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**

Maximum number of students: not limited	

Additional notes and regulations: **Literature:**   Literature will be circulated to students at the beginning of term and throughout

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E40: Agriculture, Environment and Development**	6 C 4 WLH

Learning outcome, core skills: This module treats the economic and political causes of environmental problems in the context of agriculture and development. Global challenges such as climate change, sustainable development and poverty are in the focus. Selected basic concepts of environmental and resource economics are addressed, followed by a deepened analysis of important aspects such as management of common pool resources, pollution control and climate protection in international agri-environmental contexts.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Agriculture, Environment and Development (Lecture, Exercise, Seminar) *Contents*: The module consists of a combination of lectures and tutorials during the first semester term. Theoretical concepts from lectures will be deepened and complemented by examples from scientific research and practical applications. During the second semester term students present an analysis of a scientific case study from selected topics in the seminar. This enables students to deepen the contents learned in an independent and targeted manner and to apply concepts in the evaluation of a case study. Contents: • Basic concepts (market failure, natural resources, natural capital) • Efficiency and sustainability: Concepts, criteria and application • Economics of common pool resources in developing countries • Economics of land use in developing countries • Economics of water use in developing countries • Poverty, development and environment • Agriculture and climate change • Global initiatives and international agreements on sustainable development and climate protection	4 WLH
Examination: Written exam (60 minutes, 70%) and presentation (approx. 20 minutes, 30%) **Examination prerequisites:** Regular attendance in seminar **Examination requirements:** Knowledge of selected basic concepts of environmental and resource economics. Understanding of important concepts such as economic efficiency and sustainability. Knowledge of important relationships between agriculture, resource use, sustainability and climate change in development contexts. Discussion of current courses of action.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language:	**Person responsible for module:**

English	Prof. Dr. Meike Wollni
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 40	

English | Prof. Dr. Meike Wollni

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.E42: Agriculture, Nutrition and Sustainable food systems**	6 C 4 WLH

Learning outcome, core skills: Students learn how food systems and food policies are shaping what we eat, how we produce our food, and how this links to sustainable development in a global context. The course covers food systems in both developing and developed countries. Students learn to engage in a critical debate on the role of food policies and other drivers in shaping what we consume, how this links to food production and sustainable development, including health, environment and the economy. Students learn to analyze these themes by engaging in basic data analysis, case studies and the critical analysis and exposition of arguments.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Agriculture, Nutrition and Sustainable food systems (Lecture) *Contents*: This module introduces students to apply systems thinking to the global challenges of food security, nutrition, health and sustainability. It introduces the relevant concepts, analyses the drivers and food policies that may transform food systems using an interdisciplinary approach. Every lecture is accompanied by a more practical session in which basic analysis of data (using Stata) or comparative and critical analysis are applied to the specific themes or policies covered in the lecture. Course material consists of presentations and lecture notes. A list of scientific reports, research articles and relevant data will be provided to students. *Course frequency:* each winter semester	4 WLH
Examination: Written examination (60 minutes, 50%) and paper (max. 15 pages, 50%) **Examination requirements:** Students are able to explain the concepts related to food systems, to analyse food policies, and to generate and interpret relevant statistics related to nutrition, food policies and global sustainability. In a written assignment, students provide critical analysis of a specific food system and/or food policy intervention.	6 C

Admission requirements: none	**Recommended previous knowledge:** Prior knowledge of microeocnomics at BSc level is useful. Prior experience with Stata or SPSS may be helpful but is not a requirement.
Language: English	**Person responsible for module:** Prof. Dr. Liesbeth Colen
Course frequency: each summer semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 45	

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.E45: Introduction to choice experiments in food economics**	6 C 4 WLH

Learning outcome, core skills: • Students experience the entire process of (choice) experimental practice in the field of social sciences, including its possibilities, limitations and interpretation of results • Students learn how to identify and narrow down a research question into a testable hypothesis. Students learn how to test such a hypothesis by identifying control and treatment groups, the importance of power calculations, sampling design and analysis of data. • Students improve their general understanding of the scientific practice, correct interpretation of scientific results and their contribution to (public) decision making. • Students train their teamworking skills, through brainstorming exercises, discussions, self-organization and distribution of tasks of the team.	**Workload:** Attendance time: 55 h Self-study time: 125 h

Course: Introduction to choice experiments in food economics (Block course, Exercise) *Contents*: This module consists of two blocks. • The first block concerns the introduction to choice experimental practice and the set-up of a small online experiment addressing a specific research question in the field of agricultural, food or nutrition economics. • The second block concerns the analysis of the obtained data and interpretation of results. Students will work in groups of 4-5 students to identify and narrow down a research question in the field of agriculture, food or nutrition economics, learn how to translate a research question into a testable hypothesis, design the choice experiment, perform power calculations, and effectively launch the online survey. In the second part, the results of the survey will be analysed and each group will present the results, limitations and lessons learned.	4 WLH

Examination: Term Paper (max. 10 pages, 70%) and presentation (approx. 20 minutes, 30%) **Examination requirements:** Short paper describing the set-up and execution of the experiment (70%), and presentation presenting the approach, results and limitations/lessons learned (30%), Students proof that they are capable of • Identifying research question and developing a testable hypothesis • Collaborate in groups to brainstorm, guide the discussion towards a practically implementable outcome, and implement the experiment • Analyse, interpret and discuss experimental results	6 C

Admission requirements: Econometrics I (M.WIWI-QMW.004), M.SIA.E12M: Quantitative research methods in rural development economics Or a similar introduction to statistics or econometrics	**Recommended previous knowledge:** Basic statistics/econometrics
Language: German, English	**Person responsible for module:** Prof. Dr. Liesbeth Colen
Course frequency: each summer semester; Göttingen	**Duration:**
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.I02: Management of (sub-)tropical landuse systems**	6 C

Learning outcome, core skills:	Workload:
Enable students to understand the functioning and bio-physical limitations of (subtropical agro-pastoral land use systems, to argue for the need of interdisciplinary approaches to overcome these and to apply current research methods in land use systems analysis.	Attendance time: 28 h Self-study time: 152 h

Course: Management of (sub-)tropical landuse systems (Block course, Lecture) *Contents*: Witzenhausen: Plant-animal interactions, diet selection and nutritional wisdom, impact of grazing on pastures; statistical approaches to measure and cope with short-distance variability in crop growth; measurement techniques for nutrient fluxes in different agro-ecosystems. Prague: Land-use management: farm and family income in different farming systems, soil conservation technologies for smallholder farming systems, conservation tillage systems, potential use of waste-stream products to enhance soil productivity in tropical peri-urban and rural areas, crop diversity in tropical agricultural systems. Altieri, M. 1995: Agroecology, Westview Press, USA; Martius, C. 2002: Managing Organic Matter in Tropical Soils: Scope and Limitations. Kluwer Academic Publishers; Van Soest, P. 1994: Nutritional ecology of the ruminant. Cornell University Press, London, UK; Provenza, F.D. 1995: Post-ingestive feedback as an elementary determinant of food preference and intake in ruminants. Journal of Range Management, 48: 2-17.	
Examination: Written examination (90 minutes) **Examination requirements:** Knowledge about: the ability of animals to select feed; animal-plant interactions; effects of grazing on grasslands and pastures; statistical methods and measurements material flows in various agroecosystems; landuse management; incomes in different operating systems; soil conservation measures for smallholders and soil conservation systems; potential use of waste products to increase productivity and the significance of agrobiodiversity.	6 C

Admission requirements: none	Recommended previous knowledge: Knowledge in plant, soil and animal sciences
Language: English	Person responsible for module: Prof. Dr. Andreas Bürkert
Course frequency: WiSe 13/14, einmal in 2 Jahren, alternierend mit Modul I07; Witzenhausen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:

Maximum number of students: 25	

Additional notes and regulations: **Literature:** Altieri, M. 1995: Agroecology, Westview Press, USA; Martius, C. 2002: Managing Organic Matter in Tropical Soils: Scope and Limitations. Kluwer Academic Publishers; Van Soest, P. 1994: Nutritional ecology of the ruminant. Cornell University Press, London, UK; Provenza, F.D. 1995: Post-ingestive feedback as an elementary determinant of food preference and intake in ruminants. Journal of Range Management, 48: 2-17.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.I03: Food quality and organic food processing	

Learning outcome, core skills:	**Workload:**
Students will be able to	Attendance time:
define food quality and quality systems in agriculture and food industry	56 h
discuss principles of organic food production (agriculture, processing) according to EEC 2092/91)	Self-study time: 124 h
discuss and evaluate food processing techniques and quality assessment methods	

Course: Food quality and organic food processing (Lecture)	4 WLH
Contents:	
European and international legislation for organically produced agricultural commodities (focussing : Annex II, Annex VI EEC 2092/91; contracting, quality standards, product handling)	
Quality standard setting and the Organic Guarantee System	
Certification systems for organic and conventional products (overview, principles, concept, certification)	
Accreditation and accreditation agencies	
Process and product orientated food quality concepts and assessments; "holistic" quality definitions	
Processing techniques for organic food processing (different product groups)	
Quality assessment methods for small and medium-size enterprises	
Florkowski et al. 2000: Integrated View of Fruit and Vegetable Quality, Technomic; Welti-Chanes et al. 2001: International Congress on Engineering and Food, Volume I and II, Technomic; Luning et al. 2002: Food quality management, Wageningen Pers; Lawless et al. 1999: Sensory evaluation of Food, Kluwer; Kent et al.1994: Technology of cereals, Pergamon; Bidlack et al. 2000: Phytochemicals as bioactive agents, Technomic; Linden et al. 1994: New ingredients in food processing, CRC;	
Souci et al. 2000: Nutrition Tables, Medpharm	

Examination: Presentation (ca. 20 minutes, 50%) and project work (max. 20 pages, 50%)	6 C
Examination requirements:	
Knowledge about the quality of food in terms of concepts and criteria with focus on organic production. Insides in processing and management of organic food according the guidelines, standards and practices.	
Basic knowledge in the concepts of HACCP and QACCP.	

Admission requirements:	**Recommended previous knowledge:**
none	Basic knowlegde in chemistry

Language: English	**Person responsible for module:** Dr. Nicolaas Busscher
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 40	

Additional notes and regulations: **Literature:**   Florkowski et al. 2000: Integrated View of Fruit and Vegetable Quality, Technomic;   Welti-Chanes et al. 2001: International Congress on Engineering and Food, Volume I and II, Technomic; Luning et al. 2002: Food quality management, Wageningen Pers; Lawless et al. 1999: Sensory evaluation of Food, Kluwer; Kent et al.1994: Technology of cereals, Pergamon; Bidlack et al. 2000: Phytochemicals as bioactive agents, Technomic; Linden et al. 1994: New ingredients in food processing, CRC; Souci et al. 2000: Nutrition Tables, Medpharm

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.I06M: Exercise on the quality of tropical and subtropical products**	6 C 4 WLH

Learning outcome, core skills:	Workload:
Students are able (i) to analyze and discuss experimental data considering economics and consumer expectations, (ii) to work with scientific primary literature, (iii) to elaborate written presentations in teamwork, (iv) to exchange their opinions about sensorial evaluation.	Attendance time: 40 h Self-study time: 140 h

Course: Exercise on the quality of tropical and subtropical products (Block course, Exercise)	4 WLH
Contents: Exercises on quality properties of wheat, rice, potatoes, fruits and vegetables: Starch and protein quality of baking wheat; dough and baking properties of wheat, sensors of baking goods, rheological properties of rice flour and other starch containing products, cooking and frying properties of potatoes; consumer acceptance of potatoes; Marketing properties of fruits and vegetables; texture, ripeness, inner quality properties of fruit and vegetable and their extracted juices (e.g. sugar/acid ratio, ethanol in fruit juice), sensors of fruit and vegetable juices.	
Examination: Project work (max. 40 pages) **Examination prerequisites:** Participation in all introductory meetings and at all experimental laboratory work **Examination requirements:** Knowledge about quality parameter of wheat, rice and starch containing products, potatoes, fruits and vegetables. Knowledge about starch and protein quality of baking wheat, sensoric properties of bread and bakery products, rheological properties of rice flour and other starch containing products, consumer acceptance of potatoes, marketing of fruits and vegetables, texture analysis, intrinsic quality parameter of fruits and vegetables and sensoric proerties of fruits and vegetables.	6 C

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge on food chemistry, statistics, scientific writing.

Language:	Person responsible for module:
English	Prof. Dr. Susanne Neugart

Course frequency:	Duration:
each winter semester; Göttingen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	

Maximum number of students:	
12	

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.I07: International land use systems research - an interdisciplinary study tour**	6 C 8,5 WLH

Learning outcome, core skills: To gain multi- and interdisciplinary insights into (international) approaches towards opportunities and challenges of agro-silvo-pastoral production systems, sustainable resource use and agricultural development interventions. To familiarize participants with theoretical and practical questions of field research in an international contexts	**Workload:** Attendance time: 119 h Self-study time: 61 h

Course: International land use systems research - an interdisciplinary study tour (Lecture, Excursion, Seminar) *Contents*: Through the combination of one semester of preparatory impulse lectures and student seminars and the 12-14 day excursion to a (sub)tropical country, this module provides participants with interdisciplinary insights into the bio-physical and socio-economic components of agro-silvo-pastoral systems in the global context. The small- to large-size farm enterprises, processing plants and marketing organisations to be visited during the excursion exemplify the opportunities and challenges of agricultural activities in their specific context, whereby particular attention is paid to aspects of sustainability and environmental safety. The excursion targets regions where the two universities conduct research programmes, and also includes visits to partner universities and (inter)national research institutions. This will allow the MSc students to gain a first impression on how field research is organized and carried out in (sub)tropical countries. Up-to-date research approaches are presented to the participants, and questions targeting the sustainable use of natural resources as well as questions of development cooperation are discussed in an international and interdisciplinary context.	8,5 WLH
Examination: Oral exam (ca. 20 minutes, 50%) and oral seminar presentation (ca. 20 minutes) with written outline (max. 4 pages) (50%) **Examination prerequisites:** Day protocol of the excursion (max 2 pages) **Examination requirements:** The module and excursion contents are reviewed in an oral exam whereby two examiners are putting forward questions to the below topics (10 minutes each): A) Aspects of soil, plant, crop and forestry sciences pertaining to the regions and enterprises/farms visited during the excursion. B) Aspects of animal husbandry and socio-economic issues pertaining to the regions and enterprises/farms visited during the excursion.	6 C

Admission requirements:	**Recommended previous knowledge:**
none	Study focus on international agriculture and development policy

Language:	Person responsible for module:
English	Prof. Dr. Eva Schlecht
Course frequency:	**Duration:**
Winter semester, every second year, alternating with Module I02; Witzenhausen	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
25	

Additional notes and regulations:
Literature:
Specific general and scientific articles dealing with the excursion country, distributed in the course.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.I09: Sustainable nutrition	6 C 6 WLH

Learning outcome, core skills: Students are able to describe the role of nutrition in human health use databases for RDA describe the influence of nutrition (from farm to fork) on environmental parameters (soil, water, atmosphere, biodiversity) understand tools to measure "sustainability" in nutrition systems.	Workload: Attendance time: 60 h Self-study time: 120 h

Course: Sustainabe nutrition (Lecture, Excursion) *Contents*: • Culture and cultural patterns of nutrition • Interactions of food quality and lifestyle on human health • Recommended Dietary Allowances (RDA), tools to evaluate nutritional and health status • Product flow in the food supply chain (world wide and from farm to fork) • Databases and tools to describe nutrition systems (e.g. Life cycle assessment) • Greenwashing or real green? Logos, guidelines, legal aspects	6 WLH
Examination: Presentation (ca. 15 minutes, 50%) with written outline (max. 15 pages, 50%) **Examination requirements:** Kenntnis von Ernährungsstilen und Lebensmittelqualität (in ausgewählten Ländern) Kenntnis von Methoden zur Erfassung von umweltrelevanten Parametern entlang der Lebensmittelkette (von der Landwirtschaft bis zum Verbraucher) Kenntnis rechtlicher Vorgaben zur Kennzeichnung von Lebensmitteln sowie Vorgaben zur Verarbeitung von nachhaltig produzierten Lebensmitteln und Marketing	6 C

Admission requirements: none	Recommended previous knowledge: Basic knowledge on biochemistry, statistics and environmental issues
Language: English	Person responsible for module: Prof. Dr. Angelika Ploeger
Course frequency: each winter semester; Witzenhausen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 40	

Additional notes and regulations: Literature: Will be provides via the system2teach platform.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	5 WLH
Module M.SIA.I10M: Applied statistical modelling	

Learning outcome, core skills:	Workload:
Students have a detailed understanding of the concepts of statistical modelling, regression analyses and analyses of variance. They are familiar with the basic concepts of 'linear models', 'generalized linear models' and 'non-parametric estimation procedures', which now belong to the standard methods in applied statistics. Students are able to practically apply these methods and carry out statistical analyses in soil, plant and animal sciences using the statistical software R. They are able to apply the acquired skills in the analysis of their own MSc (and PhD) datasets.	Attendance time: 60 h Self-study time: 120 h

Course: Applied Statistical Modelling (Lecture, Exercise)	5 WLH
Contents: **Statistical analyses in animal science, soil science and plant sciences** (Lecture, computer practical) • Review of statistical concepts (boxplots, QQ plots, distributions, classical tests, • General aspects of hypotheses formulation and testing • Correlations, analyses of count and proportion data • Basic concepts of experimental design • Standard experimental field designs • Introduction to the software R • Regression (multiple linear, non-linear and logistic) • Statistical modelling, model types and model simplifications • Transformations • Analyses of variance, post-hoc tests • Non-parametric test procedures • Analysis of covariance • Particularities of unbalanced designs • Formulation of statistical models and basic programming in R • Linear mixed models	

Examination: Written examination (120 minutes) **Examination requirements:**	6 C
One written exam with two parts. Knowledge of basic statistical terms and approaches, linear and generalized linear models and non-parametric estimation procedures. Ability to apply the methods and models to real data by using the software package R.	

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge (B.Sc. level) of applied statistics

Language:	Person responsible for module:
English	Prof. Dr. Bernard Ludwig

Course frequency:	Duration:
each summer semester; Witzenhausen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	
Maximum number of students:	
25	

Additional notes and regulations:

Admission requirements:

Registration

Literature:

Lecture notes

Crawley, M.J. 2012. The R Book, Wiley

Dobson A. & Barnett A. (2008) An Introduction to Generalized Linear Models, Chapman & Hall.

Field, A., Miles, J., Field, Z. 2012. Discovering Statistics using R, SAGE

Mrode R. A. (2005) Linear Models for the Prediction of Animal Breeding Values, CABI Publishing.

Searle S. R. (1982) Matrix Algebra Useful for Statistics, Wiley Series in Probability and Statistics.

Welham, S.J., Gezan, S.A., Clark, S.J., Mead, A. 2014. Statistical Methods in Biology. Design and Analysis of Experiments and Regression, CRC Press, Boca Raton.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.I11M: Free Project	6 C

Learning outcome, core skills: Students are able to plan and carry out a scientific project. This includes critical evaluation of publications and the ability to apply acquired knowledge to problems in the field or in economic or social sciences. Students are also able to present results and discuss them on the basis of their knowledge.	Workload: Attendance time: 0 h Self-study time: 180 h

Course: Free project *Contents*: A topic for a project is chosen in agreement with the instructor. The aim of the project is to gain profound scientific knowledge on the chosen topic. This can include experimental work. The result of the project can be a written thesis, an oral presentation and/ or an electronically stored result.	
Examination: Project work (max. 15 pages or 4000 words) **Examination requirements:** In agreement with the instructor. Generally project work (max. 15 pages or 4000 words).	6 C

Admission requirements: Written agreement with instructor on topic, form and time frame for the project.	Recommended previous knowledge: none
Language: English	Person responsible for module: Prof. Dr. Stephan von Cramon-Taubadel
Course frequency: each semester; Göttingen oder Witzenhausen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: not limited	

Additional notes and regulations: Literature: Scientific publications on the topic agreed upon with the instructor.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.I12: Sustainable international agriculture: basic principles and approaches	

Learning outcome, core skills:	**Workload:**
Students	Attendance time:
• are able to describe the main bio-physical and socio-economic drivers shaping agricultural production systems and land and resource use strategies;	56 h
• have knowledge of relevant ecological, economic and social indicators	Self-study time: 124 h
• can describe and apply integrated approaches of indicator use for the evaluation of a system's sustainability	

Course: Sustainable International Agriculture: basic principles and approaches (Lecture)	4 WLH
Contents:	
In view of global change spanning from population growth, migration, and urbanization to climate change, land degradation and water scarcity, the sustainable use of human and natural resources for the continued provision of quantitatively and qualitatively adequate food poses a major challenge to all stakeholders involved in agricultural production worldwide. This module therefore addresses the basic concepts and principles of sustainability and sustainable agriculture, in its ecological, economic and social dimensions. Approaches to determine the bio-physical and socio-economic sustainability of a land use systems and of agricultural value chains are evaluated, and possibilities to implement sustainable management strategies along the continuum of water, soils, plants, animals, producers and consumers are discussed, thereby also accounting for relevant temporal and spatial scales.	

Examination: Written examination (90 minutes) **Examination requirements:**	6 C
• general definitions and indicators for sustainable development; strong and weak sustainability; the substitution-paradigm and its limits; carrying capacity and critical natural capital; economic growth models; economic approaches for the quantification of sustainable development; SNA / green accounting; cost-benefit analysis.	
• dimensions of social sustainability; utilization of communal resources; McDonaldisation of agriculture; agriculture and social justice.	
• multi-functionality and farm-management; realization of sustainability concepts in the farm enterprise; agro-ecological systems and sustainable farm management; indicators for enterprise sustainability; controlling of sustainability; profitability of organic farming; collective forms of farming.	
• sustainability of livestock husbandry; environmental effects of animal keeping and their avoidance: a) GHG emissions and environmental pollution from animal holdings; b) overgrazing.	

- concepts of sustainability; agroforestry systems; shifting cultivation; effects on soil fertility and sustainability.
- role of soils in ecosystems; soil types; soil functions and soil threats/degradation; physical, chemical and biological soil quality indicators; soil organic matter; soil as a carbon sink or source and greenhouse gas emissions; soil conservation; soil compaction.

Admission requirements:	Recommended previous knowledge:
none	none

Language:	Person responsible for module:
English	Prof. Dr. Eva Schlecht

Course frequency:	Duration:
each winter semester; Witzenhausen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	

Maximum number of students:	
not limited	

Additional notes and regulations:

Literature:

Lecture notes and reading materials distributed during the module;

Bell, S. & Morse, S., 2003. Measuring sustainability: learning by doing; Earthscan, London, UK. Bell, S. & Morse, S., 2008. Sustainability indicators: measuring the immeasurable? Earthscan, London, UK.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.I13: Issues and methods in food business research	

Learning outcome, core skills:	Workload:
The aims of the module are:	Attendance time:
	60 h
• To develop students' ability to analyse and evaluate management practices and discourses in the food sector according to multiple theoretical perspectives;	Self-study time:
• To appreciate contrasting perspectives;	120 h
• To develop students' critical skills and to enable them to engage with current debates in food business research;	
• To introduce students to empirical research in the field of international food business;	
• To support students in the development of their dissertation and project work (e.g. constructing research questions about food business).	

Course: Issues and methods in food business research (Seminar)	
Contents:	
In this module, we address the more contemporary debates and developments of food business theory and research. We explore, examine and discuss contrasting perspectives of contemporary issues of food business, from a practical and policy-oriented perspective, as well as from a theoretical point of view. We also investigate the research methods applied in food business studies. A particular interest lies in the advancement of knowledge in responsible and sustainable food business.	

Examination: Presentation (45 minutes) with hand-out (max. 2 pages) (50%) and written report (max. 4 pages, 50%)	6 C
Examination requirements:	
Students should be able to critically engage in current debates about food business (with a particular focus on responsible and sustainable business) and reflect on the usefulness and limitations of methods applied in food business research. Students should demonstrate that they are able to identify, explain and discuss the key aspects of the literature investigated.	

Examination requirements:	
ECTS-Bedingungen de	

Admission requirements:	Recommended previous knowledge:
none	none

Language:	Person responsible for module:
English	Alle
	Herzig, Christian, Prof. Dr.

Course frequency:	Duration:
each winter semester; Witzenhausen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:

twice	
Maximum number of students: 35	
Additional notes and regulations: Lectures and group discussion	

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.I14M: GIS and remote sensing in agriculture**	6 C 4 WLH

Learning outcome, core skills: GIS: A broad overview of basic GIS functions and related background knowledge should enable students to explore GIS-Software for relevant commands and prepare functional strategies for spatial data management and analysis. Lecture and exercise examples have predominantly agricultural reference. Remote Sensing The lecture will introduce physical principles (reflectance, transmittance, and absorption), sensor techniques (passive and active sensors, satellites, field spectrometer) and methods of analysis (calibration, validation) in remote sensing applications. This technical framework is presented using agricultural examples, as e.g. the generation of maps for crop yield and protein, assessment of species composition in mixed vegetation (e.g. grassland), like legume content for a calculation of residual nitrogen and crop rotation effects.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Remote sensing in agriculture (Lecture) *Contents*: The lecture will introduce physical principles (reflectance, transmittance, and absorption), sensor techniques (passive and active sensors, satellites, field spectrometer) and methods of analysis (calibration, validation) in remote sensing applications. This technical framework is presented using agricultural examples, as e.g. the generation of maps for crop yield and protein, assessment of species composition in mixed vegetation (e.g. grassland), like legume content for a calculation of residual nitrogen and crop rotation effects.	2 WLH
Course: GIS (Lecture) *Contents*: The course gives an introduction to Geographical Information Systems (GIS). Starting from geodetical background information, a wide range of different GIS- methods and - functions are presented using agricultural examples (e.g. data import, georeferencing, aggregation, (re)classification, interpolation, overlays and image analysis). The students have the opportunity to carry out exercises on the computer themselves for some important GIS-procedures. A special focus is given on data capturing using maps and field data survey with GPS as well as the spatial analysis of site conditions. Finally a particular view on GIS in organic farm management and Precision Farming is given.	2 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:**	6 C

Knowledge about basic GIS functions and the preparations of functional strategies for spatial data management. Knowledge of physical principles, methods of analysis and sensor techniques.

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Dr. Jayan Wijesingha
Course frequency:	**Duration:**
each winter semester; Witzenhausen	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Additional notes and regulations:

Literature:

Principles of Geographical Information Systems
by Peter A. Burrough and Rachael A. McDonnell (2015)

Introduction to Remote Sensing
by James B. Campbell **a**ndRandolph H. Wynne (2011)

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	6 WLH
Module M.SIA.I17: Sustainable diets	

Learning outcome, core skills:	Workload:
Students are able to describe the interactions of diets, sustainability and human nutrition/health. Students are able to assess the impacts of a dish/meal (as unit) on sustainability and nutrition parameters.	Attendance time: 60 h Self-study time: 120 h

Course: Sustainable diets (Lecture, Excursion)	6 WLH
Contents: • Culture and cultural patterns of diets • Interactions of food quality and lifestyle on sustainability and human health • Healthy diets within sustainable food systems • Model diets such as Med. Diet and New Nordic Diet • Optimization of a dish/meal according sustainability and nutrition impacts • Role of organic food systems	

Examination: Presentation (ca. 15 minutes, 50%) with written outline (max. 15 pages, 50%)	6 C
Examination requirements: Knowledge of lifestyles and interaction with food quality (in selected countries). Knowledge of methods for the collection of environmental and nutritional parameters. Knowledge of legal requirements for the labelling of foodstuffs as well as guidelines for the processing of sustainable food products.	

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge on nutrition, statistics and environmental issues.

Language:	Person responsible for module:
English	Prof. Dr. Johannes Kahl

Course frequency:	Duration:
each winter semester; Witzenhausen	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	

Maximum number of students:	
40	

Additional notes and regulations:
Literature: Will be provides via the system2teach platform.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.I19M: Participatory research methods for sustainability**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
This course will look at the importance of place-based, participatory and transdisciplinary research methods in sustainability science. Students will learn different participatory methods to capture the knowledge and aspirations of the different agents that operate in agricultural landscapes and will be able to integrate this knowledge in practical outcomes for sustainable land management. After successfully completing this module students should: • comprehend the fundaments of participatory research • be familiar with the different types of participatory research methods • be able to design and implement participatory processes This module contributes to the following skills: • performance of transdisciplinary processes • integration of knowledge and aspirations of different agents towards sustainable land management • data collection and analysis using participatory methods • group work techniques (organization of working schedule, team work) • presentation skills and communication of main research results	Attendance time: 56 h Self-study time: 124 h

Course: Participatory research methods for sustainability (Lecture, Seminar) *Contents*: The course is structured in three parts. An introductory part focuses on research principles of sustainability science, paying particular attention to the role of transdisciplinary and ethics in the participation processes. A second part showcases a broad suite of different participatory research methods (e.g. photo-voice, participatory mapping, storytelling) for sustainable landscapes management and land-use conflict resolution. The full research process is addressed, from participatory process design, the approaching and involvement of participants and the organisation and facilitation of participatory activities, to the analysis, integration and presentation of the outcomes. In the third part of the course, students have the opportunity to choose and design a protocol for a participatory study, applied to a specific geographical location and a specific problem, and share the insights of the process with the class. The first part will be outlined in lectures, the second part will take the form of seminars and the third part will consist of group work with a final presentation to the class where the different experiences will be critically discussed.	4 WLH

Examination: Presentation (approx. 30 minutes, 50%) and Term paper (max. 20 pages, 50%)	6 C
Examination requirements: Presentation and critical analysis of a participatory research approach applied to a land-use topic of the students' choice.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Tobias Plieninger
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Additional notes and regulations: **Literature:** Bergmann, M. et al. (2012). Methods for Transdisciplinary Research: A Primer for Practice. Campus Verlag. Course materials to be provided.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.I20: Agriculture and ecosystem services**	6 C 4 WLH

Learning outcome, core skills: This course will introduce students into the concepts of ecosystem services and human well-being, with a particular focus on their relevance for agriculture and other land uses. It will foster the ability of students to assume an interdisciplinary research perspective (including ecological, socio-cultural, and economic approaches) and to critically discuss and analyse the concept of ecosystem services in its multiple scientific, political and practical meanings.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Agriculture and ecosystem services (Lecture, Exercise, Seminar) *Contents*: Global environmental assessments (e.g., the Intergovernmental Platform on Biodiversity and Ecosystem Services, IPBES) have highlighted that human well-being is critically dependent on ecosystem services – the benefits that nature provides to people. Depending on the particular land-use system and its social-ecological context, agriculture can either degrade or enhance such ecosystem services. This course gives an overview on the rising field of ecosystem services science. Focus will be on: • techniques for decision support, • practical applications of the approach in agriculture and other land-use sectors, and • linkages to other sustainability issues (e.g., biodiversity, climate change, water security, poverty). These topics will be outlined in lectures and deepened in seminars and field exercises, where key issues will be explored and critically discussed.	4 WLH
Examination: Presentation (approx. 30 minutes, 50%) and term paper (max. 20 pages, 50%) **Examination requirements:** Presentation and critical analysis of a case study that takes a particular ecosystem services problem in a land-use setting and geographic location of the participants' choice into focus.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Tobias Plieninger
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students:	

25	

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.I21M: From conceptualisation to communication: key steps in empirical research	

Learning outcome, core skills:	**Workload:**
This course will enable students to develop and execute their own empirical (MSc) research project, to elaborate empirical real-world data in a meaningful way and to communicate major insights in a professional manner. The approaches and methods taught are applicable to a wide range of research topics.	Attendance time: 56 h Self-study time: 124 h
After successful completion of this module, students can:	
- Formulate research questions and hypotheses; - Write a grant application for acquisition of funding for their research project; - Design an e-questionnaire for interview-based data acquisition; - Recover interview data in a tabulation program and elaborate meaningful results; - Pinpoint research highlights in a prize-winning poster.	

Course: From conceptualisation to communication: key steps in empirical research (Lecture, Exercise)	4 WLH
Contents:	
This module prepares <u>students with a natural sciences focus</u> for international agricultural research in the framework of their M.Sc. thesis, the prerequisites of which include the ability to identify a research topic, formulate research questions and working hypotheses, elaborate a data collection matrix, analyse the collected data and communicate the obtained results in an effective manner.	
Therefore this module emphasises the practice of skills concerning the conceptualisation of a research project, data acquisition and analysis, and presentation skills. It is organised in four major sections:	
Part I: Conceptualisation of a research project – 15% of time	
In a participatory process, students will brainstorm on research topics, learn to formulate research questions and working hypotheses, and familiarize with the full conceptualisation of an MSc study proposal, for submission to, e.g., PROMOS or *fiat panis* grants.	
Part II: Elaboration of a structured e-questionnaire using freeware – 20% of time	
Students are introduced to the CS PRO freeware for the setup of e-questionnaires; they then individually conceptualise and computerise their own questionnaire of 20-30 differently scaled questions and test its functionality.	
Part III: Descriptive and creative analysis of data using tabulation software – 50% of time	
Participants receive real-world interview-based data from finalised or ongoing research projects of the principal instructor's group. In groups of 2 to 3 persons, they elaborate the information contained in the database, thereby answering to a series of simple as well as more complex research questions that guide this analytical step.	

Part IV: Preparation and presentation of a research poster – 15% of time Being provided with guidelines and templates, each group of students designs a research poster to present their most relevant results (see part III), thereby using PowerPoint or corresponding freeware. Posters are printed on A0 paper and are presented in short oral communications of 3-5 minutes, just as at a conference. Each poster is evaluated by the non-involved participants (standardized evaluation sheet, covered) and the three best posters receive a poster price.	
Examination: Written exam (90 minutes; weight: 50%) and presentation (ca. 20 minutes; weight: 50%) **Examination requirements:** Knowledge of the steps, do's and don'ts of research project conceptualisation, grant application, interview/questionnaire design, data elaboration and poster presentation. Part of the examination is an assessment of data evluation.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of Excel and PowerPoint or corresponding freeware
Language: English	**Person responsible for module:** Prof. Dr. Eva Schlecht
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Additional notes and regulations:
Literature:

- Lecture notes
- Schoonmaker-Freudenberger, K. 2008: Rapid rural appraisal (RRA) and participatory rural appraisal (PRA):
  a manual for CRS field workers and partners. (online resource; www.crs.org).
- de Hoyos, M., Barnes, S.A. 2012. Analysing interview data. Warwick Institute for Employment Research (online resource).

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.I27: Postharvest Technology	6 C 4 WLH

Learning outcome, core skills: Students are able to understand Postharvest operations and can evaluate them in respect to loss reduction and quality aspects. They can select proper criteria for quality assurance and can decide fitting instrumentation for control purposes.	Workload: Attendance time: 60 h Self-study time: 120 h

Course: Postharvest Technology (Lecture) *Contents*: Basics of processing and storage of agricultural products (drying, cooling) Selection of machinery and process technology Quality assessment and respective instruments	4 WLH
Examination: Oral examination (approx. 30 minutes) Examination requirements: Students are able to critically select process technology, chose instrumentation for process control and quality assessment, and they are able to interpret the measurements	6 C

Admission requirements: Fundamentals of Physics	Recommended previous knowledge: Basic course in agricultural engineering
Language: English	Person responsible for module: Prof. Dr. Oliver Hensel
Course frequency: each summer semester; Witzenhausen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 20	

Additional notes and regulations: Literature: -   Hand-outs in lectures and exercises Wild, Y. and R. Scharnow, Container Handbook, Vol. 3, German Insurance Association – GDV, Berlin, 2003

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.P01: Ecology and agroecosystems**	6 C 4 WLH

Learning outcome, core skills: Students are able to define site-specific conditions of sustainability, identify key constraints to the productivity and sustainable use of agro-ecosystems, assess the scope of human (management) interventions, determine the causes of productivity decline and chose approaches to strengthen sustainability	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Ecology and agroecosystems (Lecture, Seminar) *Contents*: Case-study based analysis and discussion of ecological framework conditions (limitations) in different arid and sub-humid agro-ecosystems of tropical and temperate zones with a particular focus on marginal soils and/or difficult infrastructural conditions where effective nutrient cycling, integration of cropping and animal husbandry systems as well as the use of biodiversity for income generation at the farm level is of particular importance. The potential/role of organic agriculture will be discussed and a more general discussion of the potential of organic agriculture to strengthen the resilience of agro-ecosystems will be presented.	4 WLH
Examination: Written Exam (90 min., 70%) and presentation (25 min., 30%) **Examination requirements:** Students should be able to explain the function and biophysical limits of (sub)tropical agro-pastoral land use systems, to justify the need to establish interdisciplinary approaches and to describe current research methods in land use systems analysis.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in plant, soil and animal science, willingness to analyse agro-ecosystems quantitatively
Language: English	**Person responsible for module:** Prof. Dr. Andreas Bürkert
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Additional notes and regulations: **Literature:**   Altieri, M. 1987: Agroecology: the scientific basis of alternative agriculture. Westview Press, Boulder, Colorado, USA; Gliessman, S.R. 1998: Agroecology: ecological processes in sustainable agriculture. Ann Arbor Press, Michigan, USA.

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.P05: Organic cropping systems under temperate and (sub)tropical conditions**	6 C 4 WLH

Learning outcome, core skills: Students are able to describe the principles and functions of agro-ecosystems, understand nutrient cycles and options for their improvement as an important basis of organic farming, evaluate systems of land use with a particular focus on organic modes of production and their role in agro-ecosystems, assess the role of livestock for nutrient cycling and with respect to the conservation of plant and animal biodiversity in (sub-)tropical settings.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Organic cropping systems under temperate and (sub)tropical conditions (Lecture, Excursion, Seminar) *Contents*: Visits of organic farms; case studies of livestock-oriented organic farming under different environmental conditions and constraints; development, evaluation and comparison of land use management systems under diverse natural, economic and socio-cultural conditions; nutrient cycling in plant-animal systems; site-specific contributions of legumes to N supply; P availability, P recycling and use of rock phosphates; modes of P supply in farming systems; EC, Australian, Japanese and North American regulations for organic farming – problems and opportunities.	4 WLH
Examination: Oral exam (ca. 15 minutes, 75%) and presentation (ca. 15 minutes, 25%) **Examination requirements:** Knowledge of organic plant cultivation systems, management of nutrient cycle systems, targeted use of legumes for site-specific N supply and knowledge of the basics of P availability, P recycling and the use of raw phosphates. Knowledge about the possibilities of P-supply in different cultivation systems, about the differences and problems with the ecostandards in EU, Japan, Australia and USA as well as knowledge about the contribution of livestock to the sustainability of organic farming systems.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in plant, soil and animal sciences
Language: English	**Person responsible for module:** Prof. Dr. Andreas Bürkert
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Literature:

Altieri, M. 1987: Agroecology: the scientific basis of alternative agriculture. Westview Press, Boulder, Colorado, USA; Willer, H. et al. 2008: The World of Organic Agriculture - Statistics and Emerging Trends 2008, IFOAM, Bonn, Germany.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P06: Soil and water**	6 C 4 WLH

Learning outcome, core skills: Students understand soil - water - plant relations and basic soil physical, soil hydrological and soil (micro)biological processes. They are able to critically evaluate soil and water problems and limits of soils as a natural resource and judge soil management options for sustainable land use.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Soil and water (Lecture, Exercise) *Contents*: Fundamental physical and hydrological processes; Soil water storage and transport; Physicochemical properties, Soil water in relation to mechanical processes (e.g. workability, deformation, soil strength); Soil – Water - Plant Relations (root water uptake, root growth, transpiration, soil-plant-atmosphere continuum); Field water cycle and management effects (e.g. mulching, tillage, irrigation); Irrigation principles and practices; Soil degradation and conservation (e.g. soil salinisation, compaction, acidification, contamination); Edaphon and its functions; Mycorrhiza; Rhizobia; Methods in soil biology; Indicators of soil fertility; Turnover of the soil microbial biomass; Habitat protection and ecotoxicology; Soil biology and fertility of tropical soils.	4 WLH
Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Students show that they understand soil - water - plant relations and basic soil physical, soil hydrological and soil (micro)biological processes. They are able to critically evaluate soil and water problems and limits of soils as a natural resource and judge soil management options for sustainable land use.	6 C

Admission requirements: none	**Recommended previous knowledge:** Fundamentals of soil science; Module Soil and Plant Science or equivalent.
Language: English	**Person responsible for module:** Prof. Dr. Stephan Peth
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations: **Literature:** N.C. Brady & R. R. Weil, 2008. The Nature and Properties of Soils. 14th ed., Pearson International Press; Hillel, D. (1998): Environmental Soil Physics. Academic Press; Jury, W. & Horton, R. (2004): Soil Physics.

Wiley & Sons; Lal, R. & Shukla, M.K. (2004): Principles of Soil Physics, Marcel Dekker Inc.; Ehlers, W. & Goss, M. (2003): Water Dynamics in Plant Production, CABI Publishing; Kirkham, M. B. (2005): Principles of Soil and Plant Water Relations, Elsevier; Coyne, M. S. (1999). Soil microbiology: an exploratory approach, Thomson Press; Paul, E.A., Clark, F.E. (1996). Soil microbiology and biochemistry, 2nd ed., New York Academic Press.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.P07: Soil and plant science	

Learning outcome, core skills:	**Workload:**
Bridging module for students lacking basic knowledge in some agronomy disciplines. With the help of lectures and reading materials students will be enabled to fill in gaps and get updated on state-of-the art knowledge with a special focus on questions pertinent to organic agriculture. Students, having taken this module, will be able to follow advanced courses in the above fields.	Attendance time: 60 h Self-study time: 120 h

Course: Soil and plant science (Lecture, Seminar)	4 WLH
Contents: Influence of soil formationprocesses on physical properties (texture, soil water, pore space), chemical properties (buffering, exchange capacity, nutrients), and biological properties (organic matter, edaphon), soil formation and classification. Nutrient availability and and nutrient mobilization under conventional and organic agricultural conditions. Major and minor nutrients and food quality.Plant breeding goals for different agricultural systems. Plant morphology, genetics and breeding: principles of plant domestication and use, characterization and evaluation, use of genetic resources in plant breeding, genetic basis for plant breeding Genetics of host-parasite interactions, epidemiology and plant defence. Insect physiology and ecology.	
Spezifische allgemeine und wissenschaftliche Artikel, die sich mit dem Zielland der Exkursion befassen werden über eine E-Learning Plattform zur Verfügung gestellt	

Examination: Written exam (120 minutes) or oral exam (ca. 20 minutes) Examination requirements:	6 C
Fundamentals of soil science: Physical properties (texture, soil water, pore space), chemical properties (buffering, exchange capacity, nutrients), biological properties (organic matter, edaphon), soil formation and classification.	
Plant nutrition: Role of major and minor elements in plants, nutrient availability and nutrient mobilisation, plant nutrients and food quality	
Plant breeding and genetics: plant morphology, genetics and breeding: principles of plant domestication and use, characterization and evaluation, use of genetic resources in plant breeding, genetic basis for plant breeding.	
Plant protection: principles of plant pathology and entomology, genetics of plant diseases, epidemiology, plant defence mechanisms; insect physiology and ecology	

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English	Dr. Helmut Saucke
Course frequency:	**Duration:**

each winter semester; Witzenhausen	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:

Literature:

Brady, N.C. 1990: The nature and properties of soils. 10th edition, Prentice Hall; Marschner, H. 1995: Mineral Nutrition of Higher Plants, Academic Press, New York; Sanchez, P. 1976: Properties and Management of Soils of the Tropics, Wiley, New York; van Wyk, B.E. 2005: Food Plants of the World. Briza Publication, Pretoria; Rehm, S., Espig, G. 1991: The Cultivated Plants of the Tropics and Subtropics. Verlag Josef Margraf, Weikersheim, Germany; Agrios, G.N. 2005: Plant Pathology, 5th edition, Academic Press, New York; Pedigo, L.P. 2002: Entomology and Pest Management, 4th edition, Macmillan Pub Co.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.P10: Tropical agro-ecosystem functions	

Learning outcome, core skills:	**Workload:**
Knowledge of the processes of soil degradation as well as of the measures for their control or prevention in selected land use systems of the tropics and subtropics; knowledge of ecological system functions and their synthesis in agronomic concepts for the adaptation to unfavourable climatic and pedological conditions in the tropics and subtropics.	Attendance time: 56 h Self-study time: 124 h

Course: Tropical agro-ecosystem functions (Lecture, Seminar) *Contents*: Introduction to and overview of agronomy-based land use systems in the tropics and subtropics taking into account ecological points of view. Analysis of the sustainability of plant production under special consideration of the physical, chemical and biological soil quality as well as the efficient water use in the seasonal tropics.	4 WLH
Examination: Presentation (ca. 30 minutes, 50%) and term paper (max. 10 pages, 50%) **Examination requirements:** Knowledge about the processes of soil degradation and the measures taken to control or prevent in selected land use systems in the tropics and subtropics; knowledge of ecosystem functions and their synthesis in agronomic concepts to adapt to unfavorable climatic and pedological conditions in the tropics and subtropics.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge (B.Sc. level) of soil and plant sciences
Language: English	**Person responsible for module:** Dr. Ronald Franz Kühne
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations:
Literature:
Lecture notes and handouts, selected chapters from textbooks; copies of PowerPoint presentations

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P13: Agrobiodiversity and plant genetic resources in the tropics**	6 C 4 WLH

Learning outcome, core skills: Students are able to understand the role of agrobiodiversity in tropical agro-ecosystems, to present approaches of functional biodiversity analysis and to discuss the needs and strategies of on-farm (in situ) and off-farm conservation of plant genetic resources.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Agrobiodiversity and plant genetic resources in the tropics (Lecture, Seminar) *Contents*: Case-study based analysis of the role of biodiversity for selected crops in different agro-ecosystems from the arid to the humid climate zones; importance of biodiversity for the stability / sustainability of smallholder (subsistence) versus commodity-oriented commercial agriculture in the Tropics, assessment and utilization of diversity, principles and practices in conservation of genetic resources, role of homegardens and indigenous wild fruit trees for in situ conservation of biodiversity, causes and consequences of genetic erosion, approaches of germplasm collection.	4 WLH
Examination: Oral exam (about 15 minutes, 60%) and presentation (about 20 minutes, 40%) **Examination requirements:** Students should be able to understand the role of agrobiodiversity in tropical agroecosystems, to present basic approaches to functionally analyse biodiversity and to discuss the need of and strategies for *in* and *ex situ* conservation of genetic resources.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in plant and soil sciences
Language: English	**Person responsible for module:** Prof. Dr. Gunter Backes
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations: **Literature:** Altieri, M. 1987: Agroecology: the scientific basis of alternative agriculture. Westview Press, Boulder, Colorado, USA; Eyzaguirre, P.B., Linares, O.F. 2004: Home gardens and agrobiodiversity. Smithsonia

Books, Washington, USA; Wood, D., Lenne, J.M. 1999: Agrobiodiversity: Characterization, utilization and management. CABI Publishing, Wallingford, UK.

Georg-August-Universität Göttingen	6 C
Universität Kassel/Witzenhausen	4 WLH
Module M.SIA.P15M: Methods and advances in plant protection	

Learning outcome, core skills:	**Workload:**
Students are able to critically evaluate published results and apply this knowledge to actual problems in the field. They are also able to deal with problems in the field: Identification and measurements, design of experimental and analytical approaches to problems.	Attendance time: 60 h Self-study time: 120 h

Course: Methods and advances in plant protection (Lecture, Excursion, Exercise)	4 WLH
Contents: Advanced course in plant pathology and entomology. Methodology and evaluation methods in plant protection. Case studies of specific plant protection issues in organic farming in the form of lectures, seminars and practical courses.	

Examination: Written exam (120 minutes) or oral exam (ca. 20 minutes) (70%) and work reports (max. 3 pages) or seminar speech (ca. 10 minutes) (30%) **Examination requirements:** Advanced knowledge in plant protection (Entomology and Pathology) Methodology and evaluation methods in plant protection based on case studies.	6 C

Admission requirements:	**Recommended previous knowledge:**
Introductory course in plant protection (entomology and pathology, at least 6 ECTS or equivalent) or bridging module M.SIA.P07 Soil and Plant Science	none
Language: English	**Person responsible for module:** Prof. Dr. Maria Renate Finckh
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
Literature:
Agrios, G.N. 2005: Plant Pathology, 5th edition Academic Press, New York; Pedigo, L.P. 2002: Entomology and Pest Management, 4th edition, Macmillen Pub Co.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P16M: Crop Modelling for Risk Management**	6 C 4 WLH

Learning outcome, core skills: • Gain knowledge of the features of different crop modelling concepts and model families and learn to use the Agricultural Production Systems SIMulator (APSIM) • Understand the basic principles of production ecology and agro-ecosystems modelling • Apply crop modelling to typical agronomic questions related to risk management strategies	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Crop modelling for risk management (Lecture, Seminar) *Contents*: Using the Agricultural Production Systems sIMulator (APSIM) students will be introduced to the concepts (potential, water-limited and nitrogen-limited production) and application options of agro-ecosystem modelling. In the first part of the lecture students will learn along guided exercises to set up different simulations (single season cropping, rotation, intercropping, climate change effects etc.). In the second part selected case studies are presented, which address typical agronomy questions (fertilizer management, closing yield gap, identifying suitable crop rotations).	4 WLH
Examination: Presentation (about 20 min, 50%) and written report (max. 20 pages,50%) **Examination requirements:** Good understanding of the model APSIM and its underlying theory (process) descriptions and of input- and output variables and technical model features for simulating genotype x environment x management interactions in potential, water-limited and nitrogen-limited production situations; Understanding of model evaluation methods.	6 C

Admission requirements: none	Recommended previous knowledge: Basics in agronomy, soil science & plant nutrition
Language: English	Person responsible for module: Prof. Dr. Reimund P. Rötter Dr. Gennady Bracho Mujica
Course frequency: each summer semester; Göttingen	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 16	

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen Module M.SIA.P19M: Experimental techniques in tropical agronomy	6 C 4 WLH

Learning outcome, core skills: Knowledge of the botanical, ecological and agronomic facts of the introduced crop plants and multiplication techniques, scientifically correct interpretation and discussion of results from a greenhouse experiment, limitations and potentials of the interpretation of measuring procedures for the description of physiological state variables in tropical crop plants.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Experimental Techniques in Tropical Agronomy (Lecture, Exercise, Seminar) *Contents*: Principles and practice of vegetative and generative propagation techniques in the greenhouse of the division. Introduction to statistical experimental design and analysis of greenhouse experiments. Theory and practice of eco-physiological measurement methods for the water balance and status, as well as gas exchange / photosynthesis rates in tropical crop plants. Infrastructure like lab benches, cabins, climate chambers and plantarray lysimeters can be used and might be involved in the experiments done by the students in working groups. **Literatur** Kopien von Powerpoint-Präsentationen, ausgewählte Kapitel von Lehrbüchern.	4 WLH
Examination: Presentation (ca. 30 minutes, 50%) and protocol (max. 20 pages, 50%) **Examination requirements:** Knowledge of botanical, ecological and agronomic facts of the presented crop plants; scientifically correct planning, implementation, evaluation, description and discussion of the results of a greenhouse experiment; limits and possibilities of interpretation of measurement methods for describing the physiological state variables of tropical crop plants.	6 C

Admission requirements: M.SIA.P12	Recommended previous knowledge: Basic knowledge (B.Sc. level) of plant sciences
Language: English	**Person responsible for module:** Dr. Ronald Franz Kühne
Course frequency: each summer semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations:

Literature:

Copies of PowerPoint presentations, selected chapters from textbooks

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P21: Energetic use of agricultural crops and Field forage production**	6 C 4 WLH

Learning outcome, core skills: Based on the data presented, students are able to identify and evaluate potentials and limits of energy production from renewable plant resources. Furthermore, students are able to classify and to assess the importance of field forage production for organic cropping systems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Energetic use of agricultural crops and Field forage production (Lecture, Excursion) *Contents*: Management of agricultural crops for energetic use. Energy scenario and potentials, emission of greenhouse gases, sources of energy from biomass and waste material, selecting and processing biomass as a fuel. Biogas, fermentation process and plant technology. Gasification,pyrolysis, combustion. Benefits and restrictions with the replacement of fossil fuel-based materials through biomass-based products. The importance of field forage production (ffp) for organic cropping systems; basics of ffp – plant species; integration of ffp in crop rotation systems; environmental impact of ffp, quality aspects; nutrient-dynamics. Environmental evaluation by lifecycle assessment analysis.	4 WLH

Examination: Oral examination (approx. 30 minutes) **Examination requirements:** Basic and theme specific deepened knowledge on the use of agricultural biomass for energetic purposes and for forage production.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowlege in soil and plant sciences, physics and chemistry.
Language: English	**Person responsible for module:** Prof. Dr. Michael Wachendorf
Course frequency: every 4th semester; Start WiSe 2017/2018; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: **Literature:**

Guide to Biogas - From production to use. 2012. Fachagentur Nachwachsende Rohstoffe e. V. (FNR)

Kaltschmitt, M. Energy from Organic Materials (Biomass). Springer, New York, NY. https://doi.org/10.1007/978-1-4939-7813-7.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P22: Management of tropical plant production systems**	6 C 4 WLH

Learning outcome, core skills: Knowledge of botanical, ecological and agronomic facts of presented crops and cropping systems. The students should be able to classify crops and cropping systems in relation to site conditions and undertake system-orientated evaluation of sustainable production.	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Management of tropical plant production systems (Lecture) *Contents*: Presentation of the most important crops with respect to: botany, morphology, origin, climatic and ecological requirements, crop production, harvest procedure, significance in local farming systems, utilisation as food, feed, raw materials and as bioenergy source. Discussion of specific cropping systems in the tropics and subtropics and specific management systems for the sustainable improvement of productivity. **Literatur** Rehm, S., Espig, G. 1991: The Cultivated Plants of the Tropics and Subtropics. Verlag Josef Margraf. Weikersheim, Germany; lecture notes	4 WLH
Examination: Presentation (ca. 30 Minuten, 50%) und written report (max. 15 pages, 50%) **Examination requirements:** Knowledge of botanical, ecological and agronomic facts of the presented crops and cropping systems. Knowledge of the assignment of crops and cropping systems to different site conditions, as well as system-oriented evaluation of sustainable production at selected sites.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge on plant production (BSc-level)
Language: English	**Person responsible for module:** Prof. Dr. Reimund P. Rötter
Course frequency: each winter semester; Göttingen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 35	

Additional notes and regulations: **Literature:** Literatur, u.a.: Rehm, S., Espig, G. 1991: The Cultivated Plants of the Tropics and Subtropics. Verlag Josef Margraf. Weikersheim, Germany; lecture notes

Slides, selected articles and other materials will be provided

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.P24: Agroforestry**	6 C 4 WLH

Learning outcome, core skills: This course introduces students to the basic concepts and current trends in the science and practice of agroforestry systems in temperate and tropical regions. Students will learn the basic concepts, principles, and drivers associated with agroforestry practices. A number of external speakers with diverse backgrounds will develop seminars focused on case studies of agroforestry in specific contexts, from a multidisciplinary and innovative perspective. Students will learn about the different biophysical relationships, and the benefit effects on humans and the environment. The socio-cultural systems that influence the management and sustainability of these systems will also be highlighted, as well as current challenges related to global and social change. An own design of an agroforestry system (in groups of 2-3) with written explanation and presentation will complete the module and as an exam performance will show if the principles covered in the course have been understood and can be implemented	**Workload:** Attendance time: 60 h Self-study time: 120 h

Course: Agroforestry (Lecture, Seminar) *Contents*: This module provides participants with multidisciplinary insights into the ecological and social components of agroforestry systems and practices. This module will provide an overview on the agroforestry science and focus will be on the study of the: 1. techniques for characterization and evaluation; 2. practical applications from multidisciplinary backgrounds (e.g., agroforestry science, practical planning); 3. linkages to sustainability issues (e.g., climate change, water security management, or human well-being). Students will implement the principles they learnt in an own agroforestry design. Key issues will be explored and critically discussed.	4 WLH
Examination: Presentation (approx. 20 minutes, 50%) and Term paper (max. 10 pages, 50%) **Examination requirements:** Knowledge of the main concepts and characteristics of agroforestry systems and understanding of the role of different practices and human management in the sustainability of future landscapes.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Tobias Plieninger

Course frequency:	Duration:
each winter semester; Witzenhausen	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Additional notes and regulations:

Literature:

Jose, S. 2009. Agroforestry for ecosystem services and environmental benefits: an overview. Agroforest Systems 76:1–10,https://doi.org/10.1007/s10457-009-9229-7

Fagerholm, N., et al. 2016. A systematic map of ecosystem services assessments around European agroforestry. Ecological Indicators, 62:47–65,http://dx.doi.org/10.1016/j.ecolind.2015.11.016

Advances in Agroforestry. Book Series: 2004 – 2017. Integrating Landscapes: Agroforestry for Biodiversity Conservation and Food Sovereignty. Montagnini, F. Springer, https://doi.org/10.1007/978-3-319-69371-2

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0004: Financial Risk Management**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • understand and explain how risk management is related to other issues in corporate finance, • critically assess different motivations for corporate risk management, • understand and critically assess different risk measures and how they are applied in practice, • understand and explain how international risks can be managed and how the management of international risks is related to various economic parity conditions, • understand, analyze and critically apply measures and methods to manage interest rate risk, • understand, analyze and critically apply measures and methods to manage credit risk, • understand, analyze and critically apply hedging strategies for commodity price risk.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Financial Risk Management (Lecture) *Contents*: 1. Introduction 2. Risk Management: Motivation and Strategies 3. Managing Interest Rate Risk 4. Managing Credit Risk 5. Managing International Risks 6. Managing Commodity Price Risk Parts of the material covered by the lectures will be transmitted via recordings that students have to work through on their own. Parts of the contact hours during lectures will be used by the students to discuss open issues and to work on specific cases and applications of the main concepts.	2 WLH
Course: Financial Risk Management (Tutorial) *Contents*: In the accompanying practice sessions students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate a profound knowledge of how risk management is related to other issues in corporate finance, • document an understanding of viable reasons for corporate risk management and how corporate risk management can create value, • demonstrate the ability to analyze and apply different risk measures,	

- show a profound understanding of methods and techniques used to manage international risks, interest rate risk, credit risk, and commodity price risk.

Admission requirements:	Recommended previous knowledge:
none	M.WIWI-BWL.0001 Corporate Finance
Language:	**Person responsible for module:**
English	Prof. Dr. Olaf Korn
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0018: Analysis of IFRS Financial Statements**	6 C 4 WLH

Learning outcome, core skills: This course integrates different facets of financial statement analysis and corporate valuation. After the successful completion of this course, students have acquired the following skills: • they are familiar with contemporary methods of financial statement analysis and accounting-based valuation. In particular, students are familiar with (1) the interrelation between valuation theory and accounting, (2) relevant characteristics of financial statements prepared on the basis of International Financial Reporting Standards (IFRS), and (3) application of the valuation and analysis framework to real world cases and examples, like analyst reports, • students are able to assess several approaches to valuation of equity and debt investments and their respective merits. Based on the concept of accounting-based valuation, students are familiarized with an analytical framework for analysis and forecasting of financial statements, with an emphasis on ratio analysis of profitability and growth, • overall, successful participants of this course are expected to be familiar with contemporary methods of equity valuation, the use of financial statement information to that end, and the application of that knowledge to real-world valuation cases.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Analysis of IFRS Financial Statements (Lecture) *Contents*: *I. Foundations of Financial Statement Analysis* *II. IFRS Financial Statements* *III. Valuation Methods* *IV. Analysis of Financial Statements* *V. Forecasting and Valuation Analysis*	2 WLH
Course: Analysis of IFRS Financial Statements (Tutorial)	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: In order to accomplish successfully this course, students are expected to be familiar • with contemporary methods of equity valuation, • the use of financial statement information to that end, and • the application of that knowledge to real-world valuation cases.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-BWL.0002 IFRS Financial Reporting
Language: English	**Person responsible for module:** Prof. Dr. Jörg-Markus Hitz

Course frequency:	**Duration:**
every second semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0020: Risk Management and Solvency**	6 C 2 WLH

Learning outcome, core skills: • Knowledge and understanding of the functions and elements of a risk management system, of the risk potentials and its valuation of an insurance company, • knowledge of the legal requirements regarding risk management and solvency, especially Solvency II, • knowledge of the relevant techniques used in risk management of an insurance company (stress tests, ALM, Embedded Value, actuarial analysis, Value Based Management), • understanding of the relevant methods used in the balance sheet of an insurance company (HGB, IFRS, solvency balance sheet), • ability to develop simple task settings independently with regard to risk management and solvency.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Risk Management and Solvency (Lecture) *Contents*: • Role and components of a risk management system • Legal requirements: MaRisk, stress tests, actuarial reporting, market consistent valuation (IFRS) • Solvency requirements (Solvency I, Solvency II) • Value Based Management, Embedded Value, Asset Liability Management (ALM)	2 WLH
Examination: Written examination (120 minutes)	6 C

Examination requirements: • Document a knowledge and understanding of the functions and instruments of risk management and of the valuation of risk potentials, • demonstrate a knowledge and understanding of quantitative and qualitative requirements of the solvency regime, • demonstrate a knowledge and understanding of market consistent valuation within solvency, HGB,IFRS, • demonstrate the ability for simple calculations with regard to risk management and solvency.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Martin Balleer
Course frequency: every second semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0075: Pricing Strategy**	6 C 4 WLH

Learning outcome, core skills: After successful attendance the students should be able to implement the most important determinants of pricing policy and pricing management, as well as to apply selected marketing techniques, marketing strategies, psychological and economic theories for the analysis of optimal pricing strategies. Further, the students learn to investigate the pricing strategy from a B2B and B2C perspective, completed on case studies and caselets.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Pricing Strategy (Lecture) *Contents*: - Introduction to Pricing Strategy - Value Creation & Value Communication - Market Segmentation and Pricing Structure - Price Customization - Behavioral Pricing - Pricing Policy and Price Level - Cost and Financial Analysis - Competition - Pricing Research - Miscellaneous Selected Topics from Pricing Strategy **Basic literature:** - Nagle, Thomas T. & Hogan, John E.: The Strategy and Tactics of Pricing: A Guide to Growing More Profitability, Pearson, Upper Saddle River.	2 WLH
Course: Pricing Strategy (Exercise) *Contents*: In the accompanying practice sessions students deepen and broaden their knowledge from the lecture by applying theories and methods to real-world problem sets. This is achieved by case studies that focus on the specific contents of the lecture. In the tutorial the case studies are interpreted and potential solutions are discussed. The tutorial is supplemented by reviewing fundamental concepts from the lecture.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Pricing Tactics, Pricing Strategies, Determining the Economic Value of Products, Pricing Structures, Pricing Procedures, Financial Analysis, Pricing Competition	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Yasemin Boztug

Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0100: International Management**	6 C 2 WLH

Learning outcome, core skills: Upon successful completion of this course, students will be able to: • demonstrate a profound knowledge of theories and concepts of international management, • identify and define options of actions and strategies for internationalization and international activities of organizations, • understand and apply tools and measures important for the international activity of organizations, • critically discuss these theoretical approaches, concepts and tools.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: International Management (Lecture) *Contents*: The lecture offers an introduction to theories and concepts of international management with a strong connection to practical examples and case studies. Topics include various aspects of internationalization and international organizations, such as drivers of internationalization, market entry strategies, the role of heterogeneous national contexts, and relationships with partner firms across borders.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students… • demonstrate a profound knowledge of theories and concepts in the field of international management, • show a thorough understanding of how to make use of internationalization strategies and tools, • demonstrate the ability to apply theoretical concepts to practical examples and case studies, • apply their ability to critically discuss concepts and approaches of international management.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0003 Management and Organization
Language: English	**Person responsible for module:** Dr. Clarissa Weber
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0105: International Company Taxation**	6 C 4 WLH

Learning outcome, core skills: Having attended this lecture series the students: • know about the tax consequences multinational companies in various legal forms are exposed to, especially with regard to international double taxation, • know the methods to avoid international double taxation and are competent in using these methods as well as in analysing their economic impact, • know the basic forms of international business activities, • know about the necessity of profit attribution to the constituent parts of a multinational enterprise, and • are in the position to analyse specific circumstances with regard to their tax-related consequences.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: International Company Taxation (Lecture) *Contents*: It is the aim of this lecture series to provide knowledge about the institutional fundamentals of international company taxation. To this end, the lecture series deals in particular with the problem of international double taxation as well as with the contradictory problem of international double non-taxation. Afterwards, possible mechanisms of relief will be discussed. In this context, the main focus is on the role of bilateral tax treaties and relevant EU-law. Furthermore, the lecture series analyses the taxation of cross-border investments and, related thereto, the necessity of attributing profit to the constituent parts of a multinational enterprise. The lecture series concludes with discussing options for international tax planning.	2 WLH

Course: International Company Taxation (Exercise) *Contents*: In the course of the exercise series, the students will deepen, complete and extend their knowledge and skills acquired in the lecture series. In particular, some exercises will be presented to, and solved with, the students, to provide them with the opportunity to apply this knowledge. These exercises will include calculations, reasoned statements and critical analysis.	2 WLH

Examination: Written examination (90 minutes)	6 C

Examination requirements: In order to accomplish this course successfully, students are expected to be familiar with the tax consequences of multinational companies depending on their legal forms. Further, the students should show knowledge of mechanisms providing relief from double taxation and to avoid double non-taxation, international tax planning strategies, and how these strategies should be applied under specific circumstances. In addition, the areas of international action to counter harmful tax practices and proposals for reform of the international tax system are covered and form part of the examination. This	

knowledge should be shown by means of calculations, reasoned statements and critical analysis.

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-BWL.0001 Company Taxes I or M.WIWI-BWL.0003 Company Taxation
Language:	**Person responsible for module:**
English	Prof. Dr. Andreas Oestreicher
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0109: International Human Resource Management**	6 C 3 WLH

Learning outcome, core skills: After taking this module, students will have gained theoretical knowledge of Human Resource Management (HRM) in an international context, as well as practical knowledge and skills to prepare them for a future career in the HR department and/ or management of international companies. Furthermore, the course fosters cross-cultural competence by analyzing the impact of national context and culture on HRM and enables the students to analyze, plan, deliver, and evaluate measures of international HRM.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: International Human Resource Management (Lecture) *Contents*: Lectures will introduce relevant theories, basic cultural concepts, and strategic relevance of HRM in an international context. Key functions of international HRM will be discussed (e.g. international staffing & recruiting, training & development, expatriate management, etc.).	2 WLH
Course: International Human Resource Management (Tutorial) *Contents*: Tutorials will help students to discuss and transfer knowledge between theory and practice, using case studies and examples.	1 WLH
Examination: Written examination (90 minutes) **Examination requirements:** • Demonstration of profound knowledge of the various theoretical approaches, functions and measures of international HRM. • Demonstration of cross-cultural competence and understanding of context and culture on HRM issues. • Demonstration of understanding of strategies and current challenges of multinational firms and international HRM and ability to transfer theoretical knowledge in order to solve them.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: every winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

1100

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0110: Strategic Human Resource Development**	6 C 2 WLH

Learning outcome, core skills: Students will understand the relationship between strategy and human resource development and the different models as well as tasks and phases of human resource development. By using an innovative approach the students will be enabled to plan and evaluate measures of human resource development in practice. In the past we have covered e.g.: • strategic approaches to human resource development, • didactics and methods of training, • competency management, • qualitative and quantitative analysis of training needs and diagnostics, • forms of human resource development, • ensuring Transfer, • Quality management and controlling, • Case: Design of a development measure, • Leadership Development, • Talent management, • Coaching/ Mentoring, • development of (leadership-)teams. • Organizational development.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Strategic Human Resource Development (Seminar) *Contents*: To achieve strategic goals companies need to recruit, retain and develop the right employees. In this regard the seminar focuses on strategic human resource development as one important driver of successful strategy implementation. The seminar provides an overview of the objectives, phases and measures of personnel and leadership development and introduces the students to different methods of training. The seminar is praxis-oriented and fosters individual application and transfer. It has a significant practical element as students will carry out their own training designs and present them to the class. Therefore, in the beginning, basics of human resource development will be covered by the lecturer and an overview of training methods will be given. Building on this, groups of students will present their own topic.	2 WLH
Examination: Presentation (approx. 60 minutes) and written elaboration (max. 20 pages)	6 C

Examination requirements: To pass the course students have to write a seminar paper and give a presentation. They have to prove, that they are able to systematically apply their knowledge of training design. Attendance is mandatory.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of Human Resource Management

Language:	Person responsible for module:
English	Prof. Anna Katharina Bader
Course frequency:	**Duration:**
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 4
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0112: Corporate Development**	6 C 4 WLH

Learning outcome, core skills: After successful completion of this course, students are able to: • demonstrate a profound knowledge of different perspectives and drivers of corporate development. • identify and define options of actions and strategies for the development of companies and the conditions necessary to obtain success. • understand tools and measures important for the control of innovative activities in companies.... apply and critically discuss the tools, strategies, and concepts that have been acquired in order to analyze as well as to tackle case studies. • deal with the ambiguity of real situations and make reasonable decisions.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Corporate Development (Lecture) *Contents*: a) Introduction to corporate development • What is "Corporate Development" and why is it practically relevant? b) Tracks and drivers of corporate development processes • In which different tracks do companies develop over time and why? • Models and theories about patterns of change • Measures and mechanisms to manage corporate development and to ensure sustainable success • Models on driving forces of corporate development and empirical studies discussing different outcomes c) Growing and reducing company size • Strategies of corporate development, direction of growth and shifting boundaries of companies • In which ways can a company grow? • How can one evaluate the performance potential of a growth strategy? • When and how do companies reduce their size and how can they do so successfully? d) Innovation • Relevance of innovations and introduction to different strategies regarding to their timing • Techniques and empirical studies on creation and ideation in organizations • Theories on the institutionalization of innovation management within organizations	2 WLH
Course: Corporate Development (Exercise) *Contents*: In the accompanying practice sessions, students deepen and broaden their knowledge from lectures by applying theories and methods to real-world problem sets.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements:

Students:

- demonstrate a profound knowledge of and ability to manage challenges in corporate development.
- document a thorough understanding of how to actively design an organizations' development processes.
- demonstrate the ability to discuss different measures, strategies, and tools to manage corporate development.
- show a profound understanding of empirical studies and theoretical implications and be able to transfer findings on current practical examples in case studies.

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-BWL.0003 Management and Organizationand B.WIWI-BWL.0054 Organizational Design and Change
Language: English	**Person responsible for module:** Prof. Dr. Indre Maurer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0115: Human Resource Management Seminar**	6 C 2 WLH

Learning outcome, core skills: After the seminar students have learned to approach a current human resource management (HRM) topic from a scientific perspective and write an academic paper. They will have acquired relevant and up to date knowledge in their field and are able to apply qualitative or quantitative research methods. Students will have improved their communication and presentation skills while discussing the work of their peers and presenting their own research project. This seminar will further prepare students to write a master thesis.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Human Resource Management Seminar (Seminar) *Contents*: In this seminar, students work on a current HRM topic. Students can select among different topics regarding HRM and are supposed to prepare a research paper. During the sessions, they will learn how to write an academic paper including the abstract and introduction, theory and hypotheses development as well as methods, results, and discussion sections.	2 WLH
Examination: Presentation (approx. 30 minutes) and term paper (max. 7000 words) **Examination requirements:** • Demonstration of a profound knowledge of theory and literature regarding a current topic in HRM and ability to develop theoretical and practical implications. • Demonstration of overall understanding of the scientific approach, methods, and standards and ability to write/ present an academic paper.	6 C

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-BWL.0109 International Human Resource Management M.WIWI-BWL.0118 Survey Research
Language: English, German	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0118: Survey Research**	6 C 2 WLH

Learning outcome, core skills: After successful participation in the seminar, students have acquired in-depth knowledge of the whole process of a survey research project, including survey design, implementation, and statistical analyses. Further, students are knowledgeable of the theoretical foundations as well as practical application of statistical methods, including ANOVA, simple regression, multiple regression, and moderated/ mediated regression. This enables students to conduct and analyze survey results by using statistical software, such as SPSS and the PROCESS plugin. In addition, students can conduct empirical research projects, e.g. as part of a master thesis, according to scientific standards.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Survey Research (Seminar) *Contents*: Seminar, including lectures of statistics/ survey methodology theory, guided practical work using statistical computer programs, moving from simpler statistical analyses, to more complex. After this, students decide on a statistical model, and then build an empirical paper, in the style used in established management journals.	2 WLH
Examination: Presentation (approx. 15 minutes) with written elaboration (max. 7000 words)	6 C

Examination requirements: • Demonstration of an in-depth knowledge of how to conduct a scientific research project. • Demonstration of an advanced understanding and the ability to apply scientific research standards and methods. • Demonstration of an in-depth knowledge of survey design and implementation as well as the ability to collect, analyze, and systematically interpret quantitative data.	

Admission requirements: none	**Recommended previous knowledge:** Basic statistical knowledge
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: every winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0122: Cross-Cultural Management**	6 C 2 WLH

Learning outcome, core skills: Cross-Cultural Management is an interdisciplinary field of study, which aims to improve communication, management and interaction of people from different cultures. After taking this lecture, students will be familiar with and have acquired several key competencies and methods needed when working with/in different cultures. They will be aware of cultural differences in communication and management, enabling them to more easily and more naturally fit into a new business environment.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Cross-Cultural Management (Lecture) *Contents*: Through the increased globalization of the economy, cross-border ventures, global relocations and the increased use of e-commerce, many businesses are finding that managing cultural differences can be a key factor in obtaining their objectives. This course will introduce students to the topic of cross-cultural management and raise awareness for difficulties in intercultural communication and management.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstration of knowledge of the various characteristics, methods and problems in intercultural management. • Ability to reproduce and reflect on strategies used by firms and managers to deal with, and respond to these problems.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0123: Tax Transfer Pricing**	6 C 2 WLH

Learning outcome, core skills: Having attended this lecture the students: • know the basic fundamentals of international tax transfer pricing including the legal basis for adjusting income, • are familiar with the OECD transfer pricing guidelines and selected German equivalents, as well as relevant domestic and international court cases, • know the methods to determine transfer prices, • know possibilities and limitations of profit shifting via transfer pricing, • gain an insight into the extent of profit shifting via transfer pricing by examining relevant empirical literature, • are competent in using different methods of calculating transfer prices for tax purposes, • are in a position to assess the appropriateness of transfer pricing mechanisms and to apply transfer pricing methods.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Tax Transfer Pricing (Lecture) *Contents*: The lecture series gives an overview of the fundamentals of transfer pricing. It is the aim of the series that students gain understanding of the economic principles and regulatory background to international tax transfer pricing taking into account the allocation of functions, assets and risks among affiliated companies. Students also learn about the opportunities and limitations of tax planning via transfer pricing. Furthermore, the series provides insights into empirical and experimental studies dealing with profit shifting via transfer pricing.	2 WLH
Examination: Oral examination (approx. 30 minutes)	6 C

Examination requirements: Evidence of knowledge on regulatory framework conditions concerning tax transfer pricing, including the methods for determination of international tax transfer prices, the legal basis for adjusting income, the OECD transfer pricing guidelines and selected German equivalents as well as relevant domestic and international court cases. Further, students are required to provide evidence of knowledge on tax planning based on transfer pricing and limitations to profit shifting via transfer pricing.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-BWL.0105 International Company Taxation
Language: English	**Person responsible for module:** Prof. Dr. Andreas Oestreicher
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0129: International Management Research Seminar**	6 C 2 WLH

Learning outcome, core skills: In this research seminar, the Master students should work independently and systematically on a research question. The participants can choose one of the current themes from the area of "International Management" or choose their own research topic from a related field. After taking this module, the participants should have improved their communication and presentation skills. Furthermore, students will better understand the research process that can serve as a guide for producing scholarly output (e.g., a Master's thesis or a journal article) after participating in this class. Students will have gained valuable knowledge and skills that should prepare them for writing their own thesis.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: International Management Research Seminar (Seminar) *Contents*: In this research seminar, the Master students should work independently and systematically on a research question. The participants can choose one of the current themes from the area of "International Management" or choose their own research topic from a related field.	2 WLH
Examination: Presentation (ca. 30 minutes) with written elaboration (max. 8.000 words)	6 C

Examination requirements: • Demonstration of overall understanding of scientific methodologies and research processes. • Demonstration of in-depth knowledge regarding the "International Management" research and development and of theoretical and practical implications obtained from your own research project.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-BWL.0091 Organizational Behavior M.WIWI-BWL.0109 International Human Resource Management
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: every second semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 20	

Georg-August-Universität Göttingen Module M.WIWI-BWL.0133: Banking Supervision	6 C 2 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • understand and explain how banking supervision has developed over time and how it differs across jurisdictions, • understand, explain and critically apply standard measures and methods of banking supervision, • understand and explain the Euro area banking union, • understand, explain and critically apply key concepts in banking regulation, • understand, explain and critically apply key measures and methods to assess the risks of financial institutions, • understand and explain micro-and macroprudential supervision and their differences.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Banking Supervision (Lecture) *Contents*: 1. Introduction (e.g. banking structure) 2. Foundations of banking supervision • Historical developments • Comparison across different jurisdictions 3. Banking Union – SSM 4. Banking Regulation • Basel III, CRDIV/CRR • ASFR model by Gordy • Further requirements on banks 5. SSM Guide on banking supervision • How is banking supervision applied? 6. Risk Analysis • Stress testing • Bank Rating 7. Microprudential versus macroprudential supervision	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Document an understanding how banking supervision has developed over time and how it differs across jurisdictions • Demonstrate a profound knowledge of standard measures and methods of banking supervision • Show an understanding of the Euro area banking union • Demonstrate the ability to explain and to some extent to apply key concepts in banking regulation	

- Document the knowledge to apply key measures and methods to assess the risks of financial institutions and to interpret the obtained results appropriately
- Document an understanding of micro-and macroprudential supervision and their differences

Admission requirements:	Recommended previous knowledge:
none	M.WIWI-BWL.0001 Corporate Finance
	M.WIWI-BWL.0004 Financial Risk Management
Language:	**Person responsible for module:**
English	Dr. Philipp Koziol
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0134: Panel Data Analysis in Marketing**	6 C 2 WLH

Learning outcome, core skills: Panel data refers to observations from different individuals or units (consumers, stores, products, etc.) over several time periods (days, weeks, months, etc.). After successful attendance the students will understand the methodological principles of panel data analysis, especially in the context of consumer behavior and marketing-mix models. Further, they will be able to conduct own panel data analyses using the statistical programming language R.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Panel Data Analysis in Marketing (Lecture with exercise) *Contents*: • Introduction to R • Refreshment in Regression Analysis • Fixed Effects Models in Marketing • Random Effects Models in Marketing • Dynamic Panel Models in Marketing	2 WLH
Examination: Term Paper (max. 6000 words)	6 C

Examination requirements: A self-conducted empirical project. Students will be provided with empirical data, but are welcome to analyze own projects. Students are advised to use the statistical programming language R, but can be allowed to use different statistics software in exceptional cases. Theoretical, methodological and empirical elaboration of a selected topic in panel data analysis with focus on consumer behavior and/or marketing-mix modeling.	

Admission requirements: none	**Recommended previous knowledge:** Basics in Hypothesis testing & Regression analysis Previous knowledge in R is not required
Language: English	**Person responsible for module:** Ossama Elshiewy
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0136: Digital Transformation**	6 C 2 WLH

Learning outcome, core skills: This course aims to develop a cross-functional and managerial understanding of digital transformation of business. Specifically, participants will be able after this course to make decisions related to the idea of leveraging digital resources for differential value creation. Participants will learn how to evaluate and assess the impact of digital technologies in the firm's environment, including customers, competitors, and broader communities. In addition, participants will be able to create strategies and approaches that are needed to prepare an organization for competing in the digital world. In sum, after taking this course, students will be able to know the foundations of how to manage the digital transformation inside an incumbent firm.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Digital Transformation (Lecture) *Contents*: Until recently, the knowledge of Information Technology (IT) and its application in the enterprise had been confined to the IT Department, requiring top management to take very concrete decisions from time to time. Not anymore. Today – in the digital age – successful business managers understand "digital", anticipate its impact on business, and leverage that insight for building digital competencies across the entire organization. The digital age is fueled by the drastic reduction in the cost of processing, storage, and communication, creating a high-density digital environment. During the last years, we have witnessed the "consumerization" of digital technologies, that is, the scope and impact of these technologies now transcends the application domain of enterprises to include large parts of society. Technology today is both available and affordable. This creates a new phenomenon where individuals incorporate cutting-edge digital technologies in their personal lives before businesses get a chance to adopt and implement them. In a way, this leads to a new kind of digital divide –that between society and business. Customers and employees of the younger generation come with new expectations that companies are not prepared to meet. To address this challenge, today's business leaders must be able to think digital. Thinking digital does not equal thinking IT. Digital focuses much less on process automation, transactions, and efficiency, and much more on creating new value-added experiences and interactions with customers, employees, and business partners. Ultimately, it enables the firm to generate new revenue by finding unique ways to combine its physical and digital resources. **Literature:** • McAfee, A. (2006) Mastering the Three Worlds of Information Technology. Harvard Business Review (84:11), p. 141-152. • Ward, J., Daniel, E. and Peppard, J. (2008) Building Better Business Cases for IT Investments, MIS Quarterly Executive (7:1), p. 1-15. • Davenport, T.H. (1998) Putting the Enterprise into the Enterprise System. Harvard Business Review (76:4), p. 1-12.	2 WLH

- Pérez Balaguer, J., Gregory, R.W. and Káganer (2017) How to Overcome Resistance and Get Commitment From Users. ", IESE Business School (Technical Note), p.1-12.
- Káganer, E., Carmel, E., Hirscheim, R. and Olsen, T. (2013) Managing the Human Cloud, MIT Sloan Management Review, (54:2), p. 23-32.
- Eisenmann, T., Parker, G. and Van Alstyne, M.W. (2006) Strategies for Two-sided Markets, Harvard Business Review (84:10), p. 92-104.

Examination: Written examination (90 minutes) **Examination prerequisites:** Regular and active course attendance and participation.	6 C

Examination requirements:

In order to accomplish successfully this course, students are expected to document an understanding of:

- Main digital drivers and their impact on society/business
- Digital capabilities needed to face potential digital disruptions
- Concepts and frameworks of digital transformation initiatives
- Managerial capabilities needed to address digital transformation initiatives

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0001 Firms and Markets B.WIWI-OPH.0003 Information and Communication Systems
Language: English	**Person responsible for module:** Prof. Dr. Robert Wayne Gregory
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 30	

Additional notes and regulations:

Limitation of the "lecture" due to the case studies.

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0139: Discrete Choice Modeling**	6 C 2 WLH

Learning outcome, core skills: Discrete choice modeling deals with analyzing choice behavior of individuals (consumers, firms, etc.) as a function of variables that describe the choice alternatives and/or the individuals. After successful attendance the students will understand the methodological principles of discrete choice modeling. Further, they will be able to estimate own discrete choice models using the statistical programming language R.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Discrete Choice Modeling (Lecture with integrated exercises)
Contents:
- Brief introduction to R
 	
- Random Utility Theory
 	
- Collecting Choice Data
 	
  • Choice-based Conjoint
  • Consumer Purchase Data
 	
- Analyzing Choice Data
 	
  • Multinomial Logit (MNL) Models
  • Generalized Extreme Value Models
  • Finite Mixture and Mixed MNL Models
  • Hierarchical Bayesian MNL Models
	2 WLH

Examination: Term Paper (max. 6000 words)	6 C

Examination requirements: A self-conducted empirical project. Students will be provided with empirical data, but are welcome to analyze own projects. Students are advised to use the statistical programming language R, but can be allowed to use different statistics software in exceptional cases. Theoretical, methodological and empirical elaboration of a selected topic in discrete choice modeling.	

Admission requirements: none	**Recommended previous knowledge:** Probability theory and distributions, Hypothesis testing, (Logistic) Regression analysis Previous knowledge in R is not required
Language: English	**Person responsible for module:** Ossama Elshiewy
Course frequency: irregular	**Duration:** 1 semester[s]

Number of repeat examinations permitted: twice	Recommended semester: 2 - 4
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0142: Publishing in Management Journals**	6 C 2 WLH

Learning outcome, core skills: After attending the seminar, students have acquired the ability to critically evaluate prior research. This also includes an increased knowledge on qualitative and quantitative research methodologies by critically reflecting and discussing the strengths and weaknesses of exemplary publications. Furthermore, students have obtained the ability to write an academic paper in English that adheres to the guidelines of scholarly writing and publishing in the area of management.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Publishing in Management Journals (Seminar) *Contents*: Students will develop a manuscript that has the potential to be publishable in scholarly journals. Discussing and learning from talks and experiences of international scholars and editors, peer-reviewed scholarly papers and other students' work-in-progress manuscripts will be the primary format of this course. Preparing assigned reading material and working on your own paper are thus of the utmost importance.	2 WLH
Examination: Presentation (ca. 30 minutes) with written elaboration (max. 7000 words) **Examination prerequisites:** Regular active attendance.	6 C

Examination requirements: • Demonstration of advanced understanding of the scientific approach in terms of methodology and research processes, • demonstrate the ability to critically reflect on academic articles published in scholarly journals, • demonstrate the ability to develop a scholarly article by integrating theory with research methods and deriving theoretical and practical implications from the results.	

Admission requirements: none	**Recommended previous knowledge:** Methodological knowledge, obtained through courses such as M.WIWI-BWL.0118 Survey Research, and knowledge in special topics, e.g. M.WIWI-BWL.0109 International Human Resource Management
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students:	

15	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0146: Doing Business in Japan**	3 C 1 WLH

Learning outcome, core skills: After attending this lecture, students have obtained background knowledge on the economic, political, and cultural environment that influence the business in Japan. In addition, students will obtain insights into successfully doing business in Japan. This course will prepare students for doing business in Japan.	**Workload:** Attendance time: 14 h Self-study time: 76 h

Course: Doing Business in Japan (Lecture) *Contents*: The lecture will introduce the economic, political, and cultural environment that influence business in Japan. Through a mixture of lectures, case studies, and discussions, students will study how foreign companies and managers do business in Japan. The contents will include market entry, marketing, and human resource management.	1 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: • Demonstration of knowledge in doing business in Japan, • demonstration of the ability to apply theoretical knowledge to practical business challenges in Japan.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0147: Doing Business in Korea**	3 C 1 WLH

Learning outcome, core skills: After attending this lecture, students have obtained background knowledge on the economic, political, and cultural environment that influence the business in Korea. In addition, students will obtain insights into successfully doing business in Korea. This course will prepare students for doing business in Korea.	**Workload:** Attendance time: 14 h Self-study time: 76 h

Course: Doing Business in Korea (Lecture) *Contents*: The lecture will introduce the economic, political, and cultural environment that influence business in Korea. Through a mixture of lectures, case studies, and discussions, students will study how foreign companies and managers do business in Korea. The contents will include market entry, marketing, and human resource management.	1 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: • Demonstration of knowledge in doing business in Korea, • demonstration of the ability to apply theoretical knowledge to practical business challenges in Korea.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0153: Digital Marketing**	6 C 2 WLH

Learning outcome, core skills: After successfully completing this course, the students: • know core topics involved in the effective management of digital Marketing strategies, tactics, • know how to create a digital marketing strategy by analyzing the digital landscape, • know how to transform marketing strategies into digital marketing objectives and tactics, • know how to plan the implementation of strategies and tactics using state of the art digital marketing instruments: 1. digital outbound marketing (reaching out to and targeting consumers; e.g., display advertising) 2. digital inbound marketing (ensuring that consumers can find information about brands; e.g., search engine optimization), 3. social media marketing (motivating consumers to create and disseminate brand-related social media content; e.g., content marketing), 4. mobile marketing (connecting with customers through smartphones and other mobile devices). • know developments of latest digital marketing innovations, • know how to critically reflect on the concepts and methods of digital marketing management and how to apply them by completing case studies.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Digital Marketing (Lecture) *Contents*: • Digital Marketing Strategy, • Digital Outbound Marketing, • Digital Inbound Marketing, • Social Media Marketing, • Mobile Marketing, • Outlook: Digital Marketing Innovations.	2 WLH
Examination: Written examination (90 minutes)	4 C
Examination: Case study discussion in lecture	2 C

Examination requirements: • Theoretical and solution-oriented elaboration of digital marketing instruments, • application of digital marketing concepts, • one case assessment, presentation and discussion inclass (collaboration with other students in teams).	

Admission requirements: none	**Recommended previous knowledge:** none
Language:	**Person responsible for module:**

English	Prof. Dr. Maik Hammerschmidt
Course frequency: each summer semester	**Duration:** 1 semester
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 60	

Additional notes and regulations:
Because of the case study discussion in lecture the maximum number of students is 60.

<table>
<tr><td colspan="2">Georg-August-Universität Göttingen

Module M.WIWI-BWL.0155: Seminar or Project – International Research on Supply Chain Management</td><td>6 C
2 WLH</td></tr>
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Learning outcome, core skills:	Workload:
Students learn to: • independently answer questions in the areas of Supply Chain Management, which pertain to resource allocation or multi-criterial decision making, queuing theory, simulations, digitalization, route planning or production program planning, • reflect their own knowledge in the examination of questions, • independently apply common Operations Research methods and approaches in answering questions, • present the results of their work, • critically scrutinize their own work and that of other fellow students.	Attendance time: 28 h Self-study time: 152 h

Course: Seminar or Project – International Research on Supply Chain Management (Seminar)	2 WLH
Contents: The course will be held by an international guest lecturer. In this course, certain selected supply chain management problems will be discussed in an international context (see above). The relevant production and logistic processes themselves will be considered as well as the methods of operations research. Additionally, students independently use suitable Operations Research methods practically and critically reflect the questions.	

Examination: Term Paper (max. 15 pages) with presentation (approx. 15 minutes)	6 C

Examination requirements:	
• Introduction to Current Questions in the Field of Supply Chain Management (see above for examples), • correct, comprehensive and structured presentation of problem, • demonstrate understanding of the selected Operations Research methods and their correct application in problem solving exercises, • critical reflection of methods and results, • writing an academic paper, • presentations of written elaborations, • critical discussion of results in seminar group.	

Admission requirements: none	Recommended previous knowledge: M.WIWI-BWL.0024 Corporate Planning
Language: English	**Person responsible for module:** Prof. Dr. Matthias Klumpp
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	2 - 3
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0157: Resourcing in Entrepreneurship**	6 C 2 WLH

Learning outcome, core skills: After completing this seminar, students will have an overview of diverse theoretical perspectives on resourcing in entrepreneurship based on scientific research papers. Students gain an analytical understanding of typical challenges entrepreneurs face throughout the founding process, focusing on resource acquisition. The strong research focus does not only enable students to identify, understand and see through common challenges, conflicts, and troubles throughout the entrepreneurship process, but also to discuss, evaluate, and question research findings and scientific debates.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Resourcing in Entrepreneurship (Seminar) *Contents*: No doubt, Silicon Valley is one of the world's leading hubs for technological innovation. Pioneering companies like Google, Facebook or PayPal were founded by visionary entrepreneurs with growth ambition. Yet, despite the myth of a solitary genius tinkering in her garage, such entrepreneurial activities and innovations are only possible if diverse actors work together in manifold ways. Here, a *major challenge* becomes apparent: Although such entrepreneurial activities require manifold, comprehensive resources to work on innovative ideas, develop new products and grow an organization, in most cases, entrepreneurs do not possess all necessary resources. Hence, resourcing becomes an outstandingly important challenge for entrepreneurs. In this course, we discuss diverse approaches to resource acquisition from a research-based perspective. For example, the respective environment, e.g. the entrepreneurial ecosystem, might provide critical resources for the founding process. Not only entrepreneurs cluster in regions like Silicon Valley, London or Paris, but also investors, research universities, skilled work forces, mentors, and co-working spaces, creating a dynamic setting for technological innovation and high growth entrepreneurship. How do entrepreneurial ecosystems in different regions look like? How do they promote entrepreneurial activities? Leveraging resources from such external actors and environments becomes central. Thus, this course discusses questions like: What kind of relationships do new ventures need? How do entrepreneurs form such network ties to acquire funding or first customers? How do their networks evolve throughout the founding process? What does resourcing mean in a digital age? Which role do entrepreneurial teams play?	2 WLH
Examination: Portfolio (40% paper presentation, 60% take-home-exams) **Examination requirements:** Regular attendance.	6 C

Examination requirements: Students have to show that they are able to apply the theoretical concepts discussed in the seminar, reflect them critically, and develop practical implications rooted in a strong theoretical foundation. Students have to read and critically discuss scientific papers.	

Admission requirements: none	Recommended previous knowledge: Experience with discussing scientific papers or willingness to learn it.
Language: English	Person responsible for module: Prof. Dr. Katharina Scheidgen
Course frequency: each summer semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0160: Sustainable Governance**	6 C 2 WLH

Learning outcome, core skills: In the light of current societal and environmental transformation processes, firms are facing two distinct challenges: adopting "sustainable" governance and business models, and complying with ever-increasing regulation such as mandatory non-financial reporting, sustainability requirements along supply chains, or inclusion of long-term non-financial KPIs into management compensation systems. After successful completion of this course, students have acquired the following competencies: • students are familiar with contemporary issues in sustainable corporate governance such as board diversity, NGO activism, or ESG ratings, • students command a profound knowledge of managerial governance choices and regulatory frameworks, and understand how these potentially contribute to firms' and society's long-term objectives, • students are able to structure, evaluate and communicate complex governance-related issues in the context of findings from academic research.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Sustainable Governance (Seminar) *Contents*: I. Corporate Governance: From shareholder-centric to sustainable? II. International Corporate Governance Regulation: Does one size fit all? III. What constitutes good Corporate Governance? A primer on empirical governance research IV. Internal Governance V. External Governance	2 WLH
Examination: Oral Presentation (approx. 15 minutes) **Examination requirements:** Each student is required to give a 15 minute in-class presentation on a specific topic followed by a brief discussion / Q&A.	2 C
Examination: Written examination (60 minutes) **Examination requirements:** To successfully accomplish this course, students are expected to be familiar with: • the foundations of Corporate Governance, • internal Corporate Governance mechanisms, • external Corporate Governance mechanisms, • the role of sustainability in the context of Corporate Governance, • analysis of research findings and their application to governance choices / governance design.	4 C

Admission requirements: none	**Recommended previous knowledge:** none

Language:	Person responsible for module:
English	Prof. Dr. Jörg-Markus Hitz
Course frequency:	**Duration:**
every 3rd semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3
Maximum number of students:	
18	

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0162: Managing the Future of Work**	6 C 2 WLH

Learning outcome, core skills: "Managing the Future of Work" is an interdisciplinary field of study, which aims to provide students with the managerial and methodological skills for future-oriented human resource management (HRM) strategies and practices. After taking this lecture, students will be familiar with and have acquired several key competencies and methods needed to identify and develop the HRM-practices of the future. They will be aware of challenges and opportunities facing the workforce of the future and will be able to adapt more easily and quickly to a changing working environment.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Managing the Future of Work (Lecture) *Contents*: Organizations face key challenges caused by technological, environmental and societal disruptions. Digitalization, a changing workforce, and environmental complexities necessitate a future-oriented HRM that can adapt to the changing requirements of the working world. The objective of this course is to introduce and to provide an understanding of how organizations can structure the "Future of Work" and how the management of people and practices will look like in the future. It raises awareness for the challenges and opportunities of the HRM of the future.	2 WLH
Examination: Written examination (90 minutes) or term paper (max. 10.000 words) with presentation (approx. 20 minutes)	6 C

Examination requirements: • Demonstration of knowledge of the various characteristics, methods and problems of HRM practices regarding the "Future of Work", • ability to reproduce and reflect on strategies used by organizations and managers to implement future-oriented HRM practices and to deal with, and respond to challenges and opportunities.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.WIWI-BWL.0165: Global Virtual Team Management**	6 C 2 WLH

Learning outcome, core skills: After taking this course, students will be able to: • better understand the concepts of project planning and organization, conflict resolution and task management in a global virtual team environment, • learn concepts related to organizational workflow including project planning and project communication, • further develop international and virtual collaboration competencies, problem-solving skills, and interest in cross-cultural interactions, • efficiently work together with diverse team members from different cultural backgrounds while enhancing their own cultural intelligence, • improve their written and oral communication skills through formal writing assignments and group discussions, • configure, structure and write a report for an innovative business proposal.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Global Virtual Team Management (Project Seminar) *Contents*: This course provides students with in-depth insight into global project management, managing cross-cultural teams, concepts of project planning as well as concepts related to organizational workflow and working together in a virtual environment. Students will have an opportunity to experience global virtual team work with students across the globe. Working in cross-cultural teams for several weeks, students develop a business proposal. At the same time, the course provides additional support through hands-on tools and the possibility to discuss arising challenges in a seminar setting. The task and the format of teamwork, as well as the collaboration tools used by the teams, are reminiscent of those used in the modern workplace, making the project a very realistic preview of work in corporate global virtual teams.	2 WLH
Examination: Presentation (approx. 15 minutes) with written elaboration (max. 20 pages)	6 C

Examination requirements: • Demonstration of in-depth knowledge in the assigned task and of theoretical and practical implications derived from the own work, • demonstration of the ability to work systematically on a global virtual team, • demonstration of overall understanding of the scientific approach in terms of methodology and research processes, • demonstration of cultural competence and cross-cultural working abilities.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Fabian Froese
Course frequency:	**Duration:**

each winter semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.WIWI-HGM.0001: Economic, Business and Social History I**	12 C 6 WLH

Learning outcome, core skills: Students will be able to critically discuss and analyze the structures of global capitalism and the history of transnational economic flows. In class presentations and written term papers they will learn to identify major problems of transcultural economic processes and to apply this theoretical and contextual knowledge to the analysis of specific historical case studies.	**Workload:** Attendance time: 84 h Self-study time: 276 h

Course: Economic, Business and Social History I (Lecture) *Contents*: The lecture course will provide a broad survey of a specific time period (e.g. nineteenth century, postwar era), topic (business history, globalization) or region (Europe, Germany, United States). The focus of the lecture course changes each semester.	2 WLH
Course: Economic, Business and Social History I (Exercise) *Contents*: The tutorial course accompanies the lecture with discussion and additional readings.	2 WLH
Examination: Oral examination (approx. 15 minutes)	6 C

Course: Economic, Business and Social History I (Seminar) *Contents*: Master seminars familiarize students with specific aspects of social and economic history, often in thematic connection with the lecture course. Texts and discussion focus on current historiographic research and its application to historical and economic analysis. **Recommended Reading (general):** • Hesse, Jan-Otmar, Wirtschaftsgeschichte: Entstehung und Wandel der modernen Wirtschaft, Frankfurt am Main 2013. • Berghoff, Hartmut, Moderne Unternehmensgeschichte: Eine themen- und theorieorientierte Einfu¨hrung 2016. Specific literature recommendations are provided each semester. Please refer to current course listing.	2 WLH
Examination: Term Paper (max. 20 pages) with presentation (approx. 15 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: Familiarity with the basic structural developments of global capitalism; ability to identify and reflect on fundamental economic problems, knowledge of recent scholarship and critical evaluation of historical theories, independent research and ability to creatively apply problem-solving methodologies. Each examination requires the application of these broader concepts and methodologies to the specific topics of the particular seminars offered.	

Admission requirements: none	Recommended previous knowledge: none
Language: German, English	Person responsible for module: Prof. Dr. Hartmut Berghoff
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-HGM.0004: History of Global Markets: Perspectives**	6 C 2 WLH

Learning outcome, core skills: Students learn about specific historical approaches to the study of global markets such as e.g. global or business history. They become familiar with concepts, questions and methods that are typical for the specific approach to which the course is devoted.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: History of Global Markets: Perspectives (Seminar or lecture) *Contents*: The course introduces a selected perspective on economic and social developments, relevant to the emergence and change of global market economies. Examples for a perspective are such approaches as global history, business history, history of consumption, social history, and the history of ideas. **Recommended Reading:** Specific literature recommendations are provided each semester. Please refer to current course listing.	2 WLH
Examination: seminar: term Paper (max. 20 pages) with presentation (approx. 15 minutes) or lecture: oral examination (approx. 15 minutes) **Examination prerequisites:** Regular attendance (seminar)	6 C

Examination requirements: Familiarity with the basic concepts and developments, ability to reflect pertinent problems, and to critically discuss the hypotheses and interpretations brought forward by academic research.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Prof. Dr. Hartmut Berghoff
Course frequency: each second semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Additional notes and regulations: Maximum number of students in seminars: 20 participants. No participant restriction for lectures.

Georg-August-Universität Göttingen **Module M.WIWI-HGM.0007: Global Varieties of Capitalism**	6 C 2 WLH

Learning outcome, core skills: Students will learn to apply the theoretical frameworks to concrete empirical examples looking at historical differences and path-dependencies e.g. in labor relations, industry coordination, corporate strategies, or state regulation in a global perspective. They will be able to compare and critically analyze different economic systems within their respective historical contexts and to evaluate their comparative advantages.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Global Varieties of Capitalism (Seminar) *Contents*: The seminar offers a survey of the current state of research in the varieties of capitalism literature. Readings and discussion will provide theoretical approaches, emphasizing the role of actors and institutions in economic development. Comparing primarily European, Asian, Latin- and North American economies, the module will explore various typologies as well as fundamental differences and similarities between liberal and coordinated market economies. Special emphasis will be given to questions of innovation and relative stagnation of "Rhenish Capitalism" in various branches of industry within a comparative framework.	2 WLH
Examination: Term paper (max. 15 pages) with presentation (approx. 15 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: Familiarity with the basic conceptual tenants of the varieties of capitalism theory; ability to historically contextualize elements of economic systems and to evaluate relative strengths and challenges involved with different organizational forms of market economies.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hartmut Berghoff
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-HGM.1001: History of Global Markets I**	12 C 4 WLH

Learning outcome, core skills: Students will be able to critically discuss and analyze the structures of global capitalism and the history of transnational economic flows. In class presentations and written term papers they will learn to identify major problems of transcultural economic processes and to apply this theoretical and contextual knowledge to the analysis of specific historical case studies.	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Intensive Module in the History of Global Markets (Seminar I) *Contents*: Emphasizing specific regions, themes or time periods, the courses will familiarize students with basic aspects of the development of global market structures in the 19th and 20th century. The seminars will emphasize questions of global migration, labor markets, management and marketing history. Texts and discussion will focus on current historiographic research and its application to the analysis of globalization processes.	2 WLH
Examination: Term paper (max. 20 pages) with presentation (approx. 15 minutes) **Examination prerequisites:** Regular attendance.	6 C

Course: Intensive Module in the History of Global Markets (Seminar II) *Contents*: Emphasizing specific regions, themes or time periods, the courses will familiarize students with basic aspects of the development of global market structures in the 19th and 20th century. The seminars will emphasize questions of global migration, labor markets, management and marketing history. Texts and discussion will focus on current historiographic research and its application to the analysis of globalization processes.	2 WLH
Examination: Term paper (max. 20 pages) or oral examination (approx. 15 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: Familiarity with the basic structural developments of global capitalism; ability to identify and reflect on fundamental economic problems, knowledge of recent scholarship and critical evaluation of historical theories, independent research and ability to creatively apply problem-solving methodologies. Each examination requires the application of these broader concepts and methodologies to the specific topics of the particular seminars offered.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hartmut Berghoff

Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
25	

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0001: Generalized Regression**	6 C 4 WLH

Learning outcome, core skills: The students • gain an overview on extended regression modelling techniques that allow to analyse data with non-normal responses. • learn about approaches for modeling nonlinear effects in scatterplot smoothing. • get an introduction to additive models and mixed models for complex regression analyses. • learn how to implement these approaches using statistical software packages.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Generalized Regression (Lecture) *Contents*: Generalized linear models (binary and Poisson regression, exponential families, maximum likelihood estimation, iteratively weighted least squares regression, tests of hypotheses, confidence intervals, model selection and model checking, categorical regression models), nonparametric smoothing techniques (penalized spline smoothing, local smoothing approaches, general properties of scatterplot smoothers, choosing the smoothing parameter, bivariate and spatial smoothing, generalized additive models), mixed models, quantile regression	2 WLH
Course: Generalized Regression (Tutorial) *Contents*: Generalized linear models (binary and Poisson regression, exponential families, maximum likelihood estimation, iteratively weighted least squares regression, tests of hypotheses, confidence intervals, model selection and model checking, categorical regression models), nonparametric smoothing techniques (penalized spline smoothing, local smoothing approaches, general properties of scatterplot smoothers, choosing the smoothing parameter, bivariate and spatial smoothing, generalized additive models), mixed models, quantile regression	2 WLH
Examination: Written examination (90 minutes) or oral examination (approx. 20 minutes)	6 C

Examination requirements: In the exam, the students demonstrate their ability to choose, fit and interpret extended regression modeling techniques. They show a general understanding of the derived estimates and their interpretation in various contexts. The students are able to implement complex regression models using statistical software and to interpret the corresponding results. The exam covers contents of both the lecture and the exercise class.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of statistical modelling using linear regression models

	M.WIWI-QMW.0002 Advanced Statistical Inference (Likelihood & Bayes)
Language: English	**Person responsible for module:** Prof. Dr. Thomas Kneib
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: not limited	

Additional notes and regulations:
The actual examination will be published at the beginning of the semester.

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0004: Econometrics I**	6 C 6 WLH

Learning outcome, core skills: This lecture provides a detailed introduction and discussion to the theory of several topics of econometrics. In a practical course the students will apply the methods discussed to real economic data and problems using the statistical software packages Eviews and R.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Econometrics I (Lecture) *Contents*: Multiple linear regression model: Estimation, Inference and Asymptotics. Maximum likelihood modeling. Generalized least squares. Stochastic regressors. Intrumental variable estimators. Generalized method of moments, likelihood based inference. Dynamic models, weak exogeneity, cointegration, stochastic integration. **Literature:** Wooldridge, Jeffrey M. 2006. *Introductory econometrics: a modern approach.* Mason, OH: Thomson/South-Western; Chapters 1, 2, 3, 4, 5, 6, 8. Verbeek, Marno. 2008. *A guide to modern econometrics.* Chichester, England: John Wiley & Sons; Chapters 1-4, 6. Judge et al. 1988. Introduction to the theory and practice of econometrics. Wiley, 2nd edition.	2 WLH
Course: Econometrics I (Exercise) *Contents*: The practical deepens the understanding of the lecture topics by applying the methods from the lecture to economic problems and data, and reviewing and intensify theoretical concepts.	2 WLH
Course: Econometrics I (Tutorial) *Contents*: The tutorials are small classes with max. 20 students, which give room for applying the concepts to specific problem sets and discussing questions, that students might encounter regarding the concepts addressed in the lecture and practical. A part of the tutorial are hands-on computer exercises using the software R. This enables students to conduct regression analysis in practice and prepares them for others (applied) courses.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Linear regression models, generalized linear regression models. OLS, GLS, EGLS estimation. Multiplikative heteroskedasticity, autocorrelation. LM specification testing, Durbin Watson test. Convergence in probability, convergence in distribution. Asymptotics (consistency, asymptotic normality) of OLS estimators. IV estimation, GMM estimation.	

Admission requirements:	**Recommended previous knowledge:**

none	Notwendige: Mathematik (lineare Algebra), Statistik. Erwünscht: Einführung in die Ökonometrie (oder vergleichbare Vorlesung)
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.WIWI-QMW.0005: Econometrics II	4 WLH

Learning outcome, core skills:	**Workload:**
As the outcome of this advanced course the students are able to	Attendance time: 56 h
• identify problems of estimation and inference arising due to stochastic regressors,	Self-study time: 124 h
• establish finite sample and asymptotic properties of estimators under the assumption that the data generating process contains stochastic regressors,	
• model simple univariate stationary and non-stationary time series processes,	
• carry out and interpret test results of unit root and cointegration tests,	
• set up, and estimate (over-, under-) identified simultaneous equation models,	
• model simple multivariate time series with possible cointegration,	
• implement estimators and analyze real world datasets with the R programming language.	

Course: Econometrics (Lecture)	2 WLH
Contents:	
Stochastic regressors in linear econometric models; OLS, IV, 2SLS, GMM estimators;	
Dynamic linear econometric models: stationary stochastic processes, ARMA models, (testing) unit roots, (testing) cointegration, spurious regression;	
Simultaneous equation models: Identification, estimation (GLS, IV, 2SLS, 3SLS, ILS)	
Vector autoregressive and error correction models: Interpretation, estimation, inference.	
Literature:	
Hayashi: Econometrics, Princeton University Press (2000)	
Judge et al.: The Theory of Practice of Econometrics, Wiley, 2nd edition (1985)	
Lütkephol and Krätzig: Applied Time Series Econometrics, Cambridge University Press (2004)	
Wooldridge: Econometric Analysis of Cross Section and Panel Data, MIT Press, 2nd edition (2010)	

Course: Econometrics II (Exercise)	2 WLH
Contents:	
Exercises deepening concepts from the lecture, and demonstrating practical applications. Simulations and data analysis exercises using the R programming language.	

Examination: Written examination (90 minutes)	6 C

Examination requirements:	
The students demonstrate their understanding of advanced econometric concepts. They show that they can apply these concepts to real economic problems.	

Admission requirements:	**Recommended previous knowledge:**
none	M.WIWI-QMW.0004 Econometrics I

Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0009: Introduction to Time Series Analysis**	6 C 4 WLH

Learning outcome, core skills: The students: - learn concepts and techniques related to the analysis of time series and forecasting, - gain a solid understanding of the stochastic mechanisms underlying time series data, - learn how to analyse time series using statistical software packages and how to interpret the results obtained.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Introduction to Time Series Analysis (Lecture) *Contents*: Classical time series decomposition analysis (moving averages, transformations of time series, parametric trend estimates, seasonal and cyclic components), exponential smoothing, stochastic models for time series (multivariate normal distribution, autocovariance and autocorrelation function), stationarity,spectral analysis, general linear time series models and their properties, ARMA models, ARIMA models, ARCH and GARCH models. **Literature** Kreiß & Neuhaus (2006): Einführung in die Zeitreihenanalyse, Springer. Rinne & Specht (2002): Zeitreihen - Statistische Modellierung, Schätzung und Prognose, Vahlen. Chat¿eld (2003): The Analysis of Time Series: An Introduction, Chapman & Hall / CRC Shumway & Sto¿er (2006): Time Series Analysis and its Applications, Springer Schlittgen & Streitberg (2001): Zeitreihenanalyse, Oldenbourg. Lütkepohl & Krätzig (2010): Applied Time Series Econometrics (Themes in Modern Econometrics), Cambridge University Press.	2 WLH
Course: Introduction to Time Series Analysis (Tutorial) *Contents*: Practical and theoretical exercises covering the content of the lecture. Implementation of time series models and estimation by common statistical software (e.g. R or Matlab). Interpretation of estimation results.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: The students show their ability to analyze time series using specific statistical techniques, can derive and interpret properties of stochastic models for time series, and can decide on appropriate models for given time series data. The students are able to implement time series analyses using statistical software and to interpret the corresponding results. The exam covers contents of both the lecture and the exercise class.	

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-OPH.0006 Statistics and M.WIWI-QMW.0004 Econometrics I
Language:	**Person responsible for module:**
English	Prof. Dr. Helmut Herwartz
Course frequency:	**Duration:**
once a year	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3
Maximum number of students:	
50	

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0012: Multivariate Time Series Analysis**	6 C 4 WLH

Learning outcome, core skills: The students: - learn concepts and techniques related to the analysis of multivariate time series and the forecasting thereof. - learn to characterize the dynamic interrelationship between the variables of dynamic systems, - learn to relate economic models with restrictions implied by its empirical counterpart, - learn how to analyse multivariate time series using by means of statistical software packages and to interpret the results obtained.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Multivariate Time Series Analysis (Lecture) *Contents*: Vector Autoregressive and Vector Moving Average representations Model selection and estimation, Unit roots in vector processes, Vector autoregressive vs. vector error correction modeling, structural vectorautoregressions, Impulse response analysis, forecasting, forecast error variance decomposition **Literature** Lütkepohl, H. (2007): The new Introduction to Multiple Time Series Analysis, Springer, New-York. Lütkepohl, H., Krätzig, M. (2004): Applied Time Series Econometrics, Chapter 2, 3 and 4, Cambridge University Press, Cambridge. Hamilton, J.D. (1994): Time Series Analysis, Princeton University Press, Princeton, New Jersey.	2 WLH
Course: Multivariate Time Series Analysis (Tutorial) *Contents*: Practical and theoretical exercises covering the content of the lecture. Implementation of multivariate time series models and estimation in common statistical software (e.g. R or Matlab). Interpretation of estimation results.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: The students show their ability to analyze systems of time series using specific statistical techniques, can derive and interpret properties of stochastic models for time series, and can decide on appropriate models for given data. The students are able to implement time series analyses using statistical software and to interpret the corresponding results. The exam covers contents of both the lecture and the exercises.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0006 Statistics, M.WIWI-QMW.0004 Econometrics I,

	M.WIWI-QMW.0009 Introduction to Time Series Analysis
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0013: Applied Econometrics**	6 C 4 WLH

Learning outcome, core skills: The students • independently develop empirical analyses on predetermined subjects including data search, model choice, software choice, discussion of results • possible applications: econometric validation of economic models, quantification of model parameters, prediction	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Applied Econometrics (Lecture) *Contents*: Discussion of relevant statistical concepts for concrete economic models (purchasing power parity, money demand, Fisher hypothesis, (dynamic) capital asset pricing model, etc.), introduction to the economic model and exemplary data analysis. The studied models can differ by the semester. **Literature** Hamilton, J.D. (1994): Time Series Analysis, Chapters 3,15,17,21. Princeton University Press. Tsay, R.S. (2012): Analysis of Financial Time Series, Wiley. Lütkepohl, H. (2007): The new Introduction to Multiple Time Series Analysis, Springer, New-York. Taylor, A.M., M.P. Taylor (2004), The Purchasing Power Parity Debate, Journal of Economic Perspectives, Vol. 18, 135-158.	2 WLH
Course: Applied Econometrics (Exercise) *Contents*: Based on the contents of the lecture: data preparation and model implementation with statistical software (e.g. R or Matlab), discussion of results, theoretical exercises	2 WLH
Examination: Term paper (max. 15 papers) or written examination (90 minutes)	6 C

Examination requirements: In the case study the students show their ability to search data for a given economic problem and analyze the question by means of appropriate econometric methods. The examination includes a detailed description of the problem setting, proposed solution and discussion of results. Depending on the specific topic small simulation studies can be a further assignment. The written exam covers contents of the lecture and the exercises. The students show their ability to analyze economic problems applying specific statistical techniques, can derive and interpret properties of the models, and can decide on appropriate models for given data. The students are able to implement analyses using statistical software and to interpret the corresponding results.	

Admission requirements:	**Recommended previous knowledge:**

none	B.WIWI-OPH.0006 Statistics
	M.WIWI-QMW.0004 Econometrics I
	M.WIWI-QMW.0009 Introduction to Time Series Analysis
Language:	**Person responsible for module:**
English	Prof. Dr. Helmut Herwartz
Course frequency:	**Duration:**
once a year	1 Semester
Number of repeat examinations permitted:	**Recommended semester:**
twice	3 - 4

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0016: Spatial Statistics**	6 C 4 WLH

Learning outcome, core skills: The students • get familiar with basic concepts and examples of stochastic processes. • learn about the principle possibilities to include spatial information in statistical models. • acquire experience in the practical analysis of spatial data • learn how to interpret the results of spatial analyses	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Spatial Statistics (Lecture) *Contents*: Stochastic processes in discrete and continuous time, Wiener process, Poisson process, Markov chains, statistical analysis of spatially oriented data, spatial models for point-referenced data (geostatistics, kriging), spatial models for regional data (Markov random fields), spatial point processes, spatial stochastic processes, statistical inference in spatial statistics.	2 WLH
Course: Spatial Statistics (Exercise) *Contents*: Stochastic processes in discrete and continuous time, Wiener process, Poisson process, Markov chains, statistical analysis of spatially oriented data, spatial models for point-referenced data (geostatistics, kriging), spatial models for regional data (Markov random fields), spatial point processes, spatial stochastic processes, statistical inference in spatial statistics.	2 WLH
Examination: Written examination (90 minutes) or oral examination (ca. 20 minutes)	6 C

Examination requirements: The students show in the exam that they have learned to perform the basic steps and calculations involved in analyses of stochastic processes and spatial data. They can choose the most appropriate model for a given problem and can implement this model in statistical software. In addition, the resulting estimates can be interpreted and the results can be critically evaluated. The exam covers contents of both the lecture and the exercise class.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of statistical modelling using linear regression models M.WIWI-QMW.0002 Advanced Statistical Inference (Likelihood & Bayes)
Language: English	**Person responsible for module:** Prof. Dr. Elisabeth Bergherr
Course frequency: once a year	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	2 - 3
Maximum number of students:	
not limited	

Additional notes and regulations:
The actual examination will be published at the beginning of the semester.

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0021: Introduction to Statistical Programming**	3 C 2 WLH

Learning outcome, core skills: The students: • get to know the basic functionality of the statistical software package R • can implement advanced statistical approaches in R while using approproate tools for optimising the code	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Introduction to Statistical Programming (Lecture with tutorial) *Contents*: Data types and class structures, vectors and matrices, reading and writing data, statistical graphics, creating R packages, including other programming languages, debugging and profiling code, S3 and S4 classes, Trellis graphics and other advanced graphics features	2 WLH
Examination: Written examination (90 minutes) or oral examination (approx. 20 minutes) or term paper (max. 10 pages) **Examination prerequisites:** Presentation (approx. 40 minutes) or Exercises (50% successful completion)	3 C
Examination requirements: The students demonstrate their understanding of the basic concepts of statistical programming with R. In particular, they demonstrate their ability to implement statistical methodology in R, to document their code and to use programming tools for debugging and optimizing the code.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of mathematics and statistics
Language: English	**Person responsible for module:** Prof. Dr. Thomas Kneib
Course frequency: once a year	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1
Maximum number of students: 30	

Additional notes and regulations: The actual examination will be published at the beginning of the semester.

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0025: Development Microeconometrics**	6 C 4 WLH

Learning outcome, core skills: Upon successful completion of the course, students will be able to: - discuss the strengths and weaknesses of contemporary microeconometric tools that are widely applied in development economics, - apply these microeconometric methods on real world data using the statistical software Stata and interpret estimation results, - discuss important classifications of micro data and suggest appropriate econometric tools to analyze them, - take tabular data, clean it, and run several inferential statistical analyses using Stata, - critically review published articles in development economics.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Development Microeconometrics (Lecture) *Contents*: 1. Multiple regression: basic concepts and tests 2. Instrumental variables estimation and two stages least squares 3. Panel data: fixed effects and random effects estimators, dynamic panel data estimators 4. Models with limited dependent variables: Logit, Probit, Multinomial logit, Ordered logit, Tobit model, Heckman's sample selection model, Count data models, 5. Estimating treatment effects, propensity score matching, regression discontinuity design **Literature**: For the econometrics part, the main text books are 1. Verbeek, Marno (2012), **A Guide to modern econometrics**, 4th edition, Wiley. 2. Angrist, Joshua D. and Pischke, Jörn-Steffen (2009) **Mostly Harmless Econometrics: An Empiricist's Companion**, 1st edition, Princeton University Press. However, we will also take models and results from a number of published articles every now and then.	2 WLH
Course: Development Microeconometrics (Exercise) *Contents*: The exercise starts with an introduction to Stata. Subsequent sessions are devoted to applying the econometric tools discussed in the lecture on empirical data, thereby deepening the students' understanding of the econometric methods. Following the topics discussed in the lecture, students will receive exercises (accompanied by real data) that they should try to solve using Stata before coming to the Stata session, where we will solve the exercises together. Stata do-files will be made available at the end of each session.	2 WLH

Examination: Written examination (90 minutes) or oral examination (ca. 20 minutes)	6 C

Examination requirements: In the exam, students are expected to show their familiarity with and understanding of main microeconometric tools used in in development economics. In addition to the economic and econometric concepts, they are expected to write Stata codes for solving a given empirical question and interpret Stata outputs.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0027: Advanced Meta-Research in Economics**	6 C 4 WLH

Learning outcome, core skills: The students learn why replications are needed to improve the reliability of published empirical findings. Moreover, they learn to replicate an empirical study by using the statistical software R. To this end, they gain knowledge in the econometric methods used in the empirical study that is replicated and learn how these methods are implemented in R.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Meta-Research in Economics (Lecture) *Contents*: The lecture discusses the importance of replications in improving the reliability of published empirical findings. Sources of biases in empirical findings are analyzed and empirical evidence of these biases is presented and discussed. An overview of replications is given including a discussion of the recent replication crisis in economics. Characteristics of replications in economics are discussed highlighting different types of replications. Topics: 1. Incentives in academic publishing 2. p-hacking, HARKing and publication bias 3. Replications in economics 4. Empirical evidence of biases 5. Models of empirical research **Literature:** Textbooks are not available in this new research field. Instead, the courses are based on key articles from the field of meta-research such as: Camerer, C. F. et al. (2016). Evaluating replicability of laboratory experiments in economics. *Science*, 351(6280), 1433-1436. Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Medicine*, 2(8), e124. Basic econometrics is covered in: Wooldridge, J. M. Introductory Econometrics: A Modern Approach.	2 WLH
Course: Advanced Meta-Research in Economics (Exercise) *Contents*: The exercise starts with an introduction to the statistical software R. The exercise follows the topics discussed in the lecture and deepens the understanding of these topics by providing and discussing tasks to be solved in R.	1 WLH
Course: Advanced Meta-Research in Economics (Tutorial) *Contents*:	1 WLH

The students replicate a published article using the statistical software R. The replication tutorial offers help in acquiring knowledge of the econometric methods used in the articles that have to be replicated. Students can also get help in how these methods can be implemented in R.

Examination: Practical examination (max. 10 pages)	6 C

Examination requirements:
The students select articles from a list or suggest articles that they then replicate using the statistical software R. They write a report of their replications discussing their findings in the light of the concepts introduced in the lecture and exercise. Both verifications of the published findings and careful sensitivity analyses are implemented. The R code is part of the examination.

Admission requirements: none	**Recommended previous knowledge:** Module M.WIWI-QMW.0004: Econometrics I
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz Dr. Stephan Bruns
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0033: Current Topics in Applied Statistics**	6 C 2 WLH

Learning outcome, core skills: The students: • learn how to study current topics in applied statistics independently and how to make themselves familiar with the state of the art of current research, • learn how to present the current state of the art in a presentation in a way that makes the contents accessible to a wider audience (and in particular other students), • can evaluate current publication with respect to their applicability for a given research question, • can implement novel statistical methods and apply them to empirical data.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Current Topics in Applied Statistics (Seminar) *Contents*: In the seminar, current topics in applied statistics will be presented and discussed by the students.	2 WLH

Examination: Term paper (max. 15 pages) with presentation (ca. 45 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: The students demonstrate their ability to present statistical and econometric models and results and to document their findings in a corresponding report.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0002 Advanced Statistical Inference (Likelihood & Bayes) M.MED.0001 Linear Models and their Mathematical Foundations M.WIWI-QMW.0021 Introduction to Statistical Programming
Language: English	**Person responsible for module:** Prof. Dr. Thomas Kneib
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 15	

Additional notes and regulations: The module is suitable for students of the Master's degree program Applied Statistics, as advanced statistical knowledge is required.

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0034: Python for Econometrics**	6 C 2 WLH

Learning outcome, core skills: Students learn how to work with Python, one of the most powerful and versatile programming languages, and its efficient use in the field of numerical programming applied to economics. After their successful participation they have gained sufficient knowledge to understand Python-based statistical programs and carry out independent data analysis on their own by using Python. The participants also obtain a profound understanding of the critical evaluation of code pieces and a starting point for further in-depth studies in the field of applied data science.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Python for Econometrics (Lecture) *Contents*: In recent years, Python has established itself alongside R at the forefront of numerical programming languages. Very similar to the programming with MATLAB, mathematical-statistical representations from technical literature, such as econometric textbooks, can be implemented compactly and easily in the programming language Python and its scientific extensions. Following a concise introduction to the general-purpose language framework, the students learn how to design, implement and exchange their own data analysis projects in an object-oriented way: 1. Introduction to Python and object orientation. 2. Numerical programming - compared to MATLAB and R. 3. Data formats, handling, exports and imports - file and web. 4. Statistical analysis with applications in economics. 5. Visual illustrations and presentation of scientific results. The participants get familiar with Python's way of thinking and learn how to solve (scientific) programming problems with a state-of-the-art tool.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: The participants are expected to answer question sets about the programming language Python, about data analysis with Python and to demonstrate their knowledge on the basis of practical tasks.	

Admission requirements: none	**Recommended previous knowledge:** Scientific Programming, Statistical Programming with R or equivalent.
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: each semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	2 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0036: Economic and Business Forecasting**	6 C 2 WLH

Learning outcome, core skills: The students: • learn basic concepts of prediction that develop, for instance, from regression or time series models, • gain a solid understanding of issues related to the evaluation of alternative predictors, • learn how to analyze empirical data by means of statistical software packages with a particular focus on forecasting exercises.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Economic and Business Forecasting (Lecture) *Contents*: Forecasts are produced in numerous areas such as business, economics, finance and many other fields. Forecasts are useful if they help to improve the decision-making process. The course provides an introduction to statistical/econometric methods to produce and evaluate forecasts. Optimal point predictions for selected loss functions will be introduced along with the classical forecasting techniques using time series and regression models. To monitor forecast performance we will discuss evaluation of single and multiple forecast methods. Selected topics will deal with density and interval forecasts as well as forecast combination methods. Examples from applied forecasting will be used to illustrate the concepts throughout the lecture.	2 WLH
Examination: Written examination (60 minutes) or oral examination (approx. 30 minutes)	6 C

Examination requirements: • The students show their familiarity with established forecasting models as well as with their implementation and economic and statistical evaluation, • the students are able to implement alternative predictors by means of statistical software, • they can critically discuss the (complementary) informational content of alternative predictors and interpret the corresponding results, • the exam covers both theoretical aspects of prediction and forecast evaluation as well as discussions of practical exercises.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I
Language: English	**Person responsible for module:** Prof. Dr. Helmut Herwartz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.WIWI-QMW.0037: Advanced Bayesian Inference**	6 C 4 WLH

Learning outcome, core skills: The students: • learn about the computational challenges of and approaches to Bayesian inference, • get familiar with both simulation-based and approximate solutions to perform Bayesian inference, • learn how to utilize Bayesian inference for complex types of statistical models.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Bayesian Inference (Lecture) *Contents*: • Principles of Bayesian inference, • Markov chain Monte Carlo (MCMC) simulation techniques, • constructing sensible proposal distributions for MCMC, • constructing prior distributions, • approximate forms of Bayesian inference, • variational Bayes inference, • Reversible jump MCMC, • Bayesian inference for semiparametric regression models.	2 WLH
Course: Advanced Bayesian Inference (Exercise) *Contents*: In the context of the supporting exercise, the students deepen and expand the knowledge and skills acquired in the lecture.	2 WLH
Examination: Written examination (90 minutes) or oral examination (approx. 20 minutes)	6 C

Examination requirements: The students demonstrate their advanced understanding of Bayesian inference for different types of statistical models. They know about the advantages and disadvantages as well as general properties of Bayesian inference, can critically assess the appropriateness for specific problems, and can implement them in statistical software. The exam covers contents of both the lecture and the exercise class.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0001 Generalized Regression M.WIWI-QMW.0002 Advanced Statistical Inference (Likelihood & Bayes) M.WIWI-QMW.0011 Advanced Statistical Programming with R M.MED.0001 Linear Models and their Mathematical Foundations
Language: English	**Person responsible for module:** Prof. Dr. Thomas Kneib

Course frequency:	Duration:
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	3

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0001: Advanced Microeconomics**	6 C 4 WLH

Learning outcome, core skills: This course covers advanced microeconomic models. In this regard students are provided with the skills required to understand these models including advanced methods of calculus and basic proof techniques. Students learn how to formalize and analyze individual decision making and strategic interactions. They will get acquainted with models of individual choice under certainty and uncertainty. Students will be able to analyze decision problems of firms. They can distinguish between partial analysis of isolated markets and a general analysis considering mutual dependencies of markets. Finally, students will be able to formalize strategic interactions and to predict their theoretical outcomes based on a variety of solution concepts.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Microeconomics (Lecture) *Contents*: This course presents a formal treatment of microeconomic theory. 1. Rational choice under certainty 2. Consumer theory 3. Rational choice under uncertainty 4. Partial equilibrium 5. General equilibrium 6. Game theory	2 WLH
Course: Advanced Microeconomics (Exercise) *Contents*: The exercise deepens the understanding of concepts presented in the lecture. Students will receive problem sets, which they are requested to prepare at home. The solutions of these problem sets will be discussed in class.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate the capability to understand advanced economic models • Demonstrate the understanding of the main concepts of individual choice theory • Apply techniques developed in the lecture and in the exercise such as the method of Lagrange multipliers or the Edgeworth Box • Demonstrate the basic knowledge of the theory of partial and general equilibrium • Prove the ability to solve analytical exercises • Find the game theoretical solutions to strategic interactions • Conduct advanced calculations	

Admission requirements: none	**Recommended previous knowledge:** BA level microeconomics and mathematics
Language: English	**Person responsible for module:** Prof. Dr. Claudia Keser Prof. Marcela Ibanez Diaz

Course frequency:	Duration:
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0008: Development Economics I: Macro Issues in Economic Development**	6 C 4 WLH

Learning outcome, core skills: Expose students to macroeconomic issues in economic development, including how economic growth, trade, inequality, aid, capital flows, and population issues affect economic development. They understand historical roots of underdevelopment and acquire knowledge of current economic models and empirical approaches in these topic areas.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Development Economics I (Lecture) *Contents*: Overview of macroeconomic issues and approaches to analyzing problems of developing countries. Topics include measurement of development, historical evolution of income differences, growth theory, and linkages between globalization, aid, debt, population, the environment, and inequality and economic development.	2 WLH
Course: Development Economics I (Exercise) *Contents*: The exercise session is used to deepen understanding of concepts used in the lecture, discuss relevant literature, and apply concepts and methods developed in the lecture.	2 WLH
Examination: Written Exam **Examination prerequisites:** Submission of 6 exercise sheets (of sufficient quality). The exercises deepen the understanding of concepts and empirical methods taught in the lecture and apply it to specific cases.	6 C

Examination requirements: The students demonstrate a good understanding of key theories and models of economic development. They are able to critically present these theories and models, are able to interpret empirical results that relate to these models, and are able to crucially draw relevant policy conclusions coming out of these models and empirical assessments.	

Admission requirements: None	**Recommended previous knowledge:** Knowledge of macroeconomics and econometrics at BA level is highly desirable.
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students:	

not limited	

not limited

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0009: Development Economics II: Micro Issues in Development Economics**	6 C 4 WLH

Learning outcome, core skills: After successful completion, students will be able to understand poverty in developing countries, including its measurement and key determinants. They can explain the linkages between poverty, hunger, gender inequality, and fertility. They can analyze how market failures in markets for land, labor, capital and insurance can trap households in poverty, and derive appropriate policy recommendations to tackle these poverty traps. They can use regression analysis and impact evaluation methods to assess determinants of poverty and ways to overcome it.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Development Economics II (Lecture)	2 WLH
Course: Development Economics II (Exercise)	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: The students demonstrate a good understanding of poverty, its measurement and determinants in developing countries. They are able to critically present theories and models of market failures for land, labor, capital and insurance markets that can trap households in poverty , are able to interpret empirical results that relate to these models, and are able to crucially draw relevant policy conclusions coming out of these models and empirical assessments.	

Admission requirements: none	**Recommended previous knowledge:** Knowledge of microeconomics and econometrics at BA level is highly desirable. Development Economics I is not a prerequisite.
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0019: Advanced Development Economics**	6 C 4 WLH

Learning outcome, core skills: By end of this course, the students will be familiar with cutting edge theoretical and empirical research in development economics. To achieve that, the course will acquaint students with the state of the art in modern development economics. The topics covered will vary from time to time, always focusing on new and emerging issues in development economics research.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Development Economics (Lecture) *Contents*: The students will analyze cutting edge research in development economics. The topics covered will vary from time to time, always focusing on new and emerging issues in development economics research.	2 WLH
Course: Advanced Development Economics (Exercise) *Contents*: In the exercise session, students will deepen their understanding of concepts used in the lecture, present and discuss relevant literature, and apply concepts and methods developed in the lecture.	2 WLH
Examination: Written examination (90 minutes) **Examination requirements:** In the exam, students demonstrate their ability to interpret cutting edge research in development economics, including critically evaluating models, theories, and econometric techniques.	5 C
Examination: Portfolio* **Examination requirements:** With the student presentation, students are expected to demonstrate their ability to synthesize, present and discuss academic research results for an academic audience.	1 C

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-VWL.0008 Development Economics I: Macro Issues and M.WIWI-VWL.0009: Development Economics II Micro Issues in Development Economics or equivalent, knowledge of MA level econometrics plus good knowledge of MA level development economics highly desirable.
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs Prof. Marcela Ibanez Diaz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4

Maximum number of students:	
25	

Additional notes and regulations:
*Portfolio: the above-mentioned Portfolio comprises of a presentation and discussion of academic articles in the exercise.

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0021: Gender and Development**	6 C 3 WLH

Learning outcome, core skills: Allow students to understand key theoretical and empirical approaches to understanding gender inequality in developing countries, including gender gaps in education, health and mortality, employment, time-use, and governance. Familiarize students with different approaches to conceptualize and measure gender gaps and enable them to analyze policies to tackle gender inequality.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Gender and Development (Lecture) *Contents*: In the lecture the students will discuss the different mechanism behind gender based inequality. , including gender gaps in education, health and mortality, employment, time-use, and governance. It will familiarize students with different approaches to conceptualize and measure gender gaps and enable them to analyze policies to tackle gender inequality	2 WLH
Course: Gender and Development (Tutorial) *Contents*: The tutorial is used to deepen understanding of concepts used in the lecture, discuss relevant literature, and apply concepts and methods developed in the lecture.	1 WLH
Examination: Written examination (90 minutes) or term Paper (max. 15 pages)	6 C

Examination requirements: In the term paper, students demonstrate their ability to develop a coherent argument on a particular issue of gender inequality in developing countries. In the exam, students demonstrate their ability to understand theory and empirical assessments of gender inequality, including measurement, and policy issues.	

Admission requirements: none	**Recommended previous knowledge:** Knowledge of development economics (at least at BA level, but preferably at MA level) also recommended (e.g. taking Development Economics I or II concurrently)
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0024: Seminar on the Economic Situation of Latin America in the 21st Century: 'Challenges of Economic Development in Latin America'**	6 C 2 WLH

Learning outcome, core skills: After successful completion of the module students are able to name and explain the most important structural problems and challenges in Latin America (LA).They are able to identify economic deficiencies in LA and compare them with shortcomings in other countries, to evaluate the policy mix applied in LA and to suggest ways on how to improve policy interventions. **Competencies:** • students learn how to formulate research questions, • students have a close look at theoretical studies/arguments in related field, • students familiarize with the empirical literature in related field, • students utilize the empirical methodology to evaluate the results obtained in the empirical literature, • students give reasons why theory and empirics are compatible or not, • students draw economic policy conclusions from empirical results.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar on the Situation in Latin America in the 21st Century: Structural Problems, Crises and the Necessity of Reforms (Seminar) *Contents*: In this course structural problems and issues, such as • over-indebtedness, • dependence on development aid, remittances and international loans, • economic vulnerability (resource dependence, low degree of diversifation, small manufacturing sector), • weak institutions, • lack of job opportunities, • challenges of migration, • global developments and their impact on Latin American economies will be dealt with.	2 WLH
Examination: Presentation (approx. 20 min) with written elaboration (max. 15 pages text) **Examination prerequisites:** Regular active attendance.	6 C

Examination requirements: • Students are able to identify structural and other deep-rooted problems in developing countries, • students are able to describe, analyze and assess the challenges related to crisis management in developing countries,	

- students are able to describe, analyze and assess the challenges of policy reform and resistance against it,
- students are able to describe, analyze and assess the challenges related to global developments, such as migration, financial crisis etc.

Admission requirements:	Recommended previous knowledge:
none	Knowledge of open economy macroeconomics, of development economics; of econometrics e. g. (Econometrics I), ability to apply textbook knowledge to problems of today's economies, ability of analyze structural problems
Language: English	**Person responsible for module:** Dr. rer. pol. Felicitas Nowak-Lehmann
Course frequency: every winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0025: Seminar Development Economics IV**	6 C 2 WLH

Learning outcome, core skills: Students learn how to work through cutting edge research on a particular issue in development economics, develop a coherent argument addressing their research question, improve their academic writing, and learn how to present such work in front of an academic audience.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar Development Economics IV (Seminar)	2 WLH
Examination: Presentation (approx. 30 minutes) with written elaboration (max. 15 pages)	6 C

Examination requirements: In the paper, students demonstrate their ability to critically review academic studies on a particular topic, able to synthesize the results and develop a clear argument backed by the evidence in the literature. They also demonstrate their ability to research the scientific literature, and write a scientific paper. In the presentation, they demonstrate their ability to present key insights from complex theoretical and empirical papers, and to present and defend an argument on the research question developed from the literature.	

Admission requirements: none	**Recommended previous knowledge:** Keine
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module M.WIWI-VWL.0035: Economic Effects of Regional Integration	2 WLH

Learning outcome, core skills: Students learn how to formulate research questions. They are expected to provide a critical assessment of the theoretical studies/arguments in the related field and to review the related empirical literature. Students also learn how to apply the empirical methodology to evaluate the results obtained in the empirical literature, provide some reasons why theory is confirmed or not with empirics and draw economic policy conclusions from empirical results.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Economic Effects of Regional Integration (Seminar) *Contents*: • Regionalism versus Multilateralism in the World Economy • European Integration: EU, MU, East Enlargement • Latin American Integration • Asian Regionalism • African Integration	
Examination: Presentation (ca. 20 min.) with written elaboration (max. 15 pages text) **Examination prerequisites:** Regular active attendance.	6 C

Admission requirements: none	Recommended previous knowledge: International Economics Introductory econometrics
Language: English	**Person responsible for module:** Prof. Dr. Inmaculada Martinez-Zarzoso
Course frequency: every summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 18	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0040: Empirical Trade Issues**	6 C 3 WLH
Learning outcome, core skills: • This course is intended to cast light on present-day controversies in international trade through assessment of the latest empirical analysis of a number of important topics of international trade research. • The main aim is to improve students' ability to evaluate and to undertake empirical research in international trade. All readers are expected to have completed graduate courses in microeconomics and econometrics. • The course is organized along five empirical questions: • 1. What do countries trade?; • 2. Why has trade increased so much? • 3. Why do we still trade so little? • 4. Did globalization contribute to the rise in inequality? • 5. Does trade increase productivity? • We will learn the necessary modeling tools and empirical instruments that help answer these questions. • The course is also concerned with the *application* of econometric methods to assess trade policies and its economic effects. The computer software package STATA will be used for practical work. Previous knowledge of intermediate econometrics is required.	**Workload:** Attendance time: 42 h Self-study time: 138 h

| **Course: Empirical Trade Issues** (Lecture)
Contents:
Comparative Advantage, Trade Flows and Trade Policies

1. Quantifying trade flows

    1.1 Openness: measurement issues

    1.2 Trade composition: At the sectoral and geographical level

    1.3 Analysing trade flows, comparative advantage and terms of trade

    1.4 Analysing regional trade: Trade intensity and trade complementarity

    1.5 Main trade databases

2. Trade Policies

    2.1 Tariffs under WTO

    2.2 Import tariffs: Measurement issues and data

    2.3 Non tariff barriers: Price gaps and coverage ratios

    2.4 Trade policies and practices

3. The distributional Effects of Trade Policies

    3.1 Transmission of tariff changes

    3.2 Linking trade policy to household welfare

    3.3 Combining survey data and trade policy data | 2 WLH |

3.4 Empirical applications

Testing New and New-New Trade Theories

4. The gravity model of trade

      4.1 The gravity equation: Theoretical foundations

      4.2 Estimation methods

      4.3 Advanced gravity modelling issues

      4.4 Empirical applications

5. Heterogeneous firms and trade

      5.1 Trade and Firm's Productivity

      5.2 Stylized Empirical Facts

      5.3 The Melitz Model. Key Implications

      5.4 Empirical Applications: Testing the Predictions

Globalization, Regional Integration and its effects

6. Trade and Regional Integration

      6.1 Regional versus Multilateral Trade Liberalization

      6.2 Economic Effects of Regionalism

      6.3 Evidence on the Trade Effects of Regional Agreements

      6.4 Impact of Trade Preferences

Literature:

Basic References

Required Text Books:

Bacchetta, M. et al. (2012), *A Practical Guide to Trade Policy Analysis*. World Trade Organization, Geneva, Switzerland.http://vi.unctad.org/tpa.

Bowen, H. P., Hollander, A. And Viaene, J-M. (2012), *Applied International Trade*, 2nd Edition, Palgrave Macmillan.

Feenstra, R. (2004), *Advanced International Trade: Theory and Evidence*, Princeton University Press.

Course: Empirical Trade Issues (Tutorial) *Contents*: The computer software package STATA will be used for practical work to learn how to apply it to perform trade policy analysis.	1 WLH
Examination: Term Paper (max. 10 pages, based on the tutorial) **Examination requirements:** Students are required to write a term paper based on an empirical application using Stata.	2 C
Examination: Written examination (90 minutes) **Examination requirements:**	4 C

- Show a deep knowledge of the trade theories, policies and empirical trade models covered in the course
- Show ability to explain the implications of trade theories and whether they apply to the world economy
- Understanding of the economic logic behind trade policies and its economic effects
- Being able to interpret tables of empirical results available in published economic research

Examination requirements:
- Show a deep knowledge of the trade theories, policies and empirical trade models covered in the course,
- show ability to explain the implications of trade theories and whether they apply to the world economy,
- understanding of the economic logic behind trade policies and its economic effects,
- being able to interpret tables of empirical results available in published economic research.

Admission requirements:	Recommended previous knowledge:
none	M.WIWI-QMW.0004 Econometrics I and International Economics
Language: English	**Person responsible for module:** Prof. Dr. Inmaculada Martinez-Zarzoso
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0041: Panel Data Econometrics**	6 C 4 WLH
Learning outcome, core skills: • This course aims to study panel data econometric techniques in an intuitive and practical way and to provide the skills and understanding to read and evaluate empirical literature and to carry out empirical research. Empirical evaluation of economic models is an important feature of the study and application of economics. • The course is concerned with the *application* of econometric methods, with little emphasis on the mathematical aspects of the subject (which may be studied in other modules). The computer software package STATA will be used for practical work. Previous knowledge of intermediate econometrics is required.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Panel Data Econometrics (Lecture)
Contents:
Linear Panel Data Models
 	
1. Static Linear Panel Data Models
 	
    1.1 Introduction to Panel Data
 	
    1.2 Assumptions
 	
    1.3 Estimation and Testing
 	
        1.3.1 Pooled OLS
 	
        1.3.2 Random Effects Estimation
 	
        1.3.3 Fixed Effects Estimation. Testing for Serial Correlation
 	
        1.3.4 First-Differencing Estimation
 	
    1.4. Comparison of Estimators and Testing the Assumptions
 	
    1.5 Correlated Random Effects (CRE) or Mundlak's Approach
 	
2. Endogeneity and Dynamics in Linear Panel Data Models
 	
    2.1. Equivalence Between GMM 3SLS and Standard Estimators
 	
    2.2 Chamberlain's Approach to UE Models
 	
    2.3. RE and FE Instrumental Variables Methods
 	
    2.4. Hausman and Taylor Models
 	
    2.5. First Differencing and IV
 	
    2.6. Dynamic Panel Data Models. Estimation under Sequential Exogeneity
 	
3. Special Topics
 	
    3.1 Heterogeneous Panels
 	
    3.2 Random Trend Models
 	
    3.3 General Models with Specific Slopes
	2 WLH

3.4 Robustness of Standard Fixed Effects Estimators

3.5 Testing for Correlated Random Slopes

Non-linear Panel Data Models

4. Panel Data Models for Discrete Variables

4.1 Introduction. Binary Response Panel Data Models with Strictly Exogenous Variables

4.2 Linear Probability Model

4.3 Fixed versus Random Effects

4.4 Other issues: Endogenous explanatory   variables/Selection Bias

The course is organized as a series of lectures complemented with tutorials.

Literature:

Basic References

Wooldridge, J.M. (2010), Econometric Analysis of Cross Section and Panel Data, MIT Press, Cambridge (2nd ed.).

Arellano, M. (2003), Panel Data Econometrics, Oxford University Press, Oxford (1st ed.)

Baltagi, B.H. (2013), Econometric Analysis of Panel Data, John Wiley and Sons, Chichester (5th ed.)

Cameron, A. Colin and Pravin K. Trivedi (2005), Microeconometrics: Methods and Applications Cambridge University Press, New York.

Course: Panel Data Econometrics (Tutorial) *Contents*: The computer software package STATA will be used for practical work.	2 WLH

Examination: Written examination (120 minutes)	4 C

Examination: Term Paper (max. 10 pages, based on the tutorial)	2 C

Examination requirements: • Show a deep knowledge of the econometric techniques covered in the course • Show ability to select the adequate econometric model for a give economic empirical application • Understanding of the economic logic behind the panel data models introduced in the course • Being able to interpret tables of empirical results available in published economic research	

Admission requirements: none	**Recommended previous knowledge:** Previous knowledge of intermediate econometrics is required.
Language: English	**Person responsible for module:** Prof. Dr. Inmaculada Martinez-Zarzoso
Course frequency:	**Duration:**

each summer semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0042: European Economy**	6 C 4 WLH
Learning outcome, core skills: The key learning objectives are: • students should understand the extent of economic integration in the EU and the basics of EU law and its basic institutional structure and economic facts about European nations. Students should also learn the broad outline of the EU budget on the receipts and expenditure side and the basic content and the structure and problems with the Constitutional Treaty and the subsequent Treaty of reform, • acquire knowledge of the standard open-economic supply and demand diagrams and how they can be used to analyze the positive and normative impact of tariffs. Students should also learn about the various types of trade barriers that can constrain trade, • learn to apply open-economy supply and demand analysis to a three country setting with the aim of illustrating the main positive and normative effects of preferential liberalization on aspects of European integration. Students should also learn about the differences between customs unions and free trade areas and about WTO disciplines and about the nature of empirical studies into the effects of EU market integration, • learn the economics behind the notion that integrating European markets can improve economic efficiency by giving European firms better access to a wider market. As part of this, students learn about market interactions in the presence of imperfect competition and increasing returns, • learn the economic logic that explains how integrating European markets can increase income growth rates in the medium term and in the long term and the specific features of Europe's labour markets and key labour economics principles. Students should also learn about the sources of unemployment and the microeconomics of labour market integration and the conflict between efficiency and social imperatives, as well as understand the impact of economic integration and migration on labour markets, • learn about the CAP, which is by far the most important policy in terms of the budget and it is one of the most important in terms of EU politics. Students should also learn about recent reforms to the CAP based on de-coupling, • learn about the very uneven distribution of economic activity in Europe and about the economics that helps account for this result as well as using the suitable framework for understanding how deeper integration affects the distribution. Also learn about EU regional policy, essentially designed to prevent geographic concentration or to ameliorate its effects on people living in rural areas, • acquire Knowledge of the basic facts of the EU's trade pattern both in terms of partners and commodity composition and become familiar with the basic institutions of EU trade policy making and acquire a basic understanding of the EU's external trade policy.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: European Economy (Lecture)	2 WLH

Contents:

The course is organized as a series of lectures complemented with tutorials and student presentations of selected topics.

Introduction

1. The European Integration Process in the World Economy

      1.1 History

      1.2 Facts, Institutions and Laws

      1.3 The Budget

      1.4 The Constitutional Treaty

Microeconomics of European Integration

2. Economic Effects of Forming a Customs Union I: Static Effects

      2.1 Microeconomic Tools

      2.2 Static Effects: Trade Creation and Trade Diversion

      2.3 WTO Rules

      2.4 Evaluation of the Static Effects

3. Economic Effects of Forming a Customs Union II: Market size and Scale Effects

      3.1 Dynamic Effects

      3.2 Market Structure and Scale Effects

      3.3 Evaluation of the Dynamic Effects

4. The Single Market Process: Growth Effects

      4.1 Economic Impact of the Single Market: Growth Effects

      4.2 Free Factor Movement inside the Internal Market: Labour Markets and Migration

      4.3 Effects of Integration

EU Selected Policies

5. EU Environmental Policy

      5.1 History of the Policy Strategies

      5.2 Objectives, Targets and Timetables

      5.3 The "new" Environmental Policy of the EU

      5.4 Role of Product Standards

6. Innovation Patterns and the EU Regional Policy

      6.1 The Facts

      6.2 Innovation Patterns

      6.3 EU Regional Policies

      6.4 Empirical Evidence

7. Trade Policy

7.1 Basic Trade Policy Analysis

7.2 Economics of Preferential Liberalization

7.3 Market Size and Scale Economies

A key starting point is the official site:http://www.europa.eu.int.

Literature:

Basic References

Anvret, M., Granieri, M. and Renda. A. (2011), *Innovation Policy: Boosting EU Competitiveness in a Global Economy.* CEPS Task Force Report. Center for European Policy Studies

Baldwin, R.; Wyplosz, C. (2015), *The   Economics of European Integration.* McGraw Hill Education Europe. 5rd Ed. (B&W)

Baldwin, R. (2003), *The Economics of European Integration.* McGraw Hill Education, Europe.

Jordan, A. C. and Adelle, C. (2012), Environmental Policy in the European Union, 3rdEdition. Earthscan: London and Sterling, UK.

Molle, W. (2006), The Economics of European Integration: Theory, Practice, Policy. Ashgate Publishing Group, 5th Ed. Aldershot, UK

Course: European Economy (Tutorial) *Contents*: Presentation and discussion of the term papers.	2 WLH
Examination: Written examination (90 minutes)	4 C
Examination: Term paper (max. 10 pages text) **Examination prerequisites:** Regular attendance, Presentation of the term paper	2 C

Examination requirements: • Show a deep knowledge of the European integration process, its history and evolution over time • Show ability to draw open-economic supply and demand diagrams and how they can be used to analyze the positive and normative impact of tariffs • Understanding of the economic logic that explains how integrating European markets can increase income growth rates in the medium term and in the long term • Show a profound knowledge of the European economic policies and its economic effects	

Admission requirements: none	**Recommended previous knowledge:** Introductory macroeconomics and microeconomics
Language: English	**Person responsible for module:** Prof. Dr. Inmaculada Martinez-Zarzoso
Course frequency:	**Duration:**

every summer semester	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 30	

| Georg-August-Universität Göttingen | 6 C |
| Module M.WIWI-VWL.0046: Topics in European and Global Trade | 2 WLH |

Learning outcome, core skills:	**Workload:**
The key learning objectives are:	Attendance time: 28 h
• Students should learn how to formulate research questions. • They are expected to provide a critical assessment of the theoretical studies/ arguments in the related field and to review the related empirical literature. • Students should also learn how to apply the empirical methodology to evaluate the results obtained in the empirical literature. • They should also provide some reasons why theory is confirmed or not with empirics and draw economic policy conclusions from the empirical results.	Self-study time: 152 h

Course: Seminar Topics in European and Global Trade (Seminar)	2 WLH
Contents: Topic 1: Institutional Quality, Trade and Growth Topic 2: Aid for Trade, Foreign Aid and Trade Link Topic 3: Trade Facilitation Topic 4: Trade Agreements Topic 5: Trade and the Environment Topic 6: Technology Transfer and Trade Topic 7: Gender Inequality and Trade Topic 8: Trade, income per Capita and Inequality Topic 9: Trade and Transport Costs Topic 10: Trade and Exchange Rate Regimes Topic 11: Exchange Rate Volatility and Trade Topic 12: Financial Integration and Trade Topic 13: Trade and Conflicts Topic 14: The Extensive and the Intensive Margins of Trade Topic 15: Product Quality and Trade Topic 16: Trade and Migration Topic 17: Geographical Frictions Topic 18: Value Added Trade and International Production Chains Topic 19: Common Currency Effects on Trade Topic 20: Trade and Uncertain **Literature:**	

Head, Keith, Mayer, Thierry, 2014. "Gravity Equations: Workhorse, Toolkit, and Cookbook". Handbook of International Economics vol. 4. Elsevier North-Holland, Amsterdam.

Feenstra, Robert M., 2016. Advanced International Trade: Theory and Evidence. Princeton University Press, Princeton.

Specific literature for each topic will be available online (studip).

Examination: Term paper (max. 15 pages text) with presentation (ca. 20 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements:
- Written paper: Students are expected to develop a research question, to summarize key findings from theoretical and empirical research in relation to it and to critically assess and compare methods and models in relation to the main results found in the related literature.
- Oral Presentation: Ability to present and explain with clarity economic theories and empirical methods and describe tables of results with a deep understanding of the research question addressed in the written paper.

Admission requirements: none	**Recommended previous knowledge:** Empirical Trade Issues or International Trade and Econometrics I
Language: English	**Person responsible for module:** Prof. Dr. Inmaculada Martinez-Zarzoso
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0054: Behavioral Game Theory**	6 C 4 WLH

Learning outcome, core skills: At the end of this course, students will have a clear understanding of: • the methodology of experimental economics, • the range of questions that can be analyzed in economic experiments, • various experimental paradigms and related stylized facts, • the practical issues involved in the design and running of economic experiments, • how to analyze data generated from economic experiments, • how to write a project proposal.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Behavioral Game Theory (Lecture) *Contents*: The course will start with an introduction into the methodology of experimental economis, illustrated by a varied range of economic experiments that were designed to explore individual and group behavior in economic games. The introduction will also cover the elicitation of economic preferences as well as basic statistical techniques for the analysis of experimental data. In the second part of the course, participants will work in groups: they identify a topic for further experimental investigation, develop a full-fledged experimental design to explore and understand this topic, and present it orally in class. Potentially, a pilot study might be carried out.	2 WLH
Course: Behavioral Game Theory (Exercise) *Contents*: In the first part, exercises will consist in taking part in and/or reading seminal papers on various economic experiments. These experiments will be chosen to introduce the students into a small number of specific topics to be focused on in each semester. For each experiment, participants will critically discuss fundamental aspects, potential shortcomings as well as conceivable further applications of its specific design and how its results relate to those of similar experiments to be found in the literature. In the second part, participants will be accompanied in the elaboration of an experimental research question and the design of an experiment, including the derivation of hypotheses to be tested and the statistical approach.	2 WLH
Examination: Individual essay based on group work (Group work 2-5 people, max 15 pages) **Examination prerequisites:** Written examination (90 minutes, after first part)	6 C

Examination requirements: **Written examination** Demonstrate knowledge of: • the basic experimental paradigms discussed in the course,	

- the mathematical methods for analyzing individual decisions and social interaction in those paradigms,
- and related stylized behavioral economics results.

Essay

Describe:

- motivation and goal of the research project,
- related literature,
- precise research question and the specific experimental design, how it relates to existing experiments, theoretical considerations and derivation of testable hypotheses,
- experiment instructions.

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Claudia Keser
Course frequency:	**Duration:**
irregular	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0065: Economics of Crime**	6 C 4 WLH

Learning outcome, core skills: Students will learn the theoretical and empirical framework necessary to understand the drivers of criminal participation and evaluate policies to deal with it. Students will acquire the knowledge to understand how non-monetary factors affect human behavior. Students will have the opportunity to develop a case study where they can apply the knowledge acquire in the course to analyze different dimension of crime.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Economics of Crime (Seminar) This course presents a behavioral perspective to the economic model of crime. We discuss how different disciplines have understood criminal participation and consider how to model empirically the decision to engage into crime.	4 WLH
Examination: Term paper (max. 15 pages text) with presentation (ca. 20 minutes)	6 C

Examination requirements: The term paper should be written on a topic related with economics of crime. Students should be able to present a theoretical model to conceptualize the problem they want to investigate, derive an extension of an existing model and make predictions on how economic and non-economic factors affect behavior. Students should be able to understand the empirical limitations and problems on the empirical estimation of the model of crime and be able to discuss how limitations could be addressed.	

Admission requirements: none	**Recommended previous knowledge:** Microeonomics, Macroeconomics, Statistics, Econometrics
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0083: Economic Reform and Social Justice in India**	6 C 3 WLH

Learning outcome, core skills: The course will equip students with an in-depth understanding of economic, social, and political challenges and reforms in contemporary India. Students will further be introduced to empirical methods for evaluating the impact of reforms and policies and will gain skills to critically appraise such empirical work. By the end of the course, students will be able to: • give an overview of reform policies in India and their impact on general development, politics, and the wider society, • give an overview of current empirical debates on these topics, • critically assess empirical work.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Economic Reform and Social Justice in India (Seminar) *Contents*: The course will introduce students to economic, social, and political aspects of contemporary India. Policies and reforms in each of these domains are presented and assessed. For this purpose, influential empirical analyses are discussed and critically appraised. The course will cover the following topics with a focus on India: • Economic Development, • Politics and Corruption, • Education, • Health and Nutrition, • Markets and Productivity, • Finance, • Gender.	2 WLH
Course: Economic Reform and Social Justice in India (Exercise) *Contents*: In tutorials, students will learn to replicate selected empirical papers, revise research designs and statistical methods in more depth and practice their scientific writing.	1 WLH
Examination: Portfolio (max. 15 pages)	3 C
Examination: Oral Presentation (approx. 60 minutes)	3 C

Examination requirements: • Familiarity with major economic policy debates in India, • demonstrate an ability to link the practice with economic theory, • ability to reflect on various policy actions and their implications.	

Admission requirements: none	**Recommended previous knowledge:** none
Language:	**Person responsible for module:**

English	Prof. Dr. Sebastian Vollmer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 18	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0086: Macroeconomics of Open Economies**	6 C 4 WLH

Learning outcome, core skills: After a successful participation, students have a deep understanding of core concepts in international macroeconomics including current account determination, international capital flows, global imbalances, exchange rate determination, and sovereign debt. They familiarize themselves with the standard two-period dynamic model of international macro and apply it to understand phenomena like twin deficits, aggregate demand shocks, sudden stops, and the European balance of payment crisis. Students learn to critically assess the pros and cons of fix and flexible exchange rates, and the effects of capital account liberalization on economic development.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Macroeconomics of Open Economies (Lecture) *Contents*: • The Balance of Payments • Current Account Determination • External Adjustment in Small and Large Economies • Twin Deficits: Fiscal and Current Account Imbalances • Sovereign Debt • International Capital Market Integration • Financial Development and Global Imbalances • Capital Account Liberalization and Growth • Determinants of the Real Exchange Rate • Aggregate Demand Shocks and Real Exchange Rates • Exchange Rate Policy and Unemployment • The European Balance of Payments Crisis • Monetary Policy and Exchange Rate Determination **Literature:** The course is based upon selected research articles, and book chapters from • ·Stephanie Schmitt-Grohe,Martin Uribe and Michael Woodford, International Macroeconomics (http://www.columbia.edu/~mu2166/UIM/index.html) • Maurice Obstfeld and Kenneth Rogoff, Foundations of International Macroeconomics, MIT Press 1996	2 WLH
Course: Macroeconomics of Open Economies (Tutorial) *Contents*: In the accompanying tutorials, students should discuss and solve problem sets to deepen and broaden their knowledge of the topics covered in the lectures	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Demonstrate: • a profound knowledge of the two-period dynamic general equilibrium model and the ability to apply it to different problems in international macro	

- a deep understanding of the mechanisms behind current account imbalances, exchange rate movements, and sovereign debt
- the ability to solve problems in a verbal, graphical and analytical manner

Admission requirements:	Recommended previous knowledge:
none	Macroeconomics, Mathematics for Economists, Econometrics as taught in the Bachelor courses
Language:	**Person responsible for module:**
English	Prof. Dr. Holger Strulik
Course frequency:	**Duration:**
once a year	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0092: International Trade**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students should be able to: - give an overview of the core theoretical concepts explaining international trade patterns by means of various sources of trade flows like different technologies or factor endowments. - understand and apply the concepts of comparative and absolute advantage. - analyze the effects of international trade on the trading partners with respect to (i) their production and overall welfare, (ii) the reallocation of resources in the production process, (iii) the change in nominal factor prices, and (iv) on changes in the purchasing power of consumers. - evaluate and critically reflect the gains and losses of international trade. - evaluate the consequences of different trade policies like tariffs and subsidies. - understand, summarize, and critically assess recent approaches to explain international trade patterns that are observed today based on scientific publications.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: International Trade (Lecture) *Contents*: 1. Introduction to International Trade 2. The Ricardian model Graphical and mathematical analysis of trade effects on changes production and consumption, nominal and real wages. Evaluation of empirical relevance by means of case studies. 3. The specific-factors model Graphical and mathematical analysis of trade effects on changes in production and consumption, nominal and real factor prices. Evaluation of empirical relevance by means of case studies. 4. The Heckscher-Ohlin model Graphical and mathematical analysis of trade effects on changes in production and consumption, nominal and real factor prices. Evaluation of empirical relevance by means of case studies. 5. Testing Trade Theory Mathematical derivation of the factor content of trade by means of the Heckscher-Ohlin-Vanek model. Empirical tests of the HOV model. Modelling different technologies across countries. 6. Movements of factors Graphical and mathematical analysis of short-run and long-run effects of migration and FDI. Empirical relevance by means of case studies.	2 WLH

7. The Krugman model of monopolistic competition an increasing returns to scale and the Gravity equation /New trade theory. Graphical analysis of short- and long-run effects of trade under monopolistic competition. Comparative statics in Krugman's equilibrium model. 8. Project work: trade policy, recent explanations of trade patterns within the frame of student presentations	
Course: International Trade (Exercise) *Contents*: In the accompanying practice session students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements:
  • Demonstrate a profound knowledge of the core theoretical concepts in international trade.
  • Show the ability to analyze the welfare and distributional effects of international trade by means of graphical and mathematical tools.
  • Show the ability to analyze the effects of trade policies.
  • Students should be able to assess the theoretical models with respect to empirical applications.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Udo Kreickemeier
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0095: International Political Economy**	6 C 4 WLH

Learning outcome, core skills: After a successful participation, students have a deep understanding of the political mechanism at the country level and at the international level that lead to certain outcomes of international policy making. They familiarize themselves with models of public choice theory (on voting, lobbying, alliance formation) and apply them to international problems. Students learn to understand the logic of trade wars, trade negotiations, and customs areas and their implications for economic welfare. They learn to critically assess the pros and cons of globalization and to identify its impact on different groups in society.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: International Political Economy (Lecture) *Contents*: • Direct and Representative Democracy • Voting in International Organizations • Lobbying • Collective Action • Economics of Alliances • Trade Wars • Trade Negotiations • GATT and WTO • Custom Unions • Free Trade Areas and the EU • Protection for Sale • Globalization **Literature:** The course is based upon selected research articles, and book chapters from • Gene Grossman and Elhanan Helpman, Special Interest Politics, MIT Press 2001 • Dani Rodrik, Has Globalization Gone Too Far?, Institute for International Economics, 1997 • Dixit and S. Skeath, Games of Strategy, Norton, 2004.	2 WLH
Course: International Political Economy (Tutorial) *Contents*: In the accompanying tutorials, students should discuss and solve problem sets to deepen and broaden their knowledge of the topics covered in the lectures.	2 WLH
Examination: Oral exam (ca. 20 minutes) or written examination (90 minutes)	6 C

Examination requirements: Demonstrate: • a profound knowledge of the tools of public choice and game theory to understand international policy outcomes • a deep understanding of the political mechanisms of international policy making	

- the ability to solve problems in a verbal, graphical and analytical manner

Admission requirements:	Recommended previous knowledge:
none	Mathematics for Economists as taught in the Bachelor courses M.WIWI-VWL.0092 International Trade
Language: English	**Person responsible for module:** Prof. Dr. Holger Strulik
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0096: Essentials of Global Health**	6 C 3 WLH

Learning outcome, core skills: The goal of this course is to provide students with a comprehensive understanding of global health. By the end of the course, students will be able to:	**Workload:** Attendance time: 42 h Self-study time: 138 h

Learning outcome, core skills:

The goal of this course is to provide students with a comprehensive understanding of global health. By the end of the course, students will be able to:

- explain main concepts of global health
- describe linkages between health and economic development
- describe determinants of health
- describe different components of health systems
- demonstrate familiarity with the concept of burden of disease and risk factors and how health status is measured
- describe key measures to address the burden of disease in cost-effective ways
- read, discuss and present recent scientific literature in the global health field
- write a clear and concise policy brief tailored to a specific audience

Course: Essentials of Global Health (Seminar)	2 WLH

Contents:

The course will introduce students to the main concepts of the public health field and critical links between global health and economic development. Students will get an overview of the determinants of health and learn how health status is measured. The course will be global in coverage, but with a focus on low- and middle-income countries and on the health of the poor.

The course will cover:

- Global health concepts
- Linkages between health and development
- Global burden of disease, measurement and global trends
- Determinants of health and social network effects
- Health disparities
- Health systems
- Global health efforts
- Health behaviour in developing countries

Literature:

- Skolnik, R. (2015). *Global health 101*. Jones & Bartlett Publishers.
- Selected journal articles

For a complete list, please refer to the syllabus available on the chair's website (http://www.uni-goettingen.de/vollmer).

Course: Essentials of Global Health (Exercise)	1 WLH

Contents:

Practical exercises related to the topics discussed in the seminar give students the opportunity to deepen and enhance their understanding of the seminar's content.

Examination: Portfolio* (max. 15 pages) **Examination requirements:**	3 C

In their portfolio, students should demonstrate their familiarity with key concepts and topics discussed in the lecture as well as an ability to critically discuss these topics by completing various assignments related to particular seminar contents. In addition, students will be expected to have read the background literature mentioned in the course.	
Examination: Oral Presentation (approx. 60 minutes) **Examination requirements:** Students will present current research articles in global health and demonstrate an understanding of the main concepts of global health and their linkages with economic development. Students will be further required to demonstrate skills to critically discuss scientific articles.	3 C

Admission requirements: none	**Recommended previous knowledge:** Basics in microeconomics and macroeconomics, understanding of econometrics, ability to read scientific articles
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 18	

Additional notes and regulations: * A portfolio is a collection of the following assignments related to particular seminar contents: summaries of a text, response papers, reading reports and comments on presentations (max. 15 pages).

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0099: Poverty & Inequality**	6 C 3 WLH

Learning outcome, core skills: The goal of this course is to provide students with a general understanding of poverty, inequality, and related economic issues. By the end of the course, students will be able to: • describe concepts of poverty and inequality, • describe drivers of poverty and inequality, • describe interlinkages between poverty, inequality, and socio-economic outcomes, • discuss development policy targeting poverty and inequality, • calculate measures of poverty and inequality.	**Workload:** Attendance time: 42 h Self-study time: 138 h

Course: Poverty & Inequality (Lecture) *Contents*: This course provides an in-depth analysis of inequality, poverty and related economic issues at the graduate level. The course covers • theories of justice, • methodological aspects of poverty and inequality measurement, • global aspects of poverty and inequality, • effects of inequality on socio-economic outcomes and growth, • gender inequalities, • inequality and poverty in rich countries, • development policy targeting poverty. **Literature:** • Salverda, W; Nolan, B., and Smeeding, T. (2009): *The Oxford Handbook of Economic Inequality*, Oxford: Oxford University Press. • Wolff, E. N. (2009): *Poverty and Income Distribution*, Chichester: Wiley-Blackwell. • Selected journal articles For a complete list, please refer to the syllabus available on the chair's website (http://www.uni-goettingen.de/vollmer)	2 WLH
Course: Poverty & Inequality (Tutorial) *Contents*: The tutorial provides practical skills in poverty and inequality measurement. It includes lab sessions where poverty and inequality measures are calculated using statistical software (Stata).	1 WLH
Examination: Written examination (90 minutes) **Examination requirements:** Demonstrating skills related to the measurement of poverty and inequality. Demonstrating an understanding of the concepts, drivers and consequences of poverty and inequality and their interlinkages based on the most recent scientific literature.	4 C
Examination: Practical examination (max. 5 pages)	2 C

Examination requirements:

Application of theoretical concepts to measure poverty and inequality using real data from developing countries and statistical software (Stata).

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.WIWI-VWL.0101: Theory and Politics of International Taxation	4 WLH

Learning outcome, core skills:	**Workload:**
After successful completion of the course students will have the following competencies: • knowledge of the basic institutional rules governing the taxation of international income flows, • understanding how these rules affect the efficient international allocation of capital and savings, • knowledge of some instruments used by multinational corporations for shifting profits, and assess the policy measures proposed by the OECD and the EU to limit erosion of tax bases, • understanding the possibilities and limitations of intergovernmental co-ordination of tax policies, • participants will learn to explain the impact of international taxation on economic decisions verbally and graphically, • they will be able to analyze problems in international taxation by solving simple theoretical models, • they will learn how to discuss international co-ordination of tax policy from a scientific background.	Attendance time: 56 h Self-study time: 124 h

Course: Theory and Politics of International Taxation (Lecture)	2 WLH
Contents: 1. Basics of international taxation Introduction into the principles of international taxation and the methods to avoid double taxation. Description of EU directives concerning taxation of cross-border income flows. 2. Worldwide efficiency of capital income taxation Analytical derivation of efficiency conditions for capital and savings (capital export and capital import neutrality) with reference to the methods to avoid double taxation. 3. Optimal taxes in a small open economy Analysis of capital income taxation in source and residence countries. Examination of other tax bases and empirical studies on taxation effects. 4. Profit shifting Introduction into the basics of profit shifting by multinational corporations induced by international differences in taxation and analysis of transfer prices from the firm's and the state's perspective. Analysis of debt finance and intangible assets as means to shift profits. Measures by the OECD and the EU to counter base erosion by profit shifting. 5. Co-ordination of profit taxation in the European Union Introduction into the proposals of the European Commission regarding a Common Consolidated Corporate Tax Base and analysis of CCCTB's effects on companies' decisions, tax revenues and tax competition.	

Basic literature

Gordon, R. and J. Hines (2002): International Taxation. In: A. Auerbach and M. Feldstein (eds.), Handbook of Public Economics, Amsterdam, Vol. 4, ch. 28, 1935-1995.

Hindriks, J. and G. Myles: Intermediate Public Economics, Cambridge, Mass.

Homburg, S. (1999): Competition and Co-ordination in International Capital Income Taxation, Finanzarchiv N.F. 56, 1-17.

Homburg, S.: Allgemeine Steuerlehre, München: Vahlen.

Keuschnigg, C.: Öffentliche Finanzen: Einnahmenpolitik, Tübingen: Mohr-Siebeck.

Schreiber, U.: International Company Taxation: An Introduction to the Legal and Economic Principles, Berlin, Heidelberg.

(current issues in case of text books)

Course: Theory and Politics of International Taxation (Exercise) *Contents*: The tutorial accompanies the lecture with exercises and revision.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Participants are required to show their understanding of the principles of international taxation, the allocation and incidence effects of taxation of internationally mobile factors and goods, the causes and effects of tax motivated profit shifting as well as the co-ordination of tax policies in the European Union.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of theory of taxation and institutions of international taxation
Language: English	**Person responsible for module:** Prof. Dr. Robert Schwager
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0105: Controversies in Development Economics**	6 C 2 WLH

Learning outcome, core skills: After successful completion of the course students will be able to: • understand some of the key analytical and topical controversies in development economics, • understand the analytical – both theoretical and empirical – tools and models that are applied in regard to these controversies, • critically assess the relevance and validity of these tools and models, • critically evaluate the potential development impacts of policies relevant in specific policy fields, • use these analytical foundations to develop a convincing written and spoken argument.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Controversies in Development Economics (Seminar) *Contents*: The seminar addresses controversial issues in development economics. Such issues may be more topical (for example: Investments in agriculture and land: Land grab or development opportunity?) or more analytical (for example: The role of the state in economic development: Market-led development or interventionist models?). Based on the seminar papers, which will take a balanced stance toward a specific controversy, students will prepare a presentation that assumes a one-sided position during the seminar. Moderated discussions between two positions will be preceded and followed by a vote of the entire group to assess how convincing the respective presenter has made his or her argument. The seminar topics are subject to change every term. Additional (potential) selected issues include, but are not limited to the following: • EU-ACP economic partnership agreements: (A) new modes of explotation for (B) a genuine opportunity for export-led development? (KT) • the Marshall Plan with Africa: (A) finally a partnership at eye level or (B) another plan for Africa (and the desk drawer)? • fairt trade: (A) fair deal or (B) just calming our bad conscience: is fair trade promoting development? • climate change mitigation and economic development: (A) trade-off or (B) win-win situation? • the sustainable development goals: (A) a great step towards a sustainability transfomration or (B) just cheap talk and no action? • does aid do more harm than good? (A) yes or (B) no? • randomistas versus poor development economists: (A) RCTs as the gold standard of development economics or (B) misguided certainty? • the role of instustrial policy in economic development: (A) comparative-advantage-conforming or (B) comparative-advantage-defying strategy? • how to achieve development: (A) small beautiful projects or (B) big development plans?	2 WLH

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Examination: Presentation (approx. 30 minutes) with written elaboration (max. 10 pages)	6 C

Examination requirements:	
In the paper, students demonstrate their ability to critically review academic studies on a particular topic, show their ability to synthesize the results and develop a clear argument backed by the evidence in the literature. They also demonstrate their ability to judge the quality and relevance of research on the topic, structure the theoretical and empirical insights from the literature, and, accordingly, write an own scientific paper that comprises policy implications. In the presentation, they demonstrate their ability to develop a coherent argument using key insights from their seminar papers. They are also able to discuss the topics with their fellow students.	

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-OPH.0008 Macroeconomics I
	B.WIWI-OPH.0007 Microeconomics
	B.WIWI-VWL.0006 Growth and Development
Language:	**Person responsible for module:**
English	apl. Prof. Dr. Jann Lay
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0112: Financial Markets and the Macroeconomy**	6 C 2 WLH

Learning outcome, core skills: Students acquire knowledge about the role of international financial markets for the macroeconomy. Further, students apply their statistical and econometric knowledge to relevant economic questions.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Financial Markets and the Macroeconomy (Seminar) *Contents*: The seminar focuses on the interdependences between financial markets and the macroeconomy. Motivated by the Great Recession, we discuss various channels through which financial markets may have an effect on real macroeconomic variables. Further, the international dimension of financial markets is highlighted, by discussing international transmission channels of financial shocks.	2 WLH
Examination: Presentation (approx. 20 minutes) with written elaboration (max. 15 pages)	6 C

Examination requirements: Scientific paper and solid presentation skills	

Admission requirements: none	**Recommended previous knowledge:** Basic econometrics and knowledge of open economy macroeconomics
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger
Course frequency: every winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0113: Macroeconometrics**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students should be able to: • differentiate between existing econometric techniques in the area of international finance and macroeconomics. • apply these models in order to answer specific research questions. • work with real world data using acquired programming skills in MATLAB. • check for robustness of their results by applying statistical testing procedures. • present the result of their research and argue about its validity.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Macroeconometrics (Lecture) *Contents*: 1. Revision of basic econometrics. Characteristics of data, which requires certain econometric modeling Simple and multiple regression models as a tool for examining economic theory. Least squares estimation, its assumptions, properties and usage. 2. Univariate time series models ARMA class models to investigate properties of macroeconomic andfinancial data. Box-Jenkins approach and its components for a highgrade regression analysis. Various forecasting techniques used in time series modelling. 3. Stationary and non-stationary data The concept of stationarity and its importance in econometrics. Several test procedures that are used to avoid risks related to working with nonstationary data. Stochastic and deterministic trends as well as ways to stationarize time series variables. 4. Modeling long-run relationships in finance Cointegration and reasons why one might consider its presence in the model. Error-correction models, its usage and interpretation. Examples of cointegrated series and testing for cointegration between them. 5. Modeling volatility in financial econometrics Introduction to non-linearity: basic non-linear models and testing procedures. The concept of volatility in economics and econometrics. Conditional heteroscedasticity and the application of (G)ARCH models. Maximum Likelihood estimator, its derivation, usage and properties. **Core literature:** • C. Brooks, Introductory Econometrics for Finance, Third Edition, • Cambridge University Press, 2014 • H. Lütkepohl, Cambridge University Press, 2010 • J.D. Hamilton, Time Series Analysis, Princeton University Press, 1994	2 WLH

Course: Macroeconometrics (Exercise)	2 WLH
Contents: 1. In the accompanying practice sessions students deepen and broaden their knowledge from the lectures. 2. Students are introduced to statistical software MATLAB and solve programming exercises. 3. Empirical project: writing a MATLAB code to analyze real world data and present the results in class.	
Examination: Project work (max.15 pages) or written examination (90 minutes) **Examination prerequisites:** Up to three submission homework items; length of up to five typewritten pages each (condition for admission to the examination is the achievement of 60% of the total number of attainable points) or group work (30 minutes presentation).	6 C

Examination requirements: • Demonstrate a profound knowledge of the core theoretical concepts in econometrics and univariate time series analysis. • Differentiate between various econometric models for financial and macroeconomic data. • Understand core concepts of time series analysis, such as stationarity and cointegration. • Be able to apply learned models and testing procedures to real world data.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I, M.WIWI-QMW.0009 Introduction to Time Series Analysis
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0122: Behavioral Development Economics**	6 C 2 WLH

Learning outcome, core skills: Students will refresh concepts of microeconomic theory, understand why the assumption of neoclassical microeconomic models fails, learn alternative models that accommodate failures in rational decision making, and understand the importance of using behavioral economics to study poverty and development. Students should be able to formulate new research questions that consider behavioral aspects and have the instruments to conduct a field experiment.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Behavioral development economics (Lecture) *Contents*: The purpose of this course is to introduce the topic of behavioral and experimental economics. We discuss the shortcomings of neo-classical economic models to explain economic decisions and present alternative economic models that incorporate psychological factors. We present classical applications of behavioral economics to the problems of development and poverty.	2 WLH
Examination: Term Paper (max. 12 pages)	3 C
Examination: Exposé (proposal of the term paper) (max. 3 pages)	2 C
Examination: Supplementary report (each participant writes a peer review on a proposal of another group) (max. 2 pages)	1 C

Examination requirements: The course is evaluated with a term paper. The objective of the paper is to present a public policy or business practice application of behavioral economics. The evaluation has three parts: 50% term paper (8-12 pages), 30% proposal of the term paper (2-3pages), each participant writes a 20% peer review on a proposal of another group (1-2 pages). Demonstrate the understanding of the main concepts and theories on behavioral economics. Ability to apply the theoretical concepts to propose policies that support sustainable development	

Admission requirements: none	**Recommended previous knowledge:** Microeconomics, Econometrics
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0123: Recent Topics in Macroeconomics**	6 C 2 WLH

Learning outcome, core skills: During the seminar students familiarize themselves with a macroeconomic topic from the recent literature. After a successful participation students are able to summarize the academic discussion of this topic in a short essay (max. 15 pages) and are able to critically discuss ongoing research of this topic and to present their work in class.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Recent Topics in Macroeconomics (Seminar) *Contents*: In the seminar a macroeconomic topic is investigated, which has recently attracted attention in academia and is subject to an ongoing academic debate. Further information on the current topic and the relevant literature is announced in the syllabus, which can be downloaded from the webpage of the Chair of Macroeconomics and Development: http://www.uni-goettingen.de/en/88544.html Past topics included Migrants and Refugees, The Chinese Economy, Cities and Development, The Past and Future of Work.	
Examination: Essay (max. 15 pages) with presentation (ca. 30 minutes) **Examination prerequisites:** Attendance and active participation in the seminar. Attendance at the introductory meetings.	6 C

Examination requirements: • The students demonstrate that they are able to summarize and explain one or two research papers, • the students demonstrate that they have the ability to critically discuss the results, • the students demonstrate that they manage to relate the paper(s) to research in that field and to the scientific debate in the literature.	

Admission requirements: none	**Recommended previous knowledge:** Mathematics, Econometrics, Macroeconomics
Language: English	**Person responsible for module:** Prof. Dr. Holger Strulik Dr. Katharina Werner, Dr. Ana Abeliansky
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 15	

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Georg-August-Universität Göttingen **Module M.WIWI-VWL.0124: Seminar in Financial Econometrics**	6 C 2 WLH

Learning outcome, core skills: Upon graduation, students acquire the following skills: • differentiating between existing econometric techniques in the area of international finance and macroeconomics, • explaining how these models are used to answer specific research questions, • presenting the result of their research and argue about its validity (both in written form and orally), • participating in discussions with qualified contributions and comment on the contents of other presentations.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar in Financial Econometrics (Seminar) *Contents*: In this course students review academic literature in macroeconomics and finance with a specific focus on econometric modeling of core relationships and empirical testing of economic theory. Suggested topics for seminar term papers are dedicated to both statistical theory and relevant applications in macroeconomics and finance.	2 WLH
Examination: Term paper (max. 15 pages) with presentation (ca. 20 minutes) **Examination prerequisites:** Regular attendance. Active in discussions.	6 C

Examination requirements: • Ability to elaborate a topic independently and fully, including literature review, academic writing and an appropriate oral presentation, • research question is stated clearly at the beginning of the seminar paper and the contents are supporting a certain conclusion, which is addressed at the end of the paper.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I, M.WIWI-VWL.0113 Macroeconometrics
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0128: Deep Determinants of Growth and Development**	6 C 2 WLH

Learning outcome, core skills: After a successful participation, students have a deeper understanding of the mechanisms that lead to long-run economic growth and development. They learn about the forces that are linked to economic development like governance, corruption, institutions, democracy, inequality, culture, and social capital.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Deep Determinants of Growth and Development (Lecture) *Contents*: In this course, we will study long-run trends in economic development. We will analyze questions such as • Why are some countries richer than others? • Why is a country today richer than several generations ago? • How can historical events affect the economy today? • What are the mechanisms that lead to the transition from stagnation towards sustained growth? Contents: 1) (Bio-)Geography and Economic Development 2) Institutions 3) Government 4) Culture and Economic Development 5) The Deep Roots of Economic Development 6) Population and Economic Growth 7) Economic Growth in the Very Long Run **Literature:** The course is based upon selected research articles. Further information on the relevant literature is announced in the syllabus.	2 WLH

Examination: Oral exam (ca. 20 minutes) or written exam (90 minutes)	6 C

Examination requirements: Demonstrate: • a profound knowledge of the causes and consequences of long-run economic development • a deep understanding of standard models of economic growth • the ability to solve problems in a verbal, graphical and analytical manner	

Admission requirements: none	**Recommended previous knowledge:**

	Macroeconomics, Mathematics for Economists, Economic Growth, Econometrics as taught in the Bachelor courses
Language: English	**Person responsible for module:** Prof. Dr. Holger Strulik
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0132: New Developments in International Economics**	6 C 2 WLH

Learning outcome, core skills: During the seminar students familiarize themselves with a topic in international economics from the recent literature. After a successful participation, students are able to summarize the academic discussion of this topic in a short essay (max. 15 pages) and are able to critically discuss ongoing research of this topic and to present their work in class.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: New Developments in International Economics (Seminar) *Contents*: In the seminar a topic in international economics is investigated, which has recently attracted attention in academia and is subject to an ongoing academic debate. Further information on the current topic and the relevant literature is announced in the syllabus, which can be downloaded from the webpage of the Chair of Macroeconomics and Development: http://www.uni-goettingen.de/en/88544.html Past topics included Globalization 2.0, Global Imbalances, Environment and Resource Economics.	2 WLH

Examination: Essay (max. 15 pages) with presentation (ca. 30 minutes) **Examination prerequisites:** Attendance and active participation in the seminar. Attendance at the introductory meetings.	6 C

Examination requirements: • The students demonstrate that they are able to summarize and explain one or two research papers, • the students demonstrate that they have the ability to critically discuss the results, • the students demonstrate that they manage to relate the paper(s) to research in that field and to the scientific debate in the literature.	

Admission requirements: none	**Recommended previous knowledge:** Mathematics, Macroeconomics, Econometrics
Language: English	**Person responsible for module:** Prof. Dr. Holger Strulik Dr. Katharina Werner, Dr. Ana Abeliansky
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0135: Advanced Economic Growth**	6 C 4 WLH

Learning outcome, core skills: After a successful participation, students have a deeper understanding of the mechanisms that lead to long-run economic growth and development. They familiarize themselves with standard growth models and learn about the driving forces of modern economic growth like capital accumulation, human capital and technology.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Advanced Economic Growth (Lecture) *Contents*:	2 WLH

1) Refreshing the Solow growth model and the Diamond-OLG model

2) Neoclassical Growth (Ramsey-Cass-Koopmans model)

3) Overlapping Generations in Continuous Time

4) Human Capital and Economic Growth

5) Endogenous Growth with Expanding Varieties

6) The Scale Effect and Semi-endogenous Growth

7) Creative Destruction

8) Technology Diffusion

9) Economic Growth in the Very Long Run

The course is based upon selected research articles and book chapters, which will be provided during the lecture.

Covered books include:

- Acemoglu, D., Introduction to Economic Growth, Princeton University Press 2009
- Barro, R.J. and Sala-i-Martin, X., Economic Growth, MIT Press, 2004
- Aghion, P. and Howitt, P., The Economics of Growth, MIT Press, 2009
- Heijdra, B. and van der Ploeg, F., Foundations of Modern Macroeconomics, Oxford University Press, 2009
- Galor, O., Uniffed Growth Theory, Princeton University Press

Course: Advanced Economic Growth (Tutorial) *Contents*: In the accompanying tutorials, students should discuss and solve problem sets to deepen and broaden their knowledge of the topics covered in the lectures.	2 WLH

Examination: Oral examination (20 minutes) or written examination (90 minutes)	6 C

Examination requirements: Demonstrate:	

- a profound knowledge of the causes and consequences of long-run economic development
- a deep understanding of standard models of economic growth
- the ability to solve problems in a verbal, graphical and analytical manner

Admission requirements:	Recommended previous knowledge:
none	Macroeconomics, Mathematics for Economists, Economic Growth, Econometrics as taught in the Bachelor courses
Language:	Person responsible for module:
English	Dr. Katharina Werner
Course frequency:	Duration:
irregular	1 semester[s]
Number of repeat examinations permitted:	Recommended semester:
twice	1 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0137: Seminar Games in Economic Development**	6 C 2 WLH

Learning outcome, core skills: This seminar aims at training students in the use of game theory to understand development economics. Participants will learn how situations of strategic interaction can be modelled using game theory. We will discuss recent empirical applications of game theory to study land, labor and credit markets, collective action, conflict and violence.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar Games in Economic Development (Seminar) *Contents*: Suggested areas of research: • development traps and coordination games, • rural poverty development and the environment, • risk, solidarity networks and reciprocity, • agrarian institutions, • savings, credit and microfinance, • social learning and technology adoption, • property right, governance and corruption, • conflict, violence and develpment, • social capital.	2 WLH

Examination: Presentationen (ca. 40 minutes) with written elaboration (max. 10 pages)	6 C

Examination requirements: Students have to give a presentation on a pre-assigned reading. Students should discuss the reading and critically asses the state of the art. We expect that students will be able to suggest new avenues.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen	6 C
Module M.WIWI-VWL.0138: Quasi-Experiments in Development Economics	3 WLH

Learning outcome, core skills:	Workload:
- Understanding of the counterfactual problem and critical assessment of sources and causes of endogeneity bias - Deep understanding of quasi-experimental estimation strategies and their identifying assumptions - Critical reading and reviewing of scientific articles that apply quasi-experimental techniques - Conduct of data analyses using quasi-experimental research designs - Ability to design and draft own research ideas that apply quasi-experimental identification strategies	Attendance time: 42 h Self-study time: 138 h

Course: Quasi-Experiments in Development Economics (Lecture)	2 WLH
Contents: The course deals with common quasi-experimental approaches for measuring causal effects in developing economics. The content focuses on the distinction between correlation and causality and provides students with a statistical toolkit which will allow them to plan and conduct their own independent research. The lecture starts off with a theoretical foundation of the counterfactual problem and how randomized controlled trials (RCTs), considered the gold standard, solve the counterfactual problem. Special attention is paid to endogeneity caused by omitted variables, reverse causality and measurement error. The main part of the course deals with common quasi-experimental approaches to causal effect identification, including difference-in-differences and fixed effects estimation, instrumental variables estimation, regression discontinuity design and matching design. The course further deals with standard error issues inherent to specific methods and their solutions as well as issues with multiple hypotheses testing. In the lecture, special attention is paid to the specific assumptions necessary for each quasi-experimental technique to measure causal effect and common threats to identification (such as selection bias). This is discussed based on a theoretical framework as well as at examples from the literature. A list with compulsory readings and background literature can be found athttp://www.uni-goettingen.de/vollmer *Course frequency:* each winter semester	

Course: Quasi-Experiments in Development Economics (Exercise) *Contents*: In tutorials, students learn how to use quasi-experimental techniques in a very practical manner through exercises in Stata and critical reading and reviewing of scientific articles. *Course frequency:* each winter semester	1 WLH

Examination: Written examination (90 minutes) **Examination requirements:**	3 C

- Comprehensive theoretical knowledge of quasi-experimental methods and their identifying assumptions.
- Deep understanding of the distinction between correlation and causality.
- Ability to critically assess different biases and threats to internal validity.
- Knowledge of practical implementation of methods.
- Understanding of standard error issues and knowledge of dealing with them.
- Understanding of the literature discussed in lectures and tutorials.
- Ability to design evaluation recommendations based on a given situation.

Examination: Practical examination (max. 10 pages) **Examination requirements:** - Ability to summarize and outline the key points of a scientific article. - Ability to critically assess violations to identifying assumptions of quasi-experimental techniques applied in the literature. - Knowledge of standard tests to demonstrate internal validity of quasi-experimental methods. - Practical implementation of quasi-experimental methods in Stata. - Critical review of own data analysis .	3 C

Examination requirements: - Comprehensive theoretical and practical understanding of causal identification and the major methods. - Practical implementation with Stata.	

Admission requirements: none	**Recommended previous knowledge:** Basic understanding of statistics, econometrics, and Stata or willingness to acquire these skills as part of the course.
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0140: Economics of Education**	6 C 4 WLH

Learning outcome, core skills: By end of this course the students will be able to understand the role of education for economic development. They will be familiar with theoretical and empirical approaches to analyze the demand and supply of education and understand factors affecting the effectiveness of education.. They will be able to do independent research in this area and get familiarize with the existing literature.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Economics of Education
Contents:
  • Human capital and signaling models
  • Private and social returns to education
  • Education production function
  • Teachers: teacher labour market, teaching quality, etc.
  • Students: peer effects, tracking, etc.
  • Equity aspects: gender gap, affirmative action, etc.
  • School choice: private and public investments in education
  • Role of cognitive versus non-cognitive skills in labour market outcomes
 	
Course frequency: each winter semester
	4 WLH

Examination: Written examination (90 minutes)	3 C
Examination: Presentation (ca. 30 minutes) with written elaboration (max. 5 pages)	3 C

Examination requirements: Students demonstrate a good understanding of the theory and empirical models related to the economics of education. They are able to critically evaluate existing research to draw policy relevant conclusions and identify open areas for further research in this field.	

Admission requirements: none	**Recommended previous knowledge:** Basics of microeconomics and econometrics
Language: English	**Person responsible for module:** Dr. Sarah Khan
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0143: Mind, Society and Development**	6 C 2 WLH

Learning outcome, core skills: This seminar would allow students to build on knowledge gained in the course behavioral development economics. Students will learn how behavioral economic models can be used to understand development and design development policies. Students are expected to do a critical assessment of existing literature. Identify gaps in research and suggest future research questions.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Behavioral Economics (Seminar)
Contents:
  • Thinking socially
  • Thinking with mental models
  • Poverty
  • Early childhood development
  • Household finance
  • Productivity
  • Health
  • Climate change
	2 WLH

Examination: Presentation (ca. 30 minutes) with written elaboration (max. 10 pages) **Examination prerequisites:** Active participation	6 C

Examination requirements: All students are required to write a 10 page term paper doing a critical assessment of recent developments on the topic. The research paper is to be presented during the class. Participants are expected to explain findings of key papers on the topic, discuss the limitations of the papers and suggest future areas of research. It is expected that students attend presentations of the peers and participate actively in the discussion.	

Admission requirements: none	**Recommended previous knowledge:** Microeconomic; Statistics, Econometrics
Language: English	**Person responsible for module:** Prof. Marcela Ibanez Diaz
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0144: Migration Economics: Replication Course**	6 C 4 WLH

Learning outcome, core skills: The course addresses selected issues of international economic policy using methods of applied econometrics. By reading, discussing and re-estimating empirical papers on the topic, students should learn how to address politically relevant issues with the help of applied empirical analysis. The structured analysis of empirical papers using micro-econometric approaches will train general skills that are necessary for writing an empirical master thesis. By the end of the course, students will acquire the following competencies: • the ability to define a research question, • familiarity with issues of causal identification and model selection, • the ability to discuss the strengths and weaknesses of empirical strategies, • the ability to perform and document an empirical analysis, • the ability to interpret empirical results. Moreover, students will also broaden their skills of working with the statistical software Stata.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Migration Economics: Replication Course (Lecture) *Contents*: The lecture discusses recently published empirical papers around a selected issue of international economic policy (related to trade policy, migration, or other alternating globally relevant issues). It will typically consist of discussions of about 6-7 empirical papers, out of which about 5 papers will also be re-estimated in the practical sessions. Each course participant is expected to read the papers in advance and to be willing to participate in classroom discussion based on the papers. The required readings will consist of one empirical paper each week or each second week, all recently published in well-known economic journals.	2 WLH
Course: Migration Economics: Replication Course (Exercise) *Contents*: The practical part consists of exercise sessions in the CIP-pool that focus on re-estimating parts of the papers discussed in the lecture in form of weekly exercise sheets, using the statistical software Stata. In the first few weeks, a short introduction to data management in Stata will be given. The practical sessions aim to prepare students to performing an empirical analysis of their own.	2 WLH
Examination: Practical examination: weekly assignments	1 C
Examination: Practical examination: final report (max. 12 pages)	5 C

Examination requirements: The course addresses selected issues of international economic policy using methods of applied econometrics. By reading, discussing and re-estimating empirical papers on the topic, students should learn how to address politically relevant issues with the	

help of applied empirical analysis. The structured analysis of empirical papers using micro-econometric approaches will train general skills that are necessary for writing an empirical master thesis. By the end of the course, students should know:

- How to define a research question
- How to think about issues of causal identification and model selection and how to discuss the strengths and weaknesses of their own empirical strategies
- How to perform and document an empirical analysis
- How to interpret the empirical results.

Moreover, students will also broaden their skills of working with the statistical software Stata.

Admission requirements:	**Recommended previous knowledge:**
none	M.WIWI-QMW.0004 Econometrics I
	M.WIWI-QMW.0005 Econometrics II
	basic skills in Stata are helpful
Language:	**Person responsible for module:**
English	Prof. Dr. Krisztina Kis-Katos
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 4
Maximum number of students:	
20	

Additional notes and regulations:
Participation is limited by the practical module examination.

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0146: Topics in Globalization**	6 C 2 WLH

Learning outcome, core skills: Students will learn to gather, assess and interpret available qualitative and statistical data and information on global markets. They will engage in discussions about the various roles of and power relationships between economic and political actors that help shape global industries. Through lectures, class discussion and student presentations, students will be encouraged to think about present and future economic challenges from economic as well as geo-political and historical perspectives.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Topics in Globalization (Seminar) *Contents*: The course offers insights into the global entanglements of markets and business sectors such as, for example, the energy industry. The course analyzes the interplay of economic and governmental actors as well as non-governmental organizations in changing global markets. Special attention will be paid to global differences between industrialized countries and resource rich countries, between centers and peripheries of the global economy. The one-day excursion will provide an opportunity to relate the theoretical knowledge about globalization processes to specific cases and or actors, focusing on Individual organizations, companies or sites and their global and local entanglements. Recommended Reading: Specific literature recommendations are provided each semester. Please refer to current course listing.	2 WLH
Examination: Term paper (max. 15 pages) **Examination prerequisites:** Short report about the excursion (max. 2 pages), regular attendance **Examination requirements:** The final exam will consist of a written essay on a topic proposed by the lecturer. The short assignments throughout the course and the participation in class activities will be requisite for admittance to the final exam. A short, ungraded report will be completed for the excursion.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Hartmut Berghoff Gastdozent Aurelia Mane Estrada
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0147: Empirical Political Economy**	6 C 4 WLH

Learning outcome, core skills: In this course, students learn about relevant issues of political economy by reading and discussing empirical papers that address the interlinkages between economics and politics. After completing the course students should: • Be familiar with a range of currently relevant issues in political economy: know about the role of elections, political participation and accountability, the role of various political institutions, the role of media and individual politicians as well as the connections between economics and politics. • Be able to read and assess new empirical papers on the topic. More specifically: • Be able to discuss the research questions of new papers in the light of the existing literature. • Be able to assess the pros and cons of various causal identification strategies and assess the strength (and potential problems) of identification strategies of new empirical papers. • Be able to interpret the results of new empirical studies and discuss the strengths and potential limitations of the study designs.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Empirical political economy (Lecture) *Contents*: The lecture is organized as a weekly reading course and discusses recent empirical papers on various issues of political economy. It addresses the role of elections and voting, political participation and franchise, electoral rules, gender representation in politics, the role of media and propaganda, the role of individual politicians and political connections, the role of media, as well as political accountability and institutions. Each course participant is expected to read the papers in advance and to be willing to participate in classroom discussion based on the papers. The required readings will consist of one empirical paper per week, recently published in well-known (top-tier) economic journals. Course outline: 1. Voting in democracies 2. Political representation 3. Media and information 4. Private returns to politics 5. Political accountability 6. Further selected topics	2 WLH
Course: Empirical political economy (Exercise) *Contents*: In the practical part, each student is required to present one additional empirical paper on the topic of the lecture and to discuss their identification strategies and results. In the	2 WLH

first few practical sessions a short introduction into reading empirical papers and dealing with issues of causal identification will be given.

The papers assigned for presentation will also be empirical papers that have been recently published in well-known economic journals.

Suggested background literature:

Angrist, J.D. and Pischke, J., 2010, Mostly Harmless Econometrics: An Empiricist's Companion, Princeton, N.J.: Princeton University Press.

Examination: Written examination (180 minutes) **Examination prerequisites:** Presentation of one paper (approx. 20 minutes); active participation; presentation can also take place in groups.	6 C

Examination requirements: In the exam students are expected to read a short empirical paper that has not yet been discussed in the course and answer questions related to the paper. The exam is open-book.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I M.WIWI-QMW.0005 Econometrics II
Language: English	**Person responsible for module:** Prof. Dr. Krisztina Kis-Katos
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0152: Applied International Economics**	6 C 2 WLH

Learning outcome, core skills: After a successful participation, students have a deeper understanding of the drivers and barriers to the movement of goods, capital and people. They can assess the relative importance of these factors (like culture, institutions, geography, free trade/investment agreements, etc) within an empirical framework. Moreover, they know the main empirical methods used in the literature and are able to apply them using STATA.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Applied International Economics *Contents*: In this course we will study several topics in the field of international economics ranging from migration to international trade and foreign direct investment, with an empirical focus and mainly using the gravity model and its different applications. We will analyze questions such as: • What are the empirical tools to assess the importance of trade barriers? • What determines migration flows? • How can we assess the effects of free trade agreements? • What drives foreign direct investment? Why do firms decide to invest abroad? In particular, the students should learn what are the forces that drive the movement of people, goods and capital and how to empirically assess the importance of the drivers/barriers.	2 WLH
Examination: Oral examination (20 minutes) or written examination (90 minutes)	6 C

Examination requirements: Demonstrate: • a profound knowledge and understanding of the determinants (and barriers) of trade, FDI and migration, • the ability to assess the importance of these in an empirical manner.	

Admission requirements: none	**Recommended previous knowledge:** International Trade, knowledge of Stata software, Development Economics, Econometrics as taught in the Bachelor courses
Language: English	**Person responsible for module:** Dr. Ana Lucía Abeliansky
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0162: Firms in International Trade**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • give an overview of key features of the world trade pattern that cannot be explained by traditional trade theories based on comparative advantage, • understand and explain how models featuring firms in imperfectly competitive environments can rationalize key empirical regularities of current trade flows, • analyze the welfare effects of openness to international trade in a world with firm heterogeneity, • analyze and explain the new distributional effects of international trade resulting from firm heterogeneity.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Firms in International Trade (Lecture) *Contents*: **I. Intra-industry trade and the Krugman model** Discussion of empirical evidence on intra-industry trade. In-depth analysis of the Krugman model as an explanation of the evidence discussed. Model extensions to account for co-existence of intra- and inter-industry trade, the home-market effect, and multi-lateral trade flows in the gravity equation. **II. International Trade and Firm Heterogeneity** Discussion of empirical evidence on firm-level trade patterns. In-depth analysis of the monopolistic competition model with firm heterogeneity and international trade in final goods as an explanation of the evidence discussed. Effects of trade liberalization on individual firms, on the income distribution, and on aggregate welfare. **III. Offshoring and Firm Heterogeneity** Discussion of empirical evidence on the link between firm characteristics and the incidence of offshoring. Modelling the offshoring decision at the firm level, and its link to general equilibrium outcomes regarding welfare, firm-level employment, and the income distribution. **IV. Labour Market Effects of International Trade** Discussion of empirical evidence linking firm characteristics and firm export behavior to firm-level wages. Analysis of international trade on welfare, income distribution and unemployment in the presence of firm heterogeneity and labour market imperfections.	2 WLH
Course: Firms in International Trade (Exercise) *Contents*: In the accompanying practice session students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate a knowledge of the modern theoretical models that are used to explain intra-industry and firm-level trade patterns,	

- show the ability to analyze the welfare and distributional effects of international trade and offshoring in those frameworks.

Admission requirements:	Recommended previous knowledge:
none	Microeconomics
Language:	**Person responsible for module:**
English	Prof. Dr. Udo Kreickemeier
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0163: Tax and Fiscal Competition**	6 C 4 WLH

Learning outcome, core skills:	**Workload:**
By the end of the module, students will have formed a reasoned view on whether, and under which conditions, competition among governments is beneficial or detrimental. They will know the main theoretical approaches to analyze strategic interaction among countries or subnational jurisdictions. They will be able to explain the meaning of, and the mathematics underlying, ideas such as "voting with the feet" and "race to the bottom". They will be aware of the importance of the available government instruments (public goods and/or taxes) for the impact of fiscal competition on efficiency. Participants will be able to understand the possibilities and limitations of intergovernmental co-ordination of tax and spending policies. Participants will learn to explain the mechanisms driving key results in fiscal competition. They will acquire a certain proficiency in solving simple theoretical models, will be trained in providing intuitive explanations, and will evaluate empirical results.	Attendance time: 56 h Self-study time: 124 h

Course: Tax and Fiscal Competition (Lecture)	2 WLH
Contents: **1. Local public goods** Optimal size of a jurisdiction. Locational efficiency. Efficient provision of public goods. Segregation along income and preferences. **2. Mobility and fiscal competition** Tax instruments of local jurisdictions. Efficient fiscal competition: the Tiebout model. Preference revelation through mobility. Fiscal competition in higher education. **3. Population size and the cost of providing public goods** Cost disadvantages of large, densely populated or of small, sparsely populated regions. Problems of empirically observing cost disadvantages. Justification for granting higher revenues to cities in fiscal equalization. **4. International tax competition and mobile capital** Capital mobility and strategic choice of tax rates. Fiscal externalities. Inefficient tax competition: the Zodrow/Mieszkowski model. Under-taxation and the supply of public goods. Tax competition and intergovernmental grants. **5. Tax competition and profit shifting** Transfer pricing regulation as an instrument in tax competition. Transfer pricing and strategic trade policy. Benefits and costs of international tax co-ordination.	

Course: Tax and Fiscal Competition (Exercise)	2 WLH
Contents: The exercise accompanies the lecture with exercises and revision.	

Examination: Written examination (90 minutes)	6 C

Examination requirements:	

Participants are required to show their understanding of the impact of mobility on tax bases and tax policy decisions. They shall demonstrate that they understand the theoretical assumptions which yield efficient or inefficient fiscal competition. To do this, they must be able to solve simple microeconomic models, explain the intuition behind theoretical results, and form a judgement about the plausibility and relevance of different models.

Admission requirements:	Recommended previous knowledge:
none	Basic knowledge of microeconomics is assumed, basic knowledge of public finance and taxation is useful, students should be able and willing to work with simple mathematical economic models
Language: English	**Person responsible for module:** Prof. Dr. Robert Schwager
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0165: Introduction to PsychoEconomics**	6 C 4 WLH

Learning outcome, core skills: Students will: • get an overview of new concepts, techniques, and recent results in the field of economic psychology, • discuss alternative models of decision making, • get a brief introduction to neuroscientific techniques to measure and analyze decision making in the brain.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Introduction to PsychoEconomics (Lecture) *Contents*: The lecture is composed of three parts. The first part deals with the question of how decisions can be modeled within economics and psychology. Students will become acquainted with normative models of and descriptive approaches to individual decision making such as the revealed preference approach, expected utility, prospect theory, heuristics and biases, and dual-process theories. The second part of the lecture provides additional insights into how individual decisions are made. In this part we present the results of psychological studies looking at process data (response times, eye tracking, etc.). The third part of the lecture provides a brief introduction to decision making in the brain (neuroeconomics). Particularly, this part introduces the relevance of different brain areas for decision making and different brain imaging techniques to understand how decision making in the brain can be analyzed. Furthermore, exemplary studies in the field of neuroeconomics will be discussed.	2 WLH
Course: Introduction to PsychoEconomics (Tutorial) *Contents*: Tutorials will intensify the content of the lecture. The acquired knowledge from the lecture will be tested in text assignments, calculus problems, and/or oral discussions for each part of the lecture.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students must demonstrate basic knowledge of the main concepts, techniques, and results provided in the lecture (including the literature for self-study) and the tutorials by means of solving text assignments, calculus problems, and/or multiple choice questions.	

Admission requirements: none	**Recommended previous knowledge:** B.WIWI-OPH.0006: Statistics, B.WIWI-OPH.0007: Microeconomics I, B.WIWI-VWL.0028: Introduction to Game Theory, B.WIWI-VWL.0064: Experimental Economics
Language: English	**Person responsible for module:** Prof. Dr. Claudia Keser
Course frequency:	**Duration:**

irregular	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

irregular

1 semester[s]

| **Number of repeat examinations permitted:** | **Recommended semester:** |

1234

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0167: Topics in International Trade**	6 C 2 WLH

Learning outcome, core skills: After a successful completion of the course students have achieved following competences: • understand complex questions in international economics independently and communicate their knowledge both in written form and verbally, • understand theoretical models that are used in the literature and explain how the models are applied to answer specific research questions, • participate actively in discussions with qualified contributions and comment on the contents of the other presentations.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Topics in International Trade (Seminar) *Contents*: In this seminar, students review the theoretical and empirical literature concerning central issues in the research area of international trade. Issues covered in the seminar can relate to: • distributional effects of international trade • international production linkages • trade policy and further related questions.	2 WLH
Examination: Term paper (max. 15 pages) with presentation (ca. 20 minutes) **Examination prerequisites:** Active participation in the seminar. Attendance at the introductory meeting.	6 C

Examination requirements: The students should be able to elaborate on a recent topic independently. This process involves literature research, academic writing and the appropriate oral presentation of the written paper.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-VWL.0001 Advanced Microeconomics, M.WIWI-QMW.0004 Econometrics I, M.WIWI-VWL.0092 International Trade
Language: English	**Person responsible for module:** Prof. Dr. Udo Kreickemeier
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0168: Economics of Multinational Enterprises**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • understand the role of multinational firms in the world economy, • explain why and when multinational firms exist, • understand how the existence of multinational firms changes the market structure and welfare.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Economics of Multinational Enterprises (Lecture) *Contents*: **Firms in International Trade** 1. Concepts, Stylized Facts, Issues 2. Overview of theory and empirical findings 3. Horizontal FDI 4. Vertical FDI 5. Trade Costs and Foreign Direct Investment 6. Internalization	2 WLH
Course: Economics of Multinational Enterprises (Exercise) *Contents*: In the accompanying practice session students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate a knowledge of the classical theoretical models that are used to explain the strategies of multinational firms, • narratively state the economic intuitions behind the theoretical models, • show the ability to analyze the differences between multinational firms and national firms.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-VWL.0092: International Trade
Language: English	**Person responsible for module:** Dr. Zhan Qu
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0169: The Economics of European Integration**	6 C 4 WLH

Learning outcome, core skills: The goal of this course is to provide students with a general understanding of the underlying economics of European integration. After a successful completion of the course students are able to: • give an overview of the real economic and monetary aspects of European integration, • understand and analyze the different instruments of European trade policy and their effects on goods markets and international trade, • evaluate the implications of European integration for labour markets and migration, • understand, analyze and critically assess the effects of monetary integration as well as the causes and consequences of the Euro area crisis, • use both microeconomic and macroeconomic concepts to discuss and assess current challenges of European integration.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: The Economics of European Integration (Lecture) *Contents*: 1. The process of European integration Overview of EU institutions and history of the process of European integration. 2. International trade and goods market integration Effects of European trade policy on goods market integration. Analysis of different trade policy instruments on trade flows and gains from trade. Effects of market integration in the presence of imperfect competition. Application of micro-founded concepts and evaluation of empirical studies. 3. European labour markets, migration and unemployment Analysis of European integration policy on labor markets, wages and migration. Discussion of theoretical concepts and empirical evidence related to labor market effects of European integration. 4. Monetary integration and the Euro area crisis Analysis of the theory of Optimal Currency Areas and evaluation of monetary integration in the context of the Euro area. Application of macroeconomic concepts to understand the causes and consequences of the Euro area crisis. 5. Current challenges of European integration Critical assessment and application of economic concepts to address recent challenges related to European integration, including Brexit, migration, macroeconomic imbalances and trade wars.	2 WLH
Course: The Economics of European Integration (Exercise) *Contents*: The tutorial sessions are divided into two parts. In the first part, students solve problem sets and apply concepts and methods developed in the lecture. In the second part,	2 WLH

students are expected to give short presentations (20 minutes) that discuss selected topics of current challenges of European integration.	
Examination: Written examination (90 minutes) **Examination prerequisites:** Admission to the exam requires the presentation of one selected topic on European integration (20 minutes). Depending on class size, presentations can also take place in groups.	6 C

Examination requirements: • Demonstrate a profound knowledge of both microeconomic and macroeconomic concepts related to European integration, • show the ability to evaluate the effects of integration policies on goods markets, labor markets and monetary policy by means of theoretical models, • students should be able to assess the theoretical concepts with respect to empirical applications.	

Admission requirements: none	**Recommended previous knowledge:** Good knowledge in Microeconomics and Macroeconomics and basic knowledge in Econometrics. Prior knowledge in International Trade is advised.
Language: English	**Person responsible for module:** Jun.-Prof. Dr. Florian Unger
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0174: China's Economic and Political Development**	6 C 2 WLH

Learning outcome, core skills: Students learn how to work through cutting-edge empirical research on China's economic and political development, synthesize and critically review scholarly work, write referee reports, and present research in front of an academic audience.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: China's Economic and Political Development (Seminar) *Contents*: The seminar content varies depending on current developments. Typically, topics from the following areas are covered: • Long-run development of China, • Economic history, • Economic growth, • Inequality and poverty, • Demographics, labor market and gender issues, • Urbanization and infrastructure, • Environment and climate, • State-owned enterprises, • Political institutions, corruption and favoritism, • Media, propaganda and censorship, • International trade and export economy, • Investments and development aid, • Global governance.	2 WLH
Examination: Learning journal **Examination prerequisites:** Participation in class [at the margin]	6 C

Examination requirements: By writing referee reports, students demonstrate their ability to synthesize the results of academic studies on China's economic and political development and critically review them. In the presentation and oral short discussions, they demonstrate their ability to present key insights from complex theoretical and empirical papers, and to present and defend arguments and empirical approaches from the literature.	

Admission requirements: none	**Recommended previous knowledge:** Knowledge of Econometrics at MA Level
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency:	**Duration:**

irregular	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Additional notes and regulations:
Explanation Learning Journal: • Presentation of two research articles [2x15%], • Oral short discussions of two papers [2x5%], • Four referee reports (essays, max. 4 pages) [4x15%].

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0175: International Development Policy**	6 C 4 WLH

Learning outcome, core skills: Students learn to analyze international development policies with politico-economic theories and empirical methods. After successful completion, students will have an overview of the state of the art of empirical research on development aid and other international development policies. They will understand and discuss the determinants of aid allocation, up-to-date methods to evaluate aid effectiveness at the macro and micro project level, decision-making at international development organizations, the role of conditionality, and potential reasons for the ineffectiveness of aid projects.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: International Development Policy (Lecture) *Contents*: The course content may vary slightly depending on current developments. Typically, topics from the following areas are covered: • statement of the "problem" and stylized facts, • determinants of aid giving, • allocation of aid across countries, • allocation of aid within countries, • aid effectiveness, • side effects of aid, • emerging bilateral donors, • non-state actors, • international development organizations, • debt relief, • trade policy, • migration and humanitarian crises, • long-run effects of colonialism, and • impact evaluations of development aid projects and programs.	2 WLH
Course: International Development Policy (Exercise) *Contents*: The exercise session is used to deepen understanding of concepts and empirical methods used in the lecture, learn how to read scientific papers, and learn how to write policy reports.	2 WLH
Examination: Written examination (60 minutes)	4 C
Examination: Learning journal	2 C

Examination requirements: In the exam, students are expected to summarize, explain and critically discuss academic papers that have been covered in the lecture and/or exercise session. With the policy report, students are expected to demonstrate their ability to synthesize, present and discuss academic research results for a policy audience. Depending on class size, presentation of the policy report can also take place in groups.	

Admission requirements:	Recommended previous knowledge:
none	Knowledge of Econometrics at BA level, Panel Data Econometrics
Language:	**Person responsible for module:**
English	Prof. Dr. Andreas Fuchs
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 4
Maximum number of students:	
not limited	

Additional notes and regulations:

Explanation Learning journal:

Policy report (submit a maximum of 5 pages; presentation in the exercise session; discussion of another policy report).

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0176: The Political Economy of Social Protection**	6 C 4 WLH

Learning outcome, core skills: The goal of this course is to provide students with a comprehensive understanding of the political economy surrounding social protection policies. By the end of the course, students will be able to: • describe the key concepts and ideas in the debate around social protection policies, • compare and contrast different social protection instruments, • understand the importance of institutions, bureaucracy and resulting or remaining inefficiencies, • discuss financing alternatives of social protection policies, • critically evaluate different approaches used for targeting social protection policies, • discuss and assess empirical research papers on the topic.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: The Political Economy of Social Protection (Lecture) *Contents*: This will give an overview of the political economy of social protection policies. Students will be introduced to the role of different actors and institutions relevant to shaping social protection policies. It discusses the latest research and methodological advances in the field. The course will cover: • Origins of social protection policies • Concepts, actors, instruments • The role of institutions and bureaucracy • Political accountability • Financing and taxation • Targeting and recent advances • Gender and Social networks	2 WLH
Course: The Political Economy of Social Protection (Exercise) *Contents*: The tutorial will deepen and extend the knowledge and skills acquired during the lecture. A particular focus will be on the review of academic articles and on hands-on exercises applying the latest methodological techniques for targeting and data analysis.	2 WLH
Examination: Processing of a Case Study (max. 15 pages for the entire group work) **Examination prerequisites:** Regular attendance, active participation and presentation of one empirical paper (approx. 20 min); presentation can be in groups.	6 C
Examination requirements:	

In the exam students are expected to demonstrate an understanding of the main concepts presented during the course and be able to address questions both intuitively and analytically. They will be required to evaluate and discuss propositions around policy alternatives and institutional arrangements aspects presented during the course.

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-OPH.0007 Microeconomics I,
	B.WIWI-VWL.0001 Microeconomics II,
	Ability to read scientific articles
Language:	**Person responsible for module:**
English	Prof. Renate Hartwig
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 4
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0179: Seminar Monetary Economics**	6 C 2 WLH

Learning outcome, core skills: After successful completion of the course students have achieved following competences: • understand complex questions in monetary economics and communicate their knowledge both in written form and verbally, • understand complex empirical econometric models that are used in the literature and explain how theoretical models are used answer specific research questions, • participate actively in discussions with qualified contributions and comment on the contents of the other presentations.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar Monetary Economics (Seminar) *Contents*: In this seminar students review the literature on selected topics in monetary economics.	2 WLH
Examination: Term paper (max. 15 pages) with presentation (approx. 20 minutes) **Examination prerequisites:** Regular attendance. Active in discussions.	6 C

Examination requirements: The students should be able to elaborate on a recent topic independently. This process involves literature research, scientific work and writing and the appropriate oral presentation of the written paper.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0180: Methods in Advanced Microeconomics**	6 C 4 WLH

Learning outcome, core skills: The students: • acquire the formal methods which are required for an advanced course in microeconomic theory, • understand the logic of formal statements, • are familiar with the definitions and results in multivariable calculus, • can apply the methods to basic economic problems.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Methods in Advanced Microeconomics (Lecture) *Contents*: This course will cover the following topics on a graduate level: • Basics of set theory, topology, logic and proof techniques • Revision of one-variable calculus • Multivariable calculus • Basics of static optimization • Additional topics, e.g., fixed points and tools for comparative statics	2 WLH
Course: Methods in Advanced Microeconomics (Exercise) *Contents*: The exercises deepen the understanding of the lectures' material and apply the methods to basic economic problems.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: Students need to prove: • the understanding of basic logic and proof techniques, • the knowledge of the presented definitions and formal results in multivariate calculus, • the ability to apply the covered methods to economic problems.	

Admission requirements: none	**Recommended previous knowledge:** Advanced methods for economists: optimization
Language: English	**Person responsible for module:** Dr. rer. pol. Stephan Müller
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0181: Global Production: Firms, Contracts and Trade Structure**	6 C 4 WLH

Learning outcome, core skills: After a successful completion of the course students are able to: • understand the impact of contractual incompleteness on the production and sourcing decisions of multinational firms, • explore the effect of institutions on the export behavior of firms, • understand the modern day empirical stylized facts about trade and foreign direct investment.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Global Production: Firms, Contracts and Trade Structure (Lecture) *Contents*: 1. Made in The World 2. Workhorse Models 3. Contracts and Export Behavior 4. Contracts and Global Sourcing 5. Internalization: the Transaction-Cost Approach 6. Internalization: the Property-Rights Approach	2 WLH
Course: Global Production: Firms, Contracts and Trade Structure (Exercise) *Contents*: In the accompanying practice session students deepen and broaden their knowledge from the lectures.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate a knowledge of the classical theoretical models that study the effect of a host country's contracting institutions on a firm's choice of the production location for its intermediate inputs, • show the ability to analyze the empirical results that support the theoretical model.	

Admission requirements: None	**Recommended previous knowledge:** Microeconomics, International Trade
Language: English	**Person responsible for module:** Dr. Zhan Qu
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0182: Evaluating Development Effectiveness**	6 C 2 WLH

Learning outcome, core skills: Students learn about the most recent literature on aid effectiveness considering concrete policy examples. By replicating a paper on development aid effectiveness, students get exposed to the econometric toolkit used to evaluate effective policies and critically assess existing scholarly work. Moreover, students practice presenting research in front of an academic audience.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Evaluating Development Effectiveness (Seminar) *Contents*: The course provides an overview of the evolution of the academic literature on development effectiveness and also introduces students to the current policy debate, including the current debate on the Agenda 2030 for Sustainable Development. Students will learn how to provide a clean and systematic overview on the related literature. Moreover, students are introduced to state-of-the-art methods for evaluating development effectiveness and how to critically reflect on data quality and methods. The seminar content varies depending on current developments in the academic and policy debate. Typically, the topics covered include the effects of development aid and policies on economic growth, health, education as well as the private sector. Applications may also cover aid allocation and negative side effects of development cooperation.	2 WLH
Examination: Term Paper (max. 15 pages) with presentation (approx. 20 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: Students must demonstrate an overview on a specific strand of the development effectiveness literature. By replicating a recent paper, students demonstrate their ability to apply econometric methods and their ability to go beyond the results of previous research, which they critically reflect on in a term paper. In presenting the term paper, they show their ability to concisely present complex theoretical and/or empirical concepts. Moreover, during oral discussions, students demonstrate their ability to defend, as well as critically reflect upon arguments from the empirical literature.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I, while facultative, the module M.WIWI-VWL.0175 International Development Policy introduces underlying theories and methods
Language: English	**Person responsible for module:** Dr. Lennart Kaplan
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**

twice	3 - 4
Maximum number of students: 10	

Additional notes and regulations:

Explanation of Course Portfolio: Replication of one research article and discussion of results in a term paper [70%]; Presentation of term paper and oral peer discussions of one paper [30%].

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0183: Geospatial Analysis for Development Economics**	6 C 2 WLH

Learning outcome, core skills: The goal of the course is twofold (i) to expose students to a large and relatively new literature in economics that uses geospatial data in innovative ways, and (ii) to provide students with the methodological skills needed to critically assess these papers. The participants will learn to "think spatially" and come up with their own original research questions utilizing spatial methods.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Geospatial Analysis for Development Economics (Seminar) *Contents*: This course provides an overview of how space is used in empirical economics with a particular focus on development economics. It introduces the basic tools that are employed in geospatial research. We will cover geographic projections, geospatial data types, vector and raster data processing, and a selection of more advanced topics. After obtaining the toolkit, we will then learn how these techniques are applied in development economics and beyond by replicating a selection of influential papers.	2 WLH
Examination: Learning journal **Examination prerequisites:** Participation in class [at the margin]	6 C

Examination requirements: By writing a take-home exam, students demonstrate a good understanding of the literature in development economics that relies on geospatial data and of the methodological skills needed for such analyses. By a term paper, students demonstrate their ability to replicate a scholarly article in this field and critically discuss it.	

Admission requirements: none	**Recommended previous knowledge:** Students should be familiar with mathematical statistics, basic econometrics, and development economics. Some experience with R would be very helpful. In particular: M.WIWI-QMW.0004 Econometrics I, M.WIWI-QMW.0005 Econometrics II, M.WIWI-VWL.0008 Development Economics I
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 20	

Additional notes and regulations:

Explanation Learning Journal: short term paper [50%]; short take-home exam [50%].

This course is recommended for advanced Master students and open to PhD students.

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0184: Empirical Analysis of Conflict and Development**	6 C 2 WLH

Learning outcome, core skills: • Students learn about the most recent empirical literature on conflict and development, • students get exposed to the econometric toolkit used to run simple regression analyses, • students will also learn how to best present quantitative results and how to relate them to the most recent literature by writing a seminar paper on their own findings, • moreover, students practice to present and discuss research in front of an academic audience.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Empirical Analysis of Conflict and Development (Seminar) *Contents*: The course provides an overview over the most recent literature on conflict and development. Students are introduced to state-of-the-art empirical methods used in this field. They will learn how to critically reflect on data quality and methods. The seminar focus varies depending on current developments in the academic debate, but will always be related to the literature strands on the determinants and consequences of conflict, mostly from a micro-level perspective. Students will elaborate on a newly identified relationship or new theoretical claim from the most recent literature. Students will test the same pre-defined hypotheses, though each student does so for a different country or region. Students will practice to work with data in Stata by running simple regression models. The results of their regression analyses will be used to confirm or falsify the pre-defined hypotheses. The term paper consists of presenting these findings and discussing them with respect to the recent literature. Students will also learn how to critically assess the simple regression models they used and discuss which methods would be more appropriate to identify causal effects.	2 WLH
Examination: Term Paper (max. 15 pages) and presentation (approx. 20 minutes) **Examination prerequisites:** Regular attendance, written research proposal.	6 C

Examination requirements: • By doing regression analyses of a pre-defined topic within the field of conflict and development, students demonstrate their ability to apply econometric methods and to go beyond the results of previous research, which they critically reflect in a term paper, • in presenting the term paper, they show their ability to concisely present complex empirical concepts, • moreover, during oral discussions, students demonstrate their ability to defend, but also to critically reflect upon, arguments from the empirical literature.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I,

	M.WIWI-VWL.0008 Development Economics I
Language: English	**Person responsible for module:** Dr. Sarah Langlotz
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0187: Social Assistance in Developing Countries**	6 C 2 WLH

Learning outcome, core skills: This course aims to provide students with an in-depth overview of the current academic literature on social assistance policies, particularly (conditional) cash transfers, in developing countries. By the end of the course, students will: • be able to describe many social assistance instruments currently applied in the developing world, • be able to discuss whether these instruments are effective in fostering wellbeing of different beneficiaries (e.g. children, unemployed, and elderly) and in different situations (e.g. pandemic, disaster, fragile states), • have gained a basic understanding of the implementation of randomized experiments and how they can be useful in evaluating the effectiveness of policies, • be able to compare conditional and unconditional transfer policies, • understand the importance of various design aspects for the effectiveness of a social assistance policy (e.g. cash vs. in-kind, payment modalities, add-on components, identification of beneficiaries, targeting), • discuss and assess empirical research papers on the topic.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Social Assistance in Developing Countries (Seminar) *Contents*: Social assistance programs have become increasingly popular to stabilize incomes and increase prosperity in developing countries over the past two decades. In this seminar, we focus on conditional and unconditional cash transfer. We will discuss aspects of the implementation, design, and targeting of such transfers. In a series of specialized topics, we will then unravel how effective cash transfers are to improve poverty-related outcomes in different regions, in post-conflict settings, during pandemics, and as disaster relief. We will also discuss issues such as the behavior of voters in response to assistance policies, compare cash transfers and active labor market policies, and shed light on the ambiguous effect of cash transfers on female (economic) empowerment as well as gender-based violence. Moreover, we will examine the widespread hypothesis that recipients of unconditional transfers lack the incentive to work or to care for their economic future self-responsibly. *Course frequency:* each summer semester	2 WLH
Examination: Presentation (approx. 30 minutes) with written elaboration (max. 15 pages) **Examination prerequisites:** Regular attendance, discussion of another student's seminar paper	6 C
Examination requirements: In the term paper, students are expected to address a self-chosen research question (within the scope of an assigned topic). Term papers should be analytical and critical, develop a coherent argument, draw own conclusions, and should go beyond the pure	

summary of existing literature. During the seminar, students are expected to present the core concepts and main findings from their term paper in a concise and educational way.

Admission requirements:	Recommended previous knowledge:
none	B.WIWI-OPH.0007 Microeconomics I, B.WIWI-VWL.0001 Microeconomics II, M.WIWI-VWL.0009 Development Economics II, ability to read scientific articles
Language: English	**Person responsible for module:** Prof. Dr. Andreas Fuchs
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0188: Ethics and Security in "Field Research" for Development Economics**	6 C 2 WLH

Learning outcome, core skills: The course is tailored to raise students' awareness of potential security and ethical challenges in field research and how they are intertwined. Although those challenges are very context-specific, the course provides students with toolkits for better planning and reflection as well as knowledge about the relevant support structure. After successful completion, students will have an overview on the most frequent ethical and security issues in field research, how to incorporate security and ethical considerations in their own planning, and where to look for further guidance.	**Workload:** Attendance time: 18 h Self-study time: 162 h

Course: Ethics and Security in "Field Research" for Development Economics (Seminar) *Contents*: The course covers established concepts as well as current developments on ethical and security aspects of field research in the following areas: introduction to research ethics and the main challenges/dilemmas; positionality; cooperation with local scientific partners; working conditions of field research staff; security; ethical conduct when interacting with local research populations. Students practice to critically reflect and discuss ethical as well as security aspects and learn how to apply them to real-world research projects.	2 WLH
Examination: Term Paper (max. 12 pages) **Examination prerequisites:** Regular attendence	6 C

Examination requirements: In the term paper, students will summarize, explain and critically discuss ethical and security challenges that have been covered in the seminar. Moreover, students need to demonstrate their ability to apply those concepts to their own or a hypothetical research project writing. Students are required to ground their reflections in theoretical considerations of ethics and critically review other academic work.	

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-VWL.0008 Development Economics I: Macro Issues in Economic Development, M.WIWI-VWL.0009 Development Economics II: Micro Issues in Development Economics
Language: English	**Person responsible for module:** Lisa Bogler, Dr. Lennart Kaplan, Ann-Charline Weber
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4

Maximum number of students: 12	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0189: Natural Language Processing (NLP) in Macroeconomics**	6 C 2 WLH

Learning outcome, core skills: After successful completion of the course, students have achieved the following competencies: • understand basic natural language processing (NLP) questions and techniques and their application to transform textual data into time-series data, • understand complex econometric models used in the literature and explain how NLP is combined with these models to answer specific research questions, • communicate knowledge of these econometric models and the application of NLP within these models in writing and orally, • participate actively in discussions with qualified contributions and comment on the contents of the other presentations.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Natural Language Processing (NLP) in Macroeconomics (Seminar) *Contents*: Students revise the literature on natural language processing (NLP) with applications to macroeconomics. In the literature, NLP is used to analyse text data from various sources such as news media (e.g. online newspapers), social media (e.g. Twitter messages) or central bank and government press releases. An example of an application in literature would be the text analysis of newspapers. Here NLP is used to determine the content of each newspaper article over a period of several years and to create a news index from it. This news index is in turn integrated into a nowcasting model for improved forecasting of national GDP growth.	2 WLH
Examination: Term paper (max. 15 pages) with presentation (approx. 20 minutes) **Examination requirements:** Regular attendance. Active in discussions.	6 C

Examination requirements: The students should be able to elaborate on a recent topic independently. The process involves literature research, scientific work, and writing, and the appropriate oral presentation of the written paper.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Tino Berger
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Maximum number of students: 15	

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0190: Seminar Topics in Urban Economics**	6 C 2 WLH

Learning outcome, core skills: The course Topics in Urban Economics introduces current topics in the context of urban economics. Students will be assisted to develop an approach to answer relevant research questions in the field. Course participants will gain substantial skills in scientific writing, empirical analysis and the structured scientific approach to a current problem. At the end of the course, students will have extended knowledge and experience in the following aspects: • understanding and discussing fundamentals in urban economics, • developing a research question and the statistical/ empirical approach to address this question, • writing a scientific paper that embeds own results within the existing literature. In addition, students will be offered the chance to expand their skills in statistical and scientific writing software (R and LATEX – <u>not</u> mandatory).	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Seminar Topics in Urban Economics (Seminar) *Contents*: The course deals with different aspects of a relevant topic from the field of urban economy based on a current issue. Numerous seminar topics deal with issues from the global south. The goal is to teach a fundamental understanding of urban economics through the writing of a short paper on the jointly defined research question. The process is guided and students will be offered support in the independent derivation of a specific topic for their paper and the methodological statistical approach to their analysis.	2 WLH
Examination: Term Paper (max. 15 pages) **Examination prerequisites:** Regular attendance and presentation (approx. 15 minutes)	6 C

Examination requirements: Independent literature research and critical examination thereof. Presentation of the term paper in the context of a lecture. The students independently describe and reflect on a project or research topic on a scientific issue. The presentation is to be regarded as a preliminary examination and the written paper as an examination.	

Admission requirements: none	**Recommended previous knowledge:** Basic skills in Statistics
Language: English, German	**Person responsible for module:** Dr. Jan Christian Schlüter
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3

Maximum number of students:	
10	

Additional notes and regulations:
The course language in the seminar is English. If desired, the term paper can also be written in German.

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0191: Seminar Advanced Topics in Urban Economics**	12 C 4 WLH

Learning outcome, core skills: The course Advanced Topics in Urban Economics aims at teaching current topics in the context of urban economics. Students will be guided to develop and discuss a scientific approach to answer urgent research questions in the field. This process will require in-depth literature reviews, continuous discussions within the course and critical thinking towards current problems and solutions. The course participants will gain substantial skills in scientific writing, empirical analysis and the structured approach to a current problem. At the end of the course, students will have extended knowledge and experience in the following aspects: • elaborating and structuring current issues in the context of urban economics, • developing a research question and the structure of a paper, • conceptualizing and executing a statistical/ empirical analysis, • applying concepts and tools from the field of quantitative methods or complexity science to the research question, • discussing and placing own results within the existing literature. In addition, students will be able to expand their skills in statistical and scientific writing software (R and LATEX – not mandatory).	**Workload:** Attendance time: 56 h Self-study time: 304 h

Course: Seminar Advanced Topics in Urban Economics (Seminar) *Contents*: The course deals with specialized aspects of a relevant topic from the field of urban economics based on a current issue. Numerous seminar topics deal with issues from the global south.The basic insights from the Topics in Urban Economics seminar are taken up in this course and analyzed in the context of high-dimensional data using statistical and econometric methods. The course will present several current problems and discuss potential solutions, thereby deriving the individual research questions jointly with a thorough literature review performed as a self-study. The conceptualization of the required paper and the empirical approach to the research questions will be done under close supervision. The paper writing and analysis will be guided and after first results a mandatory presentation will be due. This presentation is intended to introduce, share and discuss the approach, results and problems with the entire course. The course is completed after the submission of the required paper.	4 WLH
Examination: Term Paper (max. 30 pages) **Examination prerequisites:** Regular attendancen and presentation (approx. 15 minutes)	12 C
Examination requirements:	

Independent literature research and critical examination thereof. Presentation of the term paper in the context of a lecture. The students independently describe and reflect on a project or research topic on a scientific issue. The presentation is to be regarded as a preliminary examination and the written paper as an examination.

Admission requirements:	Recommended previous knowledge:
none	Basic skills in Statistics, Topics in Urban Economics

Language:	Person responsible for module:
English, German	Dr. Jan Christian Schlüter

Course frequency:	Duration:
each semester	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	3

Maximum number of students:	
10	

Additional notes and regulations:

The course language in the seminar is English. If desired, the term paper can also be written in German.

Georg-August-Universität Göttingen **Module M.WIWI-VWL.0192: Economics, Politics and African Societies**	6 C 2 WLH

Learning outcome, core skills: The goal of this course is to provide students with a comprehensive understanding of the lenses through which economics and political science have tried to explain "African development". It will try to undo some of the learnings weaved through that lenses and identify ground for fertile new research ideas. • Students learn about the most recent empirical literature from economic and political science on developments in Africa, • students are encouraged to critically assess existing research and develop new ideas, • students get exposed to the econometric toolkit used to run simple regression analyses, • students will learn how to present quantitative results and how to relate them to the most recent literature by writing a seminar paper on their own findings, • students practice to present and discuss research in front of an academic audience.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Economics, Politics and African Societies (Seminar) *Contents*: The course provides and overview over the most recent literature on development in Sub-Saharan Africa. It contrasts the way economists study African societies to that of anthropologists, and offers a few self-reflections about the biases that researchers carry with themselves. Students are also introduced to state-of-the-art empirical methods used in this field. They will learn how to critically reflect on data and methods. Students will assess an identified relationship or new claim emerging from the recent literature and discussion. To test and explore new research ideas, students will be working with Stata and by running simple regression models. The results of their regression analyses will be used to confirm or falsify a pre-defined hypothesis. The term paper consists of presenting these findings and discussing them with respect to the recent literature.	2 WLH
Examination: Term Paper (max. 15 pages) and presentation (approx. 20 minutes) **Examination prerequisites:** Regular attendance, written research proposal.	6 C
Examination requirements: Students are expected to demonstrate an understanding of the main concepts presented during the course and be able to address questions both intuitively and analytically.	

- By doing regression analyses of a pre-defined topic, students demonstrate their ability to apply econometric methods and to go beyond the results of previous research, which they critically reflect in a term paper,
- by presenting the term paper, they show their ability to present complex empirical concepts,
- during oral discussions, students demonstrate their ability to defend, but also to critically reflect upon, arguments from the literature.

Admission requirements: none	**Recommended previous knowledge:** M.WIWI-QMW.0004 Econometrics I, M.WIWI-VWL.0008 Development Economics I
Language: English	**Person responsible for module:** Prof. Renate Hartwig
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.WIWI-WB.0001: Scientific Programming**	3 C 1 WLH

Learning outcome, core skills:	**Workload:**
The students: - know the basic structure and operations of the programming environment MATLAB as well as the most important methods for programming with matrices, - learn the basic concepts and ways of thinking in scientific programming, - learn how to efficiently make use of advanced development tools such as the debugger and the profiler, - are able to visualize problems and create professional graphics, - are able to independently solve problems in MATLAB by their own programming – for example as part of a scientific paper.	Attendance time: 18 h Self-study time: 72 h

Course: Scientific Programming (Computer Exercise)	1 WLH
Contents: The practical computer course provides a fundamental introduction to scientific programming with the statistical software "MathWorks MATLAB". Using the Basic programming language is a great way to teach the essential concepts of programming and numerical data processing, and it allows students to acquire skills required in quantitative sciences. Modern lecture slides available in German and English languages, which include practical exercises, are used. By using the course material, the participants will be motivated to focus on the concepts, and they will be able to track their own progress during the course. Topics 1. Graphical User Interface 2. Data and Operations 3. Functions 4. Programming Concepts 5. Development Tools 6. 2D- und 3D-Graphics 7. Advanced Solving Algorithms	

Examination: Written examination (60 minutes)	3 C

Examination requirements:	
Knowledge of the usage and functionality of MathWorks MATLAB. Application of MATLAB's built-in operations and functions. Knowledge of importing, processing and statistical analysis of data. Solving short – even graphical – programming tasks. Knowledge of programming concepts such as loops and branches. Knowledge of a "good programming style".	

Admission requirements:	**Recommended previous knowledge:**
none	B.WIWI-OPH.0006 Statistics, B.WIWI-OPH.0002 Mathematics
Language:	**Person responsible for module:**

English	Prof. Dr. Helmut Herwartz
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 2
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module M.WIWI-WB.0012: Diverse Perspectives and Critical Reflections on 'Development' and 'Development Economics'**	6 C 2 WLH

Learning outcome, core skills: The seminar looks at a particular aspect of 'development' or 'development economics' from the perspectives of different neighbouring disciplines and aims at providing the students with an overview of the diverse perspectives. Students get to know different approaches and methodologies and learn to contrast, critically examine and synthesis these. Furthermore, students learn to read and critically assess scientific literature of different disciplines, develop a coherent argument taking the various perspectives into account and improve their academic writing. By the end of the course, students will have a more holistic understanding of the topic, are able to contextualize different perspectives and to engage in contemporary discourse across disciplines.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Diverse Perspectives and Critical Reflections on 'Development' and 'Development Economics' (Seminar) *Contents*: The seminar discusses an aspect of 'development' and 'development economics' through diverse perspectives. Elements of the course include readings from neighbouring disciplines like anthropology, political science or history on the topic, talks by invited experts from different academic disciplines and in-class discussions. The seminar is a student driven course. Before the start of the course, students choose the exact topic that will be examined. Students are also involved in curating the literature, choosing the experts that are invited and moderating the discussion sessions.	2 WLH
Examination: Term Paper (max. 10 pages) **Examination prerequisites:** Regular attendance and active participation	6 C

Examination requirements: In the paper, students demonstrate their understanding of various perspectives on a particular topic in development economics, their ability to research and critically review the academic literature of different disciplines on the topic, to critically access the different approaches, synthesize the results, develop a clear argument and write a scientific paper.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Sebastian Vollmer
Course frequency: irregluar	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4

Maximum number of students: 24	

Georg-August-Universität Göttingen **Module M.WIWI-WB.0016: Growth Econometrics with Stata**	3 C 2 WLH

Learning outcome, core skills: The aim of this course is to familiarize students with state-of-the-art econometric methods that can be used to estimate empirical models of economic growth. The course provides a brief overview of selected empirical issues related to economic growth and discusses in detail the alternative econometric methods that can be used to empirically investigate these issues. For each empirical question and method, relevant applications from the growth literature will be discussed in lecture and their implementation with Stata will be demonstrated in the computer lab sessions. Successful participants in this course are expected to be familiar with the pros and cons of alternative econometric tools used to estimate cross-country growth regression models and their application in Stata.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Growth Econometrics with Stata (Lecture) *Contents*: 1. Selected empirical questions on economic growth 2. Econometrics of growth 2.1 Pure cross sectional regressions: OLS, IV 2.2 Panel data approaches: pooled OLS, fixed effects estimator, random effects estimator, difference and system GMM estimators, mean-group and panel mean group estimators	2 WLH

Examination: Written examination (90 minutes) or oral examination (approx. 20 minutes)	3 C

Examination requirements: In the exam, students are expected to demonstrate their familiarity with and understanding of major econometric tools used in the research on economic growth. In addition, they are expected to write Stata codes to solve a given empirical question and interpret Stata outputs.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge of econometrics
Language: English	**Person responsible for module:** Dr. Yabibal Walle
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 4
Maximum number of students: 20	

Additional notes and regulations:

Because of the coaching of Stata applications during the lecture and limited space in the computer labs, the maximum number of students is 20.

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0001: Modeling and System Development**	6 C 2 WLH

| **Learning outcome, core skills:**
Upon successful completion, students are able to:

• describe and explain the principles and elements of modeling techniques and design possibilities of systems,
• apply selected methods for modeling systems independently,
• select an appropriate method for modeling a task and delineate versus the benefits of other methods,
• outline the development of systems in the business environment and to evaluate and to transfer this to related situations,
• analyze and reflect critically selected current trends in the field of system development in group work and
• work in groups on tasks with the help of acquired communication and organizational skills. | **Workload:**
Attendance time:
28 h
Self-study time:
152 h |

Course: Modeling and System Development (Lecture) *Contents*: • Basics of systems, models and Software development • System survey (information retrieval and areas of analysis) • Process-oriented analysis and process modeling • Object-oriented analysis and process modeling • Design of systems • Implementation of systems • Integration of systems • Quality management in system development • Configuration management and change management • Cost estimate of system developments	2 WLH
Examination: Written examination (120 minutes) **Examination prerequisites:** Two successfully passed case studies (max. 12 pages each).	6 C

| **Examination requirements:**
Students show in the exam that they

• can explain, evaluate and apply theories and concepts for modeling processes, application systems and software, evaluate and apply,
• can explain and assess what they learned in the lectures regarding aspects of system development ,
• can analyze complex problems in system development in a short time and can identify both challenges and solutions,
• are able to transfer the approaches teached in the lectures to similar problems. | |

Admission requirements: none	**Recommended previous knowledge:** none

Language:	Person responsible for module:	
English	Prof. Dr. Matthias Schumann	
Course frequency:	Duration:	
each winter semester	1 semester[s]	
Number of repeat examinations permitted:	Recommended semester:	
twice	1 - 3	
Maximum number of students:		
not limited		

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0008: Change & Run IT**	6 C 4 WLH

Learning outcome, core skills: The students: • know the fundamentals and key concepts of IT Service Management and IT Project Management, • describe and explain the contents of the ITIL® framework and its core elements in detail: Service Value System, Service Value Chain, General Management Practices, Service Management Practices and Technical Management Practices, • demonstrate profound knowledge in IT Innovation Management, agile concepts, and design thinking, • understand and elaborate the success factors for IT Service Management and IT Project Management, • and should be able to apply standard frameworks in the context of IT Service Management and IT Project Management.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Change and Run IT (Lecture) *Contents*: • Basic elements of IT Service Management • ITIL Service Value System • ITIL Service Value Chain • IT Innovation Management • Business Model Concept & Innovation • Design Thinking • IT Project Management • ITIL Management Practices	2 WLH
Course: Change and Run IT (Tutorial) *Contents*: • Application of knowledge and best practices of IT Service Management, IT Project Management, and IT Innovation Management, • case studies covering the implementation of ITIL® recommended methods, • deep dive into selected General Management Practices, Service Management Practices, and Technical Management Practices, • live demos of selected information systems that enable ITIL® compliant workflows.	2 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** The attendance of guest lectures which may be part of the module are obligatory and are considered an integral part of the examinable contents of the class.	6 C
Examination requirements: In the module examination, the students demonstrate that they are able to reproduce fundamental knowledge and basic concepts of IT Service Management, IT Project Management, and IT Innovation Management. Besides, they can apply acquired knowledge within the lecture and tutorials in a solution-oriented manner. In particular,	

this includes transferring knowledge from the ITIL framework to different fields of application and the utilization of IT service management methods. In addition, the students are able to critically assess the proposed procedures and adapt these to specific problem areas.	

Admission requirements:	**Recommended previous knowledge:**
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Lutz M. Kolbe
Course frequency:	**Duration:**
every semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 2
Maximum number of students:	
not limited	

Additional notes and regulations:

The module is offered in each semester. In the summer term, lecture and tutorial take place regularly, whereas in the winter term only the tutorial is offered, and the lecture must be prepared through self-study which is based on the recorded lecture of the respective previous summer semester.

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0026: Machine Intelligence: Concepts and Applications**	6 C 2 WLH

Learning outcome, core skills: The course would introduce the context of computational algorithms in broader areas of Machine Learning, Data Mining, Signal Processing, and Image Processing. The course would remain focused on the study of machine learning and fuzzy computing algorithms with practical applications to Computer Vision, eHealth & mHealth, and Water Distribution System. At the end of the course, the participants should be capable of applying intelligent computing algorithms to address the challenging issue of "uncertainties" in the real-world problems related to data modeling and analysis.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Machine Intelligence: Concepts and Applications (Lecture) *Contents*: - Artificial Intelligence and Machine Learning - Stochastic Approach to Modeling - Fuzzy Approach to Modeling - Image Matching Applications - Biomedical Signal Processing Applications in eHealth and mHealth - Big Data Analysis Applications in Water Distribution System Modeling	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: A demonstration of following capabilities: - problem formulation of a selected practical application of artificial intelligence and machine learning, - analytical/computational solution of the formulated problem, - algorithmic implementation of the solution, - computer simulations.	

Admission requirements: none	**Recommended previous knowledge:** Basics of Matrix Algebra, Basics of Signals & Systems
Language: English	**Person responsible for module:** Prof. Dr. Lutz M. Kolbe Prof. Dr.-Ing. habil. Mohit Kumar
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0028: Crucial Topics in Information Security Management**	12 C 2 WLH

Learning outcome, core skills: The students: • know the state of the art as well as future challenges regarding a current research topic in the field of information security research, • can synthesize the existing body of knowledge in regard to a given topic in the area of information security management research and identify research gaps, • can elaborate research questions systematically by means of scientific methods, • know and understand empirical research methods and approaches in order to elaborate on information security research topics in a scientific manner, • can present research findings in a way that satisfies scientific requirements.	**Workload:** Attendance time: 28 h Self-study time: 332 h

Course: Crucial Topics in Information Security Management (Seminar) *Contents*: This seminar comprises of three parts. In the first part (2 days), students will receive an introduction to current challenges in information security management research. Moreover, they will get an overview on empirical research designs and methods. An introduction and training of a specific empirical research method will be given. In the second part (self-study), students will select a research topic in the field of information security management research. Students will have the chance to conduct their own piece of research. This usually includes the collection and/or analysis of empirical data. A research report needs to be written. In the third part, the results will be presented in front of the class.	2 WLH
Examination: Presentation (approx. 30 minutes) with written elaboration (max. 8000 words) **Examination prerequisites:** Regular attendance	12 C

Examination requirements: • Elaboration of a current topic in information security management research, • written seminar paper, • oral presentation of the seminar paper's findings, • collaboration with other students in teams.	

Admission requirements: None	**Recommended previous knowledge:** M.WIWI-WIN.0003 Information Management, Statistics (or an equivalent basic understanding of empirical research methods)
Language: English	**Person responsible for module:** Prof. Dr. Simon Trang
Course frequency: each summer semester	**Duration:** 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	2 - 4
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0032: Information Systems Research**	12 C 2 WLH

Learning outcome, core skills: The aim of this seminar is to introduce students to scientific research and scientific writing in the field of information systems. After successful completion of this module, the students have gained in-depth insights into a specific topic in information systems research. Through the mixture of guided introduction and independent work on a clearly defined topic, students develop a basic understanding of the principles of empirical scientific work and acquire the ability to approach a research topic systematically and independently. Students can conduct a systematic review of the scientific literature and are able to develop and derive scientific solutions and findings on this foundation. Depending on their topic, they gather experiences in the application of an empirical method or the implementation of a digital solution. They develop their skills in synthesizing, conducting, presenting, and reflecting on scientific research. In addition to promoting analytical thinking, this seminar will also facilitate the improvement of English writing, presentation, and discussion skills.	**Workload:** Attendance time: 28 h Self-study time: 332 h

Course: Information Systems Research (Seminar) *Contents*: This seminar deals with current issues in information systems research. Topics include digital strategy and business models, digital platforms, sharing economy, IT innovations, the impact of technologies on decisions, interactions and lives of individuals, among others. Based on their interests, students are assigned to a specific topic to examine. The structure of the seminar is as follows: 1. Introduction to the principles of academic research and scientific writing, 2. Examination of the topic and the research question - Investigation of the theoretical and methodological foundations - Structured analysis of the current state of research - Problem solving - Analysis and structuring of the results - Reflection, 3. Preparation of the term paper, 4. Presentation and discussion of the results.	2 WLH
Examination: Term paper (max. 8000 words) and presentation (approx. 30 minutes)	12 C

Examination requirements: • Demonstration of in-depth knowledge on the assigned topic, • proof of an understanding of scientific work, writing, and presenting in general and the application of their selected research method in particular, • evidence of the ability to abstract and reflect the results of the analysis.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Manuel Trenz

Course frequency:	Duration:
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	2 - 3
Maximum number of students:	
10	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0033: Digital Platforms**	6 C 4 WLH

Learning outcome, core skills: The objective of this course is to convey a basic understanding of the paradigms and intricacies of digital platforms and platform business models. Students will be able to apply this knowledge to critically analyze and evaluate digital platform approaches. Moreover, it equips them with the necessary theories and models to develop strategies for digital platforms and to assess current issues in the topic area quantitatively and qualitatively. In the exercise part of the course, students apply their acquired knowledge and thereby advance their problem solving skills.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Digital Platforms (Lecture) *Contents*: Digital platforms are becoming increasingly important. Two-sided markets complement, extend, and replace traditional modes of transacting in many domains. Examples include B2B and B2C e-commerce platforms, platforms for interorganizational integration, resale and auction platforms, crowd work, delivery services as well as P2P services, such as short-term accommodation sharing and ride sharing markets. Importantly, the platform principle bears several particularities which will be examined in this course. Central to the design and operation of digital platforms and associated business models is the existence of network effects, different user types and motives, and the paramount importance of reputation systems and management. Case studies and guest lectures can complement the course. Topics covered in this course include: • The economics of platforms and multi-sided markets • Platform business models • Strategies for starting digital platforms • Competition among and within digital platforms • Platform governance • User motives, types, and representations on digital platforms • Pricing strategies for and on digital platforms • Trust and reputation systems • Network analysis	2 WLH
Course: Digital Platforms (Exercise) *Contents*: Within the accompanying exercise, the students deepen and extend the knowledge and skills acquired in the lecture by means of application tasks and examples.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstration of in-depth knowledge on the paradigms and intricacies of digital platforms and platform business models, • evidence of the ability to quantitively and qualitatively address current issues on digital platforms.	

Admission requirements:	**Recommended previous knowledge:**
none	basic Excel skills
Language:	**Person responsible for module:**
English	Prof. Dr. Manuel Trenz
Course frequency:	**Duration:**
each winter semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0034: Digital Strategy and Interorganizational Information Systems**	6 C 4 WLH
Learning outcome, core skills: This module covers the fundamentals of digital strategy and interorganizational information systems. Students will be able to apply this knowledge to critically analyze and evaluate the opportunities and threats of the digital connectivity, collaborations, and channels. It equips them with the necessary concepts and approaches to develop strategies in digitized market environments. Furthermore, they gain insights into current issues in the topic area such as omnichannel strategies, digital collaboration, digital customer interactions, or ethical issues. Within the exercise part of the course, students apply their acquired knowledge to real life cases. Thereby, students will be equipped with the capability to work in a group on a specific problem and to exploit concepts and theories to address problems observed in practice.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Digital Strategy and Interorganizational Information Systems (Lecture) *Contents*: This course covers the fundamentals of digital business strategies and the opportunities and challenges arising from interorganizational information systems with a particular focus on digital interactions and exchange with other market entities (i.e., firms, customers). Topics covered in this lecture include: • Digital strategy and digital business models • Interorganizational information systems • Omnichannel strategies • Information goods and servitization • Digital price discrimination • Digital customer interaction strategies • The role of data and information privacy • Ethical aspects	2 WLH
Course: Digital Strategy and Interorganizational Information Systems (Exercise) *Contents*: In the accompanying exercise sessions, students apply their knowledge gained in the lecture by presenting and discussing practical cases.	2 WLH
Examination: Written examination (90 minutes)	4 C
Examination: Case study presentation and discussion	2 C
Examination requirements: • Demonstration of in-depth knowledge on the nature of digital strategy and the role of interorganizational information systems, • proof of an understanding of the opportunities when competing and collaborating digitally,	

- evidence of the ability to apply concepts of digital strategy and interorganizational information systems to analyze selected cases.

Admission requirements:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Manuel Trenz
Course frequency:	**Duration:**
each summer semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	1 - 3
Maximum number of students:	
not limited	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0035: Research Seminar on Information Systems and Digitalization**	6 C 2 WLH

Learning outcome, core skills: The aim of this seminar is to provide Master and PhD students with a deeper understanding of empirical academic research, with a thematic focus on Information Systems and Digitalization. Students will primarily strengthen their analytical skills and improve their abilities to express observations and opinions about pieces of academic research and, above all, to come up with ideas on how to develop them further. The exchange and reflection on the research of others should ultimately enable students to advance their own (current or future) research projects and become better reviewers.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Research Seminar on Information Systems and Digitalization (Seminar) *Contents*: This research-centered seminar is open to anyone interested in empirical research on Information Systems and Digitalization. In the seminar we will: • critically examine selected current research work, • discuss it in regular meetings in small groups, • participate in presentations of invited authors, • debate with the authors about their research and gain additional perspectives on the development processes of their work. The willingness to read and discuss academic papers is a crucial prerequisite for participation in this course.	2 WLH

Examination: Term paper (max. 8000 words) and presentation (approx. 30 minutes)	6 C

Examination requirements: • Demonstration of the ability to understand and critically reflect on current research work, • evidence of the ability to identify and express strengths, weaknesses, and suggestions for improvement on research work.	

Admission requirements: none	**Recommended previous knowledge:** First experience with an own research project (e.g., research seminar, thesis)
Language: English	**Person responsible for module:** Prof. Dr. Manuel Trenz
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 4
Maximum number of students: 10	

Georg-August-Universität Göttingen **Module M.WIWI-WIN.0038: Digital Health**	6 C 4 WLH

Learning outcome, core skills: Students will... • know and understand current developments (e.g. digitalization, urbanization, demographic change) and their impact on the structure and care of healthcare systems (e.g. telemedicine), • can critically examine digital infrastructures and the importance of interdisciplinary approaches (e.g. electronic patient records), • have an understanding of the application of technologies (e.g., eHealth, mHealth, wearables) in healthcare and are aware of current national and international developments, • are able to assess the opportunities and challenges of new technology such as artificial intelligence and human-computer interaction in healthcare, • can critically examine the legal and ethical challenges in digital healthcare, • can evaluate the acquired knowledge in connection with sustainable business models in the healthcare sector.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Digital Health (Lecture) *Contents*: Highly recommended for students who want an overview of current digital trends in healthcare. Contents: • Infrastructure • Personal and Global Digital Health • Artificial Intelligence & Human-Computer Interaction • Ethics and Privacy • Sustainable Business Models	2 WLH
Course: Digital Health (Exercise) *Contents*: Within the accompanying exercise, the students deepen and extend the knowledge and skills acquired in the lecture by means of application tasks and examples.	2 WLH
Examination: Written examination (90 minutes)	6 C

Examination requirements: • Demonstrate an overarching understanding of digital health's technological, business, legal, and ethical issues, • demonstrate an understanding of key technologies, applications, and models of care in healthcare and the ability to critically evaluate them, • the contents of the guest lectures are part of the examination contents.	

Admission requirements: none	**Recommended previous knowledge:** none

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Language:	Person responsible for module:	
English	Dr. Maike Greve	
Course frequency:	Duration:	
each winter semester	1 semester[s]	
Number of repeat examinations permitted:	Recommended semester:	
twice	1 - 2	

Georg-August-Universität Göttingen	3 C
Module SK.Ara.21-2: Islamic Religion	2 WLH

Learning outcome, core skills:	Workload:
Nach erfolgreicher Teilnahme an diesem Modul können, die Grundlagen der islamischen Religion mit den Schwerpunkten „Koran", „Prophetische Literatur (Hadith)", „Glaubenspraxis", „die islamischen Gruppen und Gruppierungen: Sunniten, Schiiten und andere", „islamische Theologie und Koranexegese", „islamische Philosophie" und „Sufik" benennen und erläutern.	Attendance time: 28 h Self-study time: 62 h

Course: "Die Religion des Islams" (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements:	
Grundkenntnisse der islamischen Religion mit den Schwerpunkten „Prophetenbiografie", „Koran", „Prophetische Literatur (Hadith)", „Glaubenspraxis", „die islamischen Gruppen und Gruppierungen: Sunniten, Schiiten und andere", „islamische Theologie und Koranexegese", „islamische Philosophie" und „Sufik".	

Admission requirements:	Recommended previous knowledge:
none	none

Language:	Person responsible for module:
German	Prof. Dr. Sebastian Günther

Course frequency:	Duration:
alle vier Semester	1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	1 - 4

Maximum number of students:	
70	

Georg-August-Universität Göttingen **Module SK.Ara.22-1: Islamic History and Culture II**	3 C 2 WLH

Learning outcome, core skills: Nach erfolgreicher Teilnahme an diesem Modul können die Studierenden die wichtigsten Elemente der islamischen Geschichte, Politik und Kultur ab ca. 1500 bis in die Gegenwart mit den Schwerpunkten „Nordafrika" „Osmanisches Reich", „Iran nach 1500", „der Islam in Süd- und Südostasien", „Islam und Kolonialismus", „Entstehung der gegenwärtigen Staatenwelt", „politische Ideologie in der neuzeitlichen islamischen Welt" und „die islamische Diaspora" benennen und erläutern.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Geschichte und Kultur des Islams II (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements: Grundkenntnisse der neueren islamischen Geschichte mit den Schwerpunkten „Nordafrika", „Osmanisches Reich", „Iran nach 1500", „der Islam in Süd- und Südostasien", „Islam und Kolonialismus", „Entstehung der gegenwärtigen Staatenwelt", „politische Ideologie in der neuzeitlichen islamischen Welt", „die islamische Diaspora".	

Admission requirements: none	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Prof. Dr. Irene Schneider
Course frequency: alle vier Semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 4
Maximum number of students: 70	

| Georg-August-Universität Göttingen | 3 C |
| Module SK.Ara.22-2: Islamic Law | 2 WLH |

Learning outcome, core skills:	Workload:
Nach erfolgreicher Teilnahme an diesem Modul können die Studierenden die Grundlagen der Entwicklung der islamischen Rechtswissenschaft (fiqh) mit den Schwerpunkten „Rechtsquellen", „Entwicklung in der Frühzeit", „die Rechtsschulen", „die Sonderentwicklung des schiitischen Rechts", „Rechtsentwicklung im Zeitalter des Kolonialismus" und „moderne Nationalstaaten und islamische Rechtsfiguren" wie auch „islamisches Recht in Europa" zu benennen und zu erläutern.	Attendance time: 28 h Self-study time: 62 h

Course: "Islamisches Recht" (Lecture)	2 WLH
Examination: Written examination (60 minutes)	3 C

Examination requirements:	
Grundkenntnisse der Entwicklung des islamischen Rechts,Grundlagen der Entwicklung der islamischen Rechtswissenschaft (fiqh) mit den Schwerpunkten „Rechtsquellen", „Entwicklung in der Frühzeit", „die Rechtsschulen", „die Sonderentwicklung des schiitischen Rechts", „Rechtsentwicklung im Zeitalter des Kolonialismus" und „moderne Nationalstaaten und islamische Rechtsfiguren" wie auch „islamisches Recht in Europa".	

Admission requirements: none	Recommended previous knowledge: none
Language: German	Person responsible for module: Prof. Dr. Irene Schneider
Course frequency: alle vier Semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester: 1 - 4
Maximum number of students: 70	

Georg-August-Universität Göttingen **Module SK.Ara.526-1: Second Language of the Arab and Muslim World I**	6 C 4 WLH

Learning outcome, core skills: Upon successful completion of this module, students are able to read and write the script of the language taught. They will also be capable to understand the basic rules of the phonetics, syllable structure, morphology, word formation and syntax of the respective language, and apply them in simple exercises and translation situations. They furthermore have a basic knowledge of the vocabulary of the respective language.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Language course	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Mastery of the script of the language taught. Knowledge of the main elements of the grammar and word formation as well as the basic vocabulary of the respective language. Active application of this knowledge in exercises and translations.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: Infrequently	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module SK.Ara.526-2: Second Language of the Arab and Muslim World II	4 WLH

Learning outcome, core skills:	Workload:
Upon successful completion of this module (a continuation of SK.Ara.526-1), students are able to explain the rules of the morphology, word formation and syntax of the language taught at an advanced level. They are also capable – in the case of modern languages – of having short conversations and of communicating at a basic level with a solid vocabulary, or – in the case of ancient languages – of understanding and translating simple texts.	Attendance time: 56 h Self-study time: 124 h

Course: Language course	4 WLH
Examination: Written examination (90 minutes) **Examination prerequisites:** regular participation **Examination requirements:** Advanced knowledge of the main elements of the grammar and word formation of the language taught. Substantial basic vocabulary of the respective language. Active use in exercises and translations.	6 C

Admission requirements:	Recommended previous knowledge:
SK.Ara.526-1	none
Language: English	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: Infrequently	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.Ara.701: Arabic Language Course in the Middle East**	6 C

Learning outcome, core skills: Students actively participate in an Arabic language course (online or in presence) offered at one of our partner universities or another accredited academic institute in North Africa or the wider Middle East. They gain skills to using Arabic actively as an academic language, orally and in writing. Students thus acquire firsthand access to the understanding of the cultural diversity and the intellectual pluralism within modern Arab societies, which broadens their intercultural skills and enables them to participate actively and constructively in public debates concerning Islamicate societies.	**Workload:** Attendance time: 0 h Self-study time: 180 h

Course: Arabic language course	
Examination: Written examination (60 minutes) or oral examination (approx. 20 minutes) **Examination prerequisites:** Proof of successful attendance of a language course (minimum 56 hours per semester) in text form **Examination requirements:** Evidence of Arabic language proficiency, orally and in writing.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: Arabisch	**Person responsible for module:** Akram Bishr
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.Ara.702: Arabic-Islamic Studies Abroad**	6 C

Learning outcome, core skills: Students actively participate in an Arabic and/or Islamic studies seminar taught in Arabic (online or in presence) at one of our partner universities or another accredited academic institution in North Africa or the wider Middle East. They improve their skills to use Arabic actively as an academic language and familiarize themselves with respective methods and theories. Students thus acquire an advanced understanding of the cultural diversity and the intellectual pluralism within modern Arab societies, which broadens their intercultural skills and enables them to participate actively and constructively in public debates concerning Islamicate societies.	**Workload:** Attendance time: 0 h Self-study time: 180 h

Course: Arabic language seminar	
Course: Independent Studies	

Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** Proof of successful attendance (at least 56 hours per semester) in text form **Examination requirements:** Students will be able to contribute to scholarly discussions in Arabic and deliver an oral presentation.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: Arabisch	**Person responsible for module:** Prof. Dr. Kata Moser
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.Bio-NF.7001: Neurobiology**	3 C 2 WLH

Learning outcome, core skills: The students should acquire comprehension in form and function of neurons and their anatomical and physiological features (genetics, subcellular organization, resting membrane potential, action potential generation, stimulus conduction, transmitter release, ion channels, receptors, second messenger cascades, axonal transport). The students acquire knowledge of the physiological basics of sensory systems (olfactory, gustatory, acoustic, mechanosensory and visual perception) as well as motor control. Based on this the students educe understanding for the relation between neuronal circuits and simple modes of behavior (central pattern generators, reflexes, and taxis movements). The students should conceptually learn how neuronal connections are modified by experience (cellular mechanisms of learning and memory) and should learn different types of modification of behavior based on experience and neuronal substrates. The students should acquire fundamental insight into the organization and function of brains and autonomous nervous systems of mammals and invertebrates. The neurobiological basis of behavioral control (orientation, communication, circadian rhythm and sleep as well as motivation and metabolism) is explained. The students will learn physiological and cellular mechanisms of aging and of neurodegenerative diseases.	**Workload:** Attendance time: 30 h Self-study time: 60 h

Course: Neurobiology (Lecture)	2 WLH
Examination: Written examination (90 minutes)	3 C

Examination requirements: The students should have the ability to assess coherence and facts of statements from the field of neurobiology; they should be able to answer questions on the structure and function of neurons and neuronal circuits. Furthermore they should be able to describe and compare neuronal basics of behavioral control, their experience-dependent modification and conceptual mechanisms of complex behavior; they should be able to describe and compare physiological mechanisms of sensory perception and different sensory modalities; they should be able to describe physiological and cellular mechanisms of aging and of neurodegenerative diseases.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in Biology
Language: English	**Person responsible for module:** Prof. Dr. Andre Fiala
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 30	

Additional notes and regulations:

The combination of this module with module SK.Bio.7001 is not possible.

Georg-August-Universität Göttingen **Module SK.Bio.7001: Neurobiology**	6 C 4 WLH

Learning outcome, core skills: The students should acquire comprehension in form and function of neurons and their anatomical and physiological features (genetics, subcellular organization, resting membrane potential, action potential generation, stimulus conduction, transmitter release, ion channels, receptors, second messenger cascades, axonal transport). The students acquire knowledge of the physiological basics of sensory systems (olfactory, gustatory, acoustic, mechanosensory and visual perception) as well as motor control. Based on this the students educe understanding for the relation between neuronal circuits and simple modes of behavior (central pattern generators, reflexes, and taxis movements). The students should conceptually learn how neuronal connections are modified by experience (cellular mechanisms of learning and memory) and should learn different types of modification of behavior based on experience and neuronal substrates. The students should acquire fundamental insight into the organization and function of brains and autonomous nervous systems of mammals and invertebrates. The neurobiological basis of behavioral control (orientation, communication, circadian rhythm and sleep as well as motivation and metabolism) is explained. The students will learn physiological and cellular mechanisms of aging and of neurodegenerative diseases.	**Workload:** Attendance time: 30 h Self-study time: 150 h

Course: Neurobiology (Lecture)	2 WLH
Course: Neurobiology (Seminar)	2 WLH

Examination: Written examination (90 minutes) **Examination prerequisites:** regular seminar participation and oral presentation (not graded)	6 C

Examination requirements: The students should have the ability to assess coherence and facts of statements from the field of neurobiology; they should be able to answer questions on the structure and function of neurons and neuronal circuits. Furthermore they should be able to describe and compare neuronal basics of behavioral control, their experience-dependent modification and conceptual mechanisms of complex behavior; they should be able to describe and compare physiological mechanisms of sensory perception and different sensory modalities; they should be able to describe physiological and cellular mechanisms of aging and of neurodegenerative diseases.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in Biology
Language: English	**Person responsible for module:** Prof. Dr. Andre Fiala
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6

Maximum number of students: 30	

Georg-August-Universität Göttingen **Module SK.Bio.7002: Basic virology**	3 C 2 WLH

Learning outcome, core skills: The students will become familiar with the architecture of viruses and will learn how these agents replicate and evade the immune response of the host. Moreover, it will be discussed how viruses cause disease and how this process can be prevented by antivirals and vaccines. The lectures will focus on important human pathogens, including HIV, influenza and herpesviruses. Upon successful completion of the module, the students will be able to classify viruses and will have an understanding of central mechanisms underlying virus replication and pathogenesis and their inhibition by therapy and vaccination.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Basic Virology (Lecture)	2 WLH
Examination: Written examination (45 minutes)	3 C

Examination requirements: The students must assess whether statements regarding basic aspects of virology, including virus classification, viral replication, virus-host interactions, pathogenesis, immune evasion and antiviral therapy and vacciantion, are correct.	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge in Biology
Language: English	**Person responsible for module:** Prof. Dr. Stefan Pöhlmann
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 100	

Georg-August-Universität Göttingen **Module SK.Bio.7004: Environmental microbiology**	3 C 2 WLH

Learning outcome, core skills: The students will acquire a comprehensive understanding of basic microbial processes in the environment. Students will learn how microorganisms are effective in biogeochemical cycles and how these cycles evolved in Earth's history and shaped our biosphere. They will gain knowledge about important microbial habitats (terrestrial/ aquatic/extreme), and their microbial diversity. They will be introduced in the application of microorganisms in bioremediation and environmental biotechnology.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Environmental microbiology (Lecture)	2 WLH
Examination: Oral Presentation (approx. 5 minutes)	3 C

Examination requirements: Revising a specific topic in environmental microbiology, compilation of data and preparation/short presentation of a scientific poster.	

Admission requirements: B.Bio.118	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Rolf Daniel PD Dr. Michael Hoppert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 25	

Georg-August-Universität Göttingen **Module SK.Bio.7005: Methods for the identification of protein-protein interactions**	3 C 2 WLH

Learning outcome, core skills: The students obtain basic knowledge of the identification of protein-protein interactions. In small groups and in different departments of the Institute of Microbiology and Genetics, they learn the application of selected methods that they present to their fellow students in a concluding seminar at the end of the course. Through the successful participation in the course the students get an overview on different methods for the identification of protein-protein interactions and improve their English communication skills in the lab and in seminars.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Practical course in the participating groups of the Institute of Microbiology and Genetics	2 WLH
Examination: Oral Presentation (approx. 15 minutes), not graded **Examination prerequisites:** Regular participation in the practical course	3 C

Examination requirements: The students should present and discuss the applied method for the identification of protein-protein interactions (e.g. immunoprecipation, affinity chromatography, bimolecular fluorescence complementation, immunoelectron microscopy) in English.	

Admission requirements: Successful participation in <u>one</u> of the following biological basic modules: B.Bio.129 Genetics and microbial cell biology B.Bio.118 Microbiology B.Bio.112 Biochemistry	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Oliver Valerius
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module SK.Bio.7007: Methods in molecular virology**	3 C 2 WLH

Learning outcome, core skills: The students are introduced to the repertoire of methods used in virological research and diagnostics. The course focuses on current developments and seminal experiments from the past. The students will train their ability to extract scientific methods from the literature by themselves and to devise their own strategies to tackle a scientific problem. Students are encouraged to develop their own strategies to solve a specific problem and to discuss their strategies with their fellow students. The students are encouraged to come up with alternative approaches. The students' solutions are compared to published techniques, which are presented in the form of a short talk by a student or the teacher.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Methods in molecular virology (Seminar)	2 WLH
Examination: Lecture (approx. 30 minutes), not graded **Examination prerequisites:** Regular participation in the seminar	3 C

Examination requirements: Understanding and scientific presentation of methods in molecular virology in a seminar talk (approx. 20 minutes) with subsequent discussion (approx. 10 minutes).	

Admission requirements: none	**Recommended previous knowledge:** basic knowledge in virology (e.g. SK.Bio.7002), basic knowledge in molecular biology
Language: English	**Person responsible for module:** Dr. Alexander Hahn
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 4 - 6
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.Bio.7008: Molecular biology of HIV replication and pathogenesis**	2 C 1 WLH

Learning outcome, core skills: The students will learn the molecular mechanisms underlying the different steps of HIV replication, including entry, reverse transcription, genome integration, gene expression, assembly, release and maturation. Moreover, innate antiviral defenses and viral countermeasures will be discussed. In addition, insights into humoral immune responses against HIV and challenges associated with the generation of an effective vaccine will be provided. Finally, concepts and components of antiretroviral therapy will be introduced and the zoonotic origin of HIV will be discussed. Students attending the lectures will acquire an understanding of central mechanisms underlying HIV replication and pathogenesis and their blockade by immune responses and antiviral therapy.	**Workload:** Attendance time: 14 h Self-study time: 46 h

Course: Molecular biology of HIV replication and pathogenesis (Lecture)	1 WLH
Examination: Written examination (45 minutes)	2 C

Examination requirements: The students should be able to respond to questions concerning basic aspects of HIV replication, pathogenesis, immune responses and antiviral therapy.	

Admission requirements: none	**Recommended previous knowledge:** SK.Bio.7002
Language: English	**Person responsible for module:** Prof. Dr. Stefan Pöhlmann
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Module SK.Bio.7009: Learning with a core facility - protein analytics using mass spectrometry**	3 C 3 WLH

Learning outcome, core skills: In the first part of the course, the students get an introduction to the analysis of proteins using liquid chromatography-coupled mass spectrometry (LCMS), and they will prepare peptide samples themselves for this analysis technique in a practical part. Protein samples derive from current projects of different research groups at the Göttingen Campus. In the second part, the students will learn how to analyze the LCMS raw data for identification and relative quantification of proteins. Approaches for the statistical validation of the results will be introduced. The students will get the opportunity to analyze data on their own with state-of-the-art software tools. They will present their results of their project to their fellow students in a concluding seminar at the end of the course.	**Workload:** Attendance time: 40 h Self-study time: 50 h

Course: Protein analytics using mass spectrometry (Course) Practical course and data analysis software training are supervised by members of two core facilities – LCMS Protein Analytics and Medical Biometry and Statistical Bioinformatics	3 WLH
Examination: Oral Presentation (approx. 15 minutes), not graded **Examination prerequisites:** Regular participation in the practical course	3 C

Examination requirements: The students should present the results of their experiment in English.	

Admission requirements: none	**Recommended previous knowledge:** B.Bio.129 or B.Bio.118 or B.Bio.112 or equivalent Practical experience with protein techniques (e.g. SDS-PAGE)
Language: English	**Person responsible for module:** Dr. Oliver Valerius
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 5 - 6
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.A1.1-4Std: German Language Course - A1.1**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden können - einige vertraute, alltägliche Ausdrücke und einfache Sätze verstehen und verwenden, die auf die Befriedigung konkreter Bedürfnisse im täglichen Leben und im Leben auf dem Campus zielen; - sich und andere vorstellen und ihren Gesprächspartner*innen Fragen zu ihrer Person stellen z.B. wo sie wohnen, welche Menschen sie kennen oder welche Dinge sie bei sich haben – und können auf Fragen dieser Art Antwort geben; - sich auf einfache Art verständigen, wenn die Gesprächspartner*innen langsam und deutlich sprechen und den Lernenden helfen.	**Workload:** Attendance time: 48 h Self-study time: 132 h

Course: Deutsch - Sprachkurs A1.1	4 WLH
Examination: Written examination (60 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als drei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen dem Niveau A1.1 (GER) entsprechende Kompetenzen in Hör-Seh- und Leseverstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	6 C

Admission requirements: keine	**Recommended previous knowledge:** keine
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module SK.DaF.A1.2-4Std: German Language Course - A1.2	4 WLH

Learning outcome, core skills:	**Workload:**
Die Studierenden können	Attendance time:
	48 h
• viele vertraute, alltägliche Ausdrücke und einfache Sätze verstehen und verwenden, die auf die Befriedigung konkreter Bedürfnisse im täglichen Leben und auf dem Campus zielen;	Self-study time: 132 h
• sich und andere vorstellen und Gesprächspartner*innen Fragen zu ihrer Person stellen, z. B. zu den Themen Pläne und Termine, Gesundheit, Lebensgewohnheiten, und können auf Fragen dieser Art Antwort geben;	
• sich auf einfache Art verständigen, wenn die Gesprächspartner*innen langsam und deutlich sprechen und den Lernenden helfen.	

Course: Deutsch - Sprachkurs A1.2	4 WLH
Examination: Written examination (60 minutes)	6 C
Examination prerequisites:	
regelmäßige Teilnahme mit nicht mehr als drei Fehlsitzungen	
Examination requirements:	
Die Studierenden besitzen dem Niveau A1.2 (GER) entsprechende Kompetenzen in Hör-Seh- und Leseverstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	

Admission requirements:	**Recommended previous knowledge:**
Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	none
Language:	**Person responsible for module:**
German	Dr. Melanie Brinkschulte
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

| Georg-August-Universität Göttingen | 6 C |
| Module SK.DaF.A2.1-4Std: German Language Course - A2.1 | 4 WLH |

Learning outcome, core skills:	Workload:
Die Studierenden können:	**Attendance time:**
	48 h
• Sätze und häufig gebrauchte Ausdrücke verstehen, die Bereiche von ganz unmittelbarer Bedeutung thematisieren, z.B. persönliche Informationen über den eigenen Alltag und Studienleben;	**Self-study time:** 132 h
• sich in einfachen, routinemäßigen Situationen verständigen, in denen es um einen einfachen und direkten Austausch von Informationen über vertraute und geläufige Sachverhalte geht;	
• mit einfachen Mitteln die eigene Herkunft und Ausbildung, die direkte Umgebung und Sachverhalte im Zusammenhang mit unmittelbaren Bedürfnissen beschreiben, z.B. Mensabesuch.	

Course: Deutsch - Sprachkurs A2.1	4 WLH
Examination: Written examination (60 minutes)	6 C
Examination prerequisites:	
regelmäßige Teilnahme mit nicht mehr als drei Fehlsitzungen	
Examination requirements:	
Die Studierenden besitzen dem Niveau A2.1 (GER) entsprechende Kompetenzen in Grammatik, Wortschatz, Phonetik sowie in Hör- und Leseverstehen und Schreiben.	

Admission requirements:	Recommended previous knowledge:
Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	none
Language:	**Person responsible for module:**
German	Dr. Melanie Brinkschulte
Course frequency:	**Duration:**
each semester	1 semester[s]
Number of repeat examinations permitted:	**Recommended semester:**
twice	
Maximum number of students:	
20	

Georg-August-Universität Göttingen **Module SK.DaF.A2.2-4Std: German Language Course - A2.2**	6 C 4 WLH

Learning outcome, core skills: Die Studierenden können: • Sätze und häufig gebrauchte Ausdrücke verstehen, die mit Bereichen von ganz unmittelbarer Bedeutung zusammenhängen z.B. persönliche Informationen, allgemeine Informationen im Alltag und Studienleben, Kommunikation auf dem Campus; • sich in einfachen, routinemäßigen Situationen verständigen, in denen es um einen einfachen und direkten Austausch von Informationen über vertraute und geläufige Dinge geht; • mit einfachen Mitteln die eigene Herkunft und Ausbildung, die direkte Umgebung und Dinge im Zusammenhang mit unmittelbaren Bedürfnissen beschreiben.	**Workload:** Attendance time: 48 h Self-study time: 132 h

Course: Deutsch - Sprachkurs A2.2	4 WLH
Examination: Written examination (60 minutes) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als drei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen dem Niveau A2.2 (GER) entsprechende Kompetenzen in Grammatik, Wortschatz, Phonetik sowie in Hör- und Leseverstehen und Schreiben.	6 C

Admission requirements: Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.FW-B1-4Std: Business German I**	6 C 4 WLH

Learning outcome, core skills: Lernziele sind die Verbesserung der fachbezogenen mündlichen (argumentieren, diskutieren, vortragen) sowie schriftlichen (Verfassen von Berichten, Protokollen) Kommunikationsfähigkeit, die Erweiterung und Vertiefung des wirtschaftswissenschaftlichen Wortschatzes sowie die Förderung des fachbezogenen Lese- und Hörverstehens. Die Grundlage bilden aktuelle wirtschaftswissenschaftlich relevante Themen. Dieses Modul ist insbesondere geeignet für Studierende der Wirtschaftswissenschaften.	**Workload:** Attendance time: 56 h Self-study time: 124 h

Course: Deutsch als Fremdsprache - Wirtschaftsdeutsch I	4 WLH

Examination: Written examination (90 minutes)	6 C

Admission requirements: Einstufungstest mit einem geeigneten Ergebnis	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Horst Liedtke
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module SK.DaF.FW-B2-4Std: Business german II	4 WLH

Learning outcome, core skills:	**Workload:**
Lernziele sind die Verbesserung der Lesekompetenz anhand aktueller wirtschaftswissenschaftlicher Texte, der Hörverstehenskompetenz (Texte, Radio- und Fernsehaufzeichnungen), der Sprechkompetenz (Klein-gruppenvorträge, Simulation eines Geschäftstreffens, Diskussionen) sowie Vertiefung der Schreibkompetenz durch textsortenorientierte Aufgaben (Verfassen eines Berichts oder einer Mitarbeiterbeurteilung). Dabei soll der fachsprachlich relevante Wortschatz vertieft und erweitert werden. Grundlage bilden ausgewählte wirtschaftswissenschaftlich relevante Themen. Dieses Modul ist insbesondere geeignet für Studierende der Wirtschaftswissenschaften.	Attendance time: 56 h Self-study time: 124 h

Course: Deutsch als Fremdsprache - Wirtschaftsdeutsch II	4 WLH

Examination: Written examination (90 minutes)	6 C

Admission requirements: Deutschkenntnisse auf B2-Niveau	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Horst Liedtke
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.Fi-C-1: -German Film - Advanced**	3 C 2 WLH

Learning outcome, core skills: Die Studierenden können: • sich über aktuelle Filme informieren und dazu begründet Stellung nehmen • die Filme verstehen und sich mit den darin behandelten Themen und der Art ihrer Darstellung argumentativ mündlich oder schriftlich auseinandersetzen	**Workload:** Attendance time: 26 h Self-study time: 64 h

Course: Deutscher Film Oberstufe *Course frequency:* each semester	4 WLH

Examination: Oral examinationReferat (approx. 30 minutes) **Examination requirements:** Die Studierenden besitzen Kenntnisse zu deutschen Filmen sowie Sprech- und Hörverstehenskompetenz auf C1-Niveau.	3 C

Admission requirements: Einstufungstest mit einem geeigneten Ergebnis	**Recommended previous knowledge:** Deutschkenntnisse auf C1-Niveau
Language: German	**Person responsible for module:** Horst Liedtke Lehrkräfte des Lektorats Deutsch als Fremdsprache
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 1 - 6; Master: 1 - 4
Maximum number of students: 20	

Additional notes and regulations: Lektorat Deutsch als Fremdsprache

Georg-August-Universität Göttingen **Module SK.DaF.Gr-B1-2Std: German Grammar B1**	3 C 2 WLH

Learning outcome, core skills: Die Studierenden besitzen in Grammatik eine Kompetenz auf B1-Niveau (GER) und können • ein Repertoire von häufig verwendeten Redefloskeln und Wendungen, die sie für das Leben auf dem Campus benötigen, ausreichend korrekt verwenden.	**Workload:** Attendance time: 24 h Self-study time: 66 h

Course: Deutsch Grammatik B1	2 WLH
Examination: Learning journal (max. 4 pages) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen in Grammatik eine Kompetenz auf B1-Niveau (GER).	3 C

Admission requirements: Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	Recommended previous knowledge: none
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.Gr-B2-2Std: German Grammar B2**	3 C 2 WLH

Learning outcome, core skills: Die Studierenden besitzen in Grammatik eine Kompetenz auf B2-Niveau (GER). Sie beherrschen die Grammatik so, dass sie diese auf die Kommunikation im Studium und Studienleben weitgehend fehlerfrei anwenden können.	**Workload:** Attendance time: 24 h Self-study time: 66 h

Course: Deutsch Grammatik B2	2 WLH
Examination: Learning journal (max. 6 pages) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen in Grammatik eine Kompetenz auf B2-Niveau (GER).	3 C

Admission requirements: Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	3 C
Module SK.DaF.Gr-C1-2Std: German Grammar C1	2 WLH

Learning outcome, core skills:	Workload:
Die Studierenden besitzen in Grammatik eine Kompetenz auf C1-Niveau (GER) und können im Kontext von Studium und Studienleben beständig ein hohes Maß an grammatischer Korrektheit beibehalten.	Attendance time: 24 h Self-study time: 66 h

Course: Deutsch Grammatik C1	2 WLH
Examination: Learning journal (max. 10 pages) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen in Grammatik eine Kompetenz auf C1-Niveau (GER).	3 C

Admission requirements:	Recommended previous knowledge:
Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	none
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	3 C
Module SK.DaF.LK1-B2-2Std: German Discursive Cultural Studies B2	2 WLH

Learning outcome, core skills:	Workload:
Die Studierenden können:	Attendance time:
	28 h
• ausgewählte Aspekte (hochschul)politischer, wirtschaftlicher und rechtlicher Systeme in ihrer Kulturenbedingtheit erkennen und in Ansätzen reflektieren;	Self-study time: 62 h
• sich über aktuelle Fragen in diesen Bereichen informieren und dazu in Ansätzen mündlich und schriftlich Stellung nehmen;	
• in vertrauten Situationen interkulturell kompetent sprachlich und nonverbal handeln und ggf. auf Konfliktsituationen eingehen.	

Course: Deutsch - Diskursive Landeskunde im Studium und Studienleben B2	2 WLH
Examination: Learning journal (max. 8 pages)	3 C
Examination prerequisites:	
regelmäßige Teilnahme mit nicht mehr als drei Fehlsitzungen	
Examination requirements:	
Die Studierenden besitzen dem Niveau C1 (GER) entsprechende Kompetenzen in Hör-Seh- und Lese-Verstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	

Admission requirements:	Recommended previous knowledge:
Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorherigen Niveaustufe	keine
Language: German, English	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.SP-B2/C1-1Std: Communication Skills in Action B2/ C1**	1 C 1 WLH

Learning outcome, core skills: Die Studierenden können • sich über ausgewählte aktuelle Themen kommunikativ verständigen und dabei angemessene Medien nutzen.	**Workload:** Attendance time: 14 h Self-study time: 16 h

Course: Deutsch - Sprachpraxis B2/C1	1 WLH
Examination: Projektarbeit (Entsprechend ihres Sprachniveaus fertigen die Studierenden eine Projektarbeit an, in der sie bearbeitete Themen medial aufbereiten, z.B. als Podcast. Sie reflektieren ihre Tätigkeit im Umfang von max. 1 Seite.) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen ab dem Niveau B2 (GER) entsprechende Kompetenzen in Hör-Seh- und Leseverstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	1 C

Admission requirements: Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	**Recommended previous knowledge:** keine
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen **Module SK.DaF.SP-B2/C1-2Std: Communication Skills in Action B2/C1**	3 C 2 WLH

Learning outcome, core skills: Die Studierenden können • sich über ausgewählte aktuelle Themen kommunikativ verständigen und dabei angemessen nutzen.	**Workload:** Attendance time: 28 h Self-study time: 62 h

Course: Deutsch - Sprachpraxis B2/C1	2 WLH
Examination: Projektarbeit (Entsprechend ihres Sprachniveaus fertigen die Studierenden eine Projektarbeit an, in der sie bearbeitete Themen medial aufbereiten, z.B. als Podcast. Sie reflektieren ihre Tätigkeit im Umfang von max. 2 Seiten.) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen ab dem Niveau B2 (GER) entsprechende Kompetenzen in Hör-Seh- und Leseverstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	3 C

Admission requirements: Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	**Recommended previous knowledge:** keine
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen	6 C
Module SK.DaF.SP-B2/C1-4Std: Communicational Skills in Action B2/C1	4 WLH

Learning outcome, core skills:	Workload:
Die Studierenden können • sich über ausgewählte aktuelle Themen kommunikativ verständigen und dabei angemessene Medien nutzen.	Attendance time: 56 h Self-study time: 124 h

Course: Deutsch - Sprachpraxis B2/C1	4 WLH
Examination: Projektarbeit (Entsprechend ihres Sprachniveaus fertigen die Studierenden eine Projektarbeit an, in der sie bearbeitete Themen medial aufbereiten, z.B. als Podcast. Sie reflektieren ihre Tätigkeit im Umfang von max. 4 Seiten.) **Examination prerequisites:** regelmäßige Teilnahme mit nicht mehr als zwei Fehlsitzungen **Examination requirements:** Die Studierenden besitzen ab dem Niveau B2 (GER) entsprechende Kompetenzen in Hör-Seh- und Leseverstehen, im Schreiben und Sprechen, in Grammatik sowie in Phonetik. In der Abschlussprüfung werden ausgewählte Kompetenzbereiche des Sprachniveaus geprüft.	6 C

Admission requirements:	Recommended previous knowledge:
Einstufungstest mit entsprechendem Ergebnis oder Belegung einer vorhergehenden Niveaustufe	keine
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Georg-August-Universität Göttingen Module SK.Eng.Beruf01: Literary Reception and Mediation	6 C 1 WLH

Learning outcome, core skills:	Workload:
Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	Attendance time: 14 h Self-study time: 166 h

Course: Attendance at two lectures on topics from the field of Anglophone Literature and Culture	
Course: Attendance at two readings on texts in the field of Anglophone Literature and Culture	
Course: Visit to a theater or opera production on a text in Anglophone literature	

Examination: Learning journal (max. 3000 words), not graded Examination requirements: • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format Content of Portfolio: Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; Short presentation (about 10 min.)	6 C

Course: Block seminar or self-study unit *Contents*: Brief presentation of subject matter, as well as critical reflection on the events attended; work on literary-sociological issues and theories.	1 WLH

Admission requirements:	Recommended previous knowledge:
none	none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Georg-August-Universität Göttingen **Module SK.Eng.Beruf02: Perspectives on the Literature and Culture Industries**	12 C 1 WLH

Learning outcome, core skills: Students enhance their knowledge about the approach to different areas of the literary and cultural industry. They reflect the specific approaches of the literary and cultural industry for non-scientific recipients. They acquire an overview of which texts and authors are absorbed by society. They improve their understanding of what target groups literary events aim at and learn to critically reflect on those events. In cooperation with the host institution, an internship may be utilized for a research-based master thesis.	**Workload:** Attendance time: 14 h Self-study time: 346 h

Course: Internship in a "Literary Business" (8-12 weeks, domestic or abroad) (e.g with a publishing company; for instance the Literarisches Zentrum, Göttingen, the Literaturherbst, a "literary business" outside Göttingen; in a museum (also non literary); in the area of cultural management with a cultural organisation; with a theatre)	

Examination: Internship report (max. 4000 words), not graded **Examination prerequisites:** Nachweis der Kenntnis literatursoziologischer Theorien **Examination requirements:** The internship report helps students to systematically document and reflect upon their internship experiences, and allows them to show that they know the specific challenges of the literature and culture industry, especially with regard to authors and publishing houses. Secondly, it allows them to show that they can critically reflect upon the realisation of the different formats, which they encounter. Furthermore, they show their abilities to adapt to the typical and untypical situations of the literature and culture industry and present their copying strategies, which they have developed for these situations. Foci of the internship report: • documentation of the internship: Students describe the most important experiences and situations of their internship. • reflections of the practical insights gained In the second part of the internship report students analyse and reflect upon their new findings and experiences. Further, they critically think about and evaluate their findings with regard to their distinct role during their internship, as well as their studies, the literature and culture industry and their later potential field of work.	12 C

Course: Block Seminar *Contents*: Activity brief as well as a critical reflection on the marketing of English-speaking writers and their works in the literary scene; development of topics and theories concerning the sociology of literature	1 WLH

Admission requirements:	**Recommended previous knowledge:**

1320

none	none
Language: English, German	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: winter or summer semester, on demand	**Duration:** 1-2 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 3

Additional notes and regulations:
Das Modul kann nicht parallel zu SK.Eng.Beruf20 belegt werden.

Georg-August-Universität Göttingen **Module SK.Eng.Beruf03: Forms of Literary Reception/s: Edinburgh Festivals**	6 C 2 WLH

Learning outcome, core skills: Students extend their knowledge of the everyday use and reception of various text types in the print media and culture industry. They get to know the international literary scene better by visiting events and thereby acquiring knowledge on the marketing of texts and authors. In addition, they acquire practical skills in a possible future professional area.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Visit to two or three literary museums or places of literary importance in or around Edinburgh *Contents*: e.g. Writers' Museum; Abbotsford House; Lewis Grassic Gibbon Centre; Burns' House	
Course: Attendance at/participation in one or two guided tours with a or on a literary topic *Contents*: e.g. City of Literature Tour; Rebus Tour; 44 Scotland Street Tour; if only one two places/museums are chosen, students must take part in two tours	
Course: Visit to three events at the Edinburgh International Book Festival After consulting with the person responsible for the module, one of these events may be exchanged for an Edinburgh Fringe Festival event or an Edinburgh International Festival event.	
Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** • Reflection on the relationship between text / author and audience • Critical examination of the implementation of the relevant format **Content of Portfolio:** Reviews, summaries, self-written newspaper articles / blogs / podcasts on the attended events incl. background research and critical reflection; short presentation (about 10 min.)	6 C
Course: Summer School course or self-study unit on aspects of cultural history or cultural theory *Contents*: aspects of the cultural specifics of Edinburgh, with a focus on the literature and culture industries in and around Edinburgh	2 WLH

Admission requirements: none	Recommended previous knowledge: none
Language: English, German	Person responsible for module: Prof. Dr. Barbara Schaff
Course frequency: each summer semester	Duration: 1 semester[s]

Number of repeat examinations permitted:	Recommended semester:
twice	1 - 3

Georg-August-Universität Göttingen **Module SK.Eng.Beruf04: The Grimm Brothers in Literary Reception and Mediation**	6 C 1 WLH

Learning outcome, core skills: Students deepen their knowledge of the everyday use and reception of various text types in the print media and culture industry.They know different types of literary museums and guided tours with reference to the Grimm Brothers. They can critically reflect on how different institutions and events in the literature business reach out to audiences, focusing on an internationally acclaimed author pair, also with an international perspective.	**Workload:** Attendance time: 14 h Self-study time: 166 h

Course: Visit to to museums or places of literary importance with a focus on the Grimm Brothers *Contents*: one of the should be Grimmwelt (Kassel), the other museum/place can be chosen freely (e.g. Steinau or Hanau)	
Course: Visit to a virtual exhibition on the Grimm Brothers	
Course: Participation in two guided tours focusing on the Grimm Brothers *Contents*: e.g. 'Märchenhaftes Göttingen' and 'Brothers Grimm in Kassel' or 'Auf den Spuren der Brüder Grimm in Marburg'; as an alternative to one of them a self-guided tour can be taken, e.g. along the Marburg Grimm-Dich-Pfad	
Course: Visit to a further place or to another event with a focus on the Grimm Brothers	

Examination: Learning journal (max. 3000 words), not graded **Examination requirements:** Contents of the portfolio on places and events: reflecting the presentation and mediation of the Grimm Brothers and their works; critical reflection on the ways and means of the presentation (also in social media channels); considering the canonisation of authors. The portfolio can contain reviews, summaries, self-authored journal or newspaper articles/blog entries/podcasts including background research on the events and places plus a critical overall reflection.	6 C

Course: Blockseminar bzw. Selbstlerneinheit *Contents*: literary-sociological theories and topics focusing on the relationship between author and reader, literary museums, literary tourism; forms of reception and mediation of authors; focusing more particularly on the Grimm Brothers and their works in English-speaking countries around the world If students choose the self-study unit, students are expected to accompany their work through the unit by blog entries (approx. 1000 words).	1 WLH

Admission requirements:	**Recommended previous knowledge:**

none	none
Language: English, German	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: 1	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
Not all museums and events are offered in English or have guided tours in English. Students should have a good working knowledge of German (approx. CEF level B2).

Georg-August-Universität Göttingen	6 C
Module SK.Eng.Beruf20: Career-Oriented Internship	

Learning outcome, core skills:	Workload:
Die Studierenden können Kenntnisse und Techniken aus dem Studium im Fach Englisch/ELLC im Rahmen eines fachnach gewählten Praktikum (Erwachsenenbildung, Museum, Firma/Betrieb, Zeitung/Zeitschrift, Online) anwenden. Sie können den Prozess, ihre Erkenntnisse sowie die eingesetzten Methoden reflektieren. Sie verfügen über einen geeigneten theoretisch-methodischen Bezugsrahmen und können diesen darstellen.	Attendance time: 0 h Self-study time: 180 h

Course: Praxisteil: Praktikum (120 Stunden)	
Contents: mit Blick auf Fachnähe gewähltes Praktikum in einem Betrieb, einer Institution, einer Organisation	
Examination: Internship report (max. 12 pages), not graded	6 C

Examination requirements:	
Studierende können die während eines Praktikums erworbenen berufsorientierenden Kenntnisse und Erfahrungen reflektieren. Sie können ihre Erfahrungen in einen geeigneten theoretisch-methodischen Bezugsrahmen stellen.	

Admission requirements:	Recommended previous knowledge:
Teilnahme an einem Beratungsgespräch zu Praktikumsbereichen; erfolgreiche Bewerbung als PraktikantIn	none
Language: German, English	**Person responsible for module:** Dr. Frauke Reitemeier
Course frequency: each semester1	**Duration:**
Number of repeat examinations permitted: twice	**Recommended semester:** 3 - 6
Maximum number of students: 10	

Additional notes and regulations:
Das Modul kann nicht parallel zu SK.Eng.Beruf02 belegt werden.

Georg-August-Universität Göttingen **Module SK.IKG-IIA.01: Theoretical Foundations of Counseling in Intercultural Contexts**	5 C 2 WLH

Learning outcome, core skills: Die Studierenden kennen theoretische Grundlagen zu Beratungsansätzen in interkulturellen Kontexten. Nach Abschluss des Moduls sind Studierende in der Lage, fundert einen der Schwerpunkte Sprachlernberatung, Schreibberatung in mehrsprachigen Kontexten oder Beratung für interkulturelle Kompetenzen zu wählen. Die Studierenden können ausgewählte Beratungsansätze und -konzepte • sachlich korrekt wiedergeben, • diese gegenüber anderen Ansätzen differenziert darstellen, • begründet kritisieren. Zudem können sie • die wissenschaftlichen Grundlagen auf konkrete Fälle anwenden, um Verlauf und Struktur von Beratungen zu analysieren.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar zum Thema "Ansätze und Konzepte von Beratung in interkulturellen Kontexten" (Seminar)	2 WLH
Examination: Learning journal (max. 20 pages) **Examination requirements:** In dem Portfolio werden wissenschaftsfundiert das eigene Handeln sowie Beratungshandeln reflektiert. Inhalte aus der Lehrveranstaltung werden angewendet und vertieft.	5 C

Admission requirements: Keine	**Recommended previous knowledge:** Studienerfahrungen
Language: German, English	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.IKG-IKK.01Ex: Introduction to Intercultural Competence - graded (for international students)**	4 C 1 WLH

Learning outcome, core skills: Interkulturelle Aspekte erweitern fachspezifische Themen und befördern Wissens- und Erfahrungsaustausch. Interkulturelle Kompetenz ist fächerübergreifend anwendbar und bereichert im persönlichen wie beruflichen Kontext. Nach erfolgreicher Absolvierung des Moduls können Studierende • Aspekte interkultureller Kommunikation definieren und erkennen • Kulturen anhand bekannter theoretischer Modelle beschreiben • Strategien zu erfolgreicher, effektiver interkultureller Kommunikation entwickeln • Grundlegende Konzepte von Verallgemeinerung und Stereotype benennen • Dimensionen interkultureller Kompetenz erklären • Auswirkungen kultureller Einflüsse auf Verhalten und Kommunikation verstehen Themen sind kulturallgemein und interdisziplinär, Methoden interaktiv und teilnehmerorientiert.	**Workload:** Attendance time: 14 h Self-study time: 106 h

Course: Blockveranstaltung	1 WLH
Examination: Portfolio/E-Portfolio (max. 15 pages) **Examination prerequisites:** Teilnahme an der Blockveranstaltung **Examination requirements:** Reflexion eigener kultureller Verständnisse und Einstellungen, theoretische Grundlagen interkultureller Kommunikation, kulturspezifischen Kommunikationsstil erkennen und anpassen. Interkulturelle Kompetenzen reflektieren können und Strategien zur Erweiterung kennen und anwenden können.	4 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: German	**Person responsible for module:** Alexandra Schreiber, MA
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.IKG-IKK.12-1: Intercultural Competence Training Focusing on "Arabic" and "Western" Perspectives (Joint Classroom Format)**	6 C 2 WLH

Learning outcome, core skills:	Workload:
Interkulturelle Aspekte erweitern fachspezifische Themen und befördern den Wissens- und Erfahrungsaustausch. Kulturallgemeine Sensibilisierung zusammen mit aktuellen kulturellen und gesellschaftlichen Fragestellungen der modernen, arabisch-sprachigen Welt schaffen Grundlage für Diskussion und Transfer zu fachspezifischen Themen. Die Durchführung im Joint Classroom Format ermöglicht den Studierenden darüber hinaus den direkten Kontakt und Austausch mit Studierenden aus arabischen Kulturkontexten und gleichzeitig die Erweiterung ihrer digitalen und medialen Kompetenzen. Nach erfolgreicher Absolvierung des Moduls können Studierende • Aspekte interkultureller Kommunikation definieren und Dimensionen interkultureller Kompetenz erklären • Auswirkungen kultureller Einflüsse auf Verhalten und Kommunikation verstehen • Facetten arabisch-sprachiger Gesellschaften des Nahen Ostens und Nordafrikas (MENA-Region) reflektieren • Kulturelle Aspekte des arabisch-sprachigen Raums unter dem Gesichtspunkt von Globalisierung analysieren • Mit arabisch-sprachigen Kommilitoninnen und Kommilitonen in einer Fremdsprache im virtuellen Kontext interagieren und in Kollaboration Projekte planen	Attendance time: 28 h Self-study time: 152 h

Course: Blockveranstaltung (mit Online- und Selbststudien-Einheiten)	2 WLH
Examination: Portfolio/E-Portfolio (zusammen max. 10 Seiten), not graded **Examination prerequisites:** regelmäßige Teilnahme **Examination requirements:** Reflexion eigener kultureller Verständnisse und Einstellungen, Kenntnisse der theoretischen Grundlagen interkultureller Kommunikation, Aspekte des modernen arabisch-sprachigen Raums zu Kultur, Gesellschaft, globalen Verbindungen mit Perspektive von Globalisierung analysieren	6 C

Admission requirements:	Recommended previous knowledge:
none	Kulturelle und gesellschaftliche Hintergründe des modernen arabisch-sprachigen Raums; virtuelle Kommunikationsplattformen, z.B. Zoom
Language: German, English	**Person responsible for module:** Alexandra Schreiber, MA
Course frequency:	**Duration:**

unregelmäßig	1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 2
Maximum number of students: 15	

Additional notes and regulations:
Angebot in Zusammenarbeit mit Lehrenden des Seminars für Arabistik/Islamwissenschaft I

Georg-August-Universität Göttingen **Module SK.IKG-IKK.15: Serious Games for Intercultural Competencies**	4 C 2 WLH

Learning outcome, core skills: After successfully participating in this workshop, participants have the ability to • define and reflect intercultural competencies in general and in specific contexts, • reflect on own intercultural competencies and communication skills, • define learning outcomes for learning units intercultural competencies, • define facets of serious games as a method to create intercultural learning units, • define potential and limits of serious games for intercultural learning, • understand and reflect on the mutual influence of methods, participants and trainers.	**Workload:** Attendance time: 14 h Self-study time: 106 h

Course: Block Course *Course frequency:* irregular	2 WLH
Examination: Learning journal (max. 15 pages), not graded **Examination requirements:** Knowledge about culture, intercultural competencies and serious games. Reflection and understanding subconscious structures of culture.	4 C

Admission requirements: None	**Recommended previous knowledge:** Interest in play, digital learning and intercultural communication
Language: English	**Person responsible for module:** Alexandra Schreiber, MA
Course frequency: irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module SK.IKG-IKK.16: Intercultural Competencies in Virtual Exchange (English Language)**	4 C 2 WLH

Learning outcome, core skills: Intercultural competencies are at the core of thriving in international, cross-cultural contexts by taking perspective, communicating effectively and exchanging knowledge and experiences. This workshop is project-based and being conducted in a virtual exchange setting with the opportunity for relevant and authentic intercultural exchange within interdisciplinary diverse student cohorts to broaden intercultural competencies and 21st century skills. Upon completion of this course, participants will be able to: • Determine theoretical frameworks for intercultural communication and competencies and apply these to own projects. • Understand their own cultural background and compare cultural elements and expectations with the international, intercultural student cohort. • Analyze how cultural elements influence perception and behavior. • Develop communicative competence, critial thinking and digital literacies within the framework of online interdisciplinary contexts. • Build personal relationships and experience working in virtual teams. • Apply and evaluate strategies for appropriate and effective communication within experiential and collaborative contexts.	**Workload:** Attendance time: 21 h Self-study time: 99 h

Course: Blocked Sessions (synchronus and asynchronus phases) (Block course)	2 WLH
Examination: Portfolio/E-Portfolio (max. 15 pages), not graded **Examination prerequisites:** Regular participation. **Examination requirements:** Reflection of learning journey.	4 C

Admission requirements: None.	**Recommended previous knowledge:** Being familiar with working with virtual conference tools, e.g. Zoom.
Language: English	**Person responsible for module:** Alexandra Schreiber, MA
Course frequency: Irregular	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.02: From Reading to Writing Academic Texts for Undergraduate Students**	4 C 1 WLH

Learning outcome, core skills: Nach Abschluss des Moduls sind die Studierenden in der Lage, unterschiedliche Lesestrategien zielgerichtet für verschiedene Zwecke einzusetzen und somit wissenschaftliche Literatur effizient zu rezipieren, gelesene Literatur in angemessener Weise aufzubereiten und diese funktional in eigenen akademischen Texten einzubringen.	**Workload:** Attendance time: 14 h Self-study time: 106 h

Course: Workshop: Vom Lesen zum Schreiben akademischer Texte/From Reading to Writing Academic Texts - MultiConText (Block course) *Course frequency:* irregular	1 WLH
Examination: Portfolio/E-Portfolio (max. 20 pages) **Examination prerequisites:** Lese-Schreibaufgaben (max. 15 Seiten); regelmäßige Teilnahme **Examination requirements:** Kompetenzen in akademischen Lesestrategien, Textartenkenntnisse zur Vorbereitung komplexerer akademischer Texte, Kompetenzen im Umsetzen von gelesener wissenschaftlicher Literatur in eigene akademische Teiltexte.	4 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:**
Language: German, English	**Person responsible for module:** Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.03: From Reading to Writing Academic Texts for Graduate Students**	4 C 1 WLH

Learning outcome, core skills: Nach Abschluss des Moduls sind die Studierenden in der Lage, unterschiedliche Lesestrategien zielgerichtet für verschiedene Zwecke einzusetzen und somit wissenschaftliche Literatur effizient zu rezipieren, gelesene Literatur in angemessener Weise aufzubereiten und diese funktional in eigenen komplexen akademischen Texten einzubringen und daraus eigenständige akademische Argumentationen zu entwickeln.	**Workload:** Attendance time: 14 h Self-study time: 106 h

Course: Workshop: Vom Lesen zum Schreiben akademischer Texte/From Reading to Writing Academic Texts - MultiConText (Block course) *Course frequency:* irregular	1 WLH
Examination: Portfolio/E-Portfolio (max. 20 pages) **Examination prerequisites:** Lese-Schreibaufgaben (max. 15 Seiten), regelmäßige Teilnahme **Examination requirements:** Kompetenzen in akademischen Lesestrategien, Textartenkenntnisse zur Vorbereitung komplexerer akademischer Texte, Kompetenzen im Umsetzen von gelesener wissenschaftlicher Literatur in eigene akademische Teiltexte.	4 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.07: Preparing for and Writing Exams**	3 C 1 WLH

Learning outcome, core skills: Nach Abschluss des Moduls sind die Studierenden in der Lage, • verschiedene Klausurformen mit ihren charakteristischen Fragestilen zu differenzieren, • ihre Klausurvorbeitung und ihr Bearbeitungsverhalten im Rahmen der Klausur diesen unterschiedlichen Klausurformen anzupassen, • Aspekte wie Zeitmanagement, ausgewählte Lern- und Mnemotechniken für die eigene Klausurvorbereitung effizient einzusetzen.	**Workload:** Attendance time: 14 h Self-study time: 76 h

Course: Workshop: Klausuren vorbereiten und schreiben / How to Prepare and Write an Exam (Block course) *Course frequency:* irregular	1 WLH
Examination: Portfolio (max. 20 pages) **Examination prerequisites:** Schreibaufgaben (max. 15 Seiten), regelmäßige Teilnahme **Examination requirements:** reflektiertes Wissen über verschiedene Klausurformen, Lern- und Memotechniken; Kompetenzen im Zeitmanagement.	3 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 1 - 6; Master: 1 - 4
Maximum number of students: 15	

Additional notes and regulations: empfohlen für Studierende, die in <u>diesem</u> Semester Klausuren schreiben

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.13: Academic Writing Partnerships**	4 C 2 WLH

Learning outcome, core skills: Nach Abschluss des Moduls verfügen die Studierenden über reflektiertes Wissen über unterschiedliche akademische Schreibtraditionen und über wissenschaftskulturell verankerte Textsorten. Sie sind in der Lage, konstruktives Feedback zu Textentwürfen zu geben und zu empfangen und sich in interkulturellen Situationen reflektiert auszutauschen.	**Workload:** Attendance time: 28 h Self-study time: 92 h

Course: Workshop (Block course) *Course frequency:* irregular	2 WLH
Examination: Portfolio (max. 20 pages) **Examination prerequisites:** Schreibaufgaben (max. 15 Seiten), regelmäßige Teilnahme **Examination requirements:** reflektiertes Wissen über unterschiedliche akademische Schreibtraditionen, Kompetenzen in wissenschaftskulturell verankerten akademischen Textarten, reflektiertes Wissen über Feedbackstrategien.	4 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** Bachelor: 1 - 6; Master: 1 - 4
Maximum number of students: 15	

Additional notes and regulations: Zertifikat Internationales

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.40: Academic Writing and Academic Practice in Multilingual Contexts in the Humanities and the Social Sciences**	6 C 2 WLH

Learning outcome, core skills: After completing this module, students of Humanities and Social Sciences are able to apply academic writing strategies and practice in multilingual contexts within their own working processes. Students are empowered to use their own multilingualism in their academic practice and during their writing process and to think these processes across and beyond languages in the sense of a multi- and translingual approach. Students know how to analyse linguistic features of academic texts. They know about different individual academic writing imprints and are aware of academic standards of their discipline. They are able to make use of their linguistic resources to develop their own academic voice in a constructive and purposeful way. Students are able to give and receive peer feedback and to revise multilingual texts.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Workshop *Course frequency:* irregular	2 WLH
Examination: Learning journal (max. 20 pages) **Examination prerequisites:** regular attendance; Written tasks (max. 20 p.) **Examination requirements:** Competences in multi- and translingual academic writing and academic practice and their application on the development of the personal academic style	6 C

Admission requirements: Language proficiency of English and/or German at least C1 CEFR	**Recommended previous knowledge:** first experiences in academic writing
Language: English, German	**Person responsible for module:** Irina Barczaitis Dr. Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 3
Maximum number of students: 12	

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.45: Academic Writing for Law Students in a Multilingual Context (MultiConText)**	3 C 1 WLH

Learning outcome, core skills:	**Workload:**
Nach Abschluss dieses Moduls kennen Studierende rechtwissenschaftlicher Fächer in international orientierten Studiengängen und Studierende rechtwissenschaftlicher Studiengänge, die in ihrem akademischen Schreiben und Handeln mehrsprachig vorgehen möchten die Arbeitsschritte beim Verfassen akademischer Textsorten (z.B. Seminararbeiten, Masterarbeiten). Sie können sich die eigene Mehrsprachigkeit für ihren Schreibprozess als Ressource bewusst machen und mit verschiedenen Strategien diese Ressource im Rahmen des eigenen akademischen Schreibens nutzen. Sie sind in der Lage • ihr Vorgehen beim Verfassen akademischer Textsorten (z.B. Seminararbeiten, Masterarbeiten) zu planen und zu reflektieren, • eine Fragestellung zu konkretisieren, • produktiv mit wissenschaftlicher Literatur in verschiedenen Sprachen umzugehen, • Gesamttexte und einzelne Kapitel zu strukturieren, • Rohtext unter Verwendung translingualer Strategien zu verfassen und zu überarbeiten.	Attendance time: 14 h Self-study time: 76 h

Course: Workshop: Akademisches Schreiben in den Rechtswissenschaften im mehrsprachigen Kontext (MultiContext) (Block course) *Course frequency:* irregular	1 WLH

Examination: Portfolio (max. 20 pages) **Examination prerequisites:** regelmäßige Teilnahme; Schreibaufgaben (max. 15 Seiten), **Examination requirements:** Kompetenzen in rechtswissenschaftlich relevanten akademischen Textarten, reflektiertes Wissen über mehrsprachig gestaltete akademische Schreibprozesse.	3 C

Admission requirements: Deutschkenntnisse wenigstens auf GER-Niveau C1	**Recommended previous knowledge:** -
Language: German	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** from 1
Maximum number of students: 15	

Additional notes and regulations:

Empfohlen für Studierende, die in diesem oder dem kommenden Semester eine Themenarbeit schreiben werden

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.48: Academic Writing and Presentation in the Natural Sciences: German, English, Multilingual (for Undergraduate Students)**	6 C 2 WLH

Learning outcome, core skills: Nach Abschluss dieses Moduls kennen Bachelor-Studierende naturwissenschaftlicher Fächer das akademische Schreiben und Präsentieren in verschiedenen Schreibtraditionen. Des Weiteren kennen sie unterschiedliche Textarten (z.B. wissenschaftlicher Artikel, Essay, Protokoll, Bericht) sowie akademische Teiltexte (z.B. Einleitung – Introduction, Abstract) in den verschiedenen Schreibtraditionen und aus den Norm-orientierten Fachzeitschriften. Die Studierenden können selbstständig Texte aus eigener Schreiberfahrung und aus den jeweiligen Wissenskulturen, im Anschluss an ein Feedback auf ihren Schreibprozess, verfassen. Zudem können sie akademische Präsentationen in verschiedenen akademischen Traditionen effizient halten und den Anforderungen entsprechend vorbereiten. Schließlich können sie mit den erworbenen Kenntnissen naturwissenschaftliche Texte verfassen und zu deren Inhalt kurze Präsentationen halten.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Workshop	2 WLH
Examination: Portfolio (max. 20 pages) **Examination prerequisites:** regelmäßige Teilnahme; konzipierende Schreibaufgaben (max. 15 Seiten) **Examination requirements:** Kompetenzen in Bereichen naturwissenschaftlich relevanter Textarten, reflektiertes Wissen über akademische Schreibprozesse, der schriftlich konzipierten Mündlichkeit, der funktionalen Medienerstellung und –nutzung für einen akademischen Vortrag, Kompetenzen zur Reflexion akademischer Präsentationen.	6 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations: Dieses Modul wird für Studierende in international orientierten Studiengängen empfohlen. This module is recommended to students in international study programs.

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.49: Academic writing and presentation in the natural sciences: German, English, Multilingual... (for graduate students)**	6 C 2 WLH

Learning outcome, core skills: Nach Abschluss dieses Moduls kennen Master-Studierende naturwissenschaftlicher Fächer das akademische Schreiben und Präsentieren in verschiedenen Schreibtraditionen. Sie verfügen über Textsortenkompetenzen zu verschiedenen Textarten des wissenschaftlichen Kontexts der Publikation (z.B. wissenschaftliche Paper, Abstracts und Reviews). Sie können unterschiedliche Textarten selbst verfassen sowie akademische Teiltexte (z.B. Einleitung – Introduction, Results) in verschiedenen Schreibtraditionen und aus den Norm-orientierten Fachzeitschriften exzerpieren und für die eigenen Projekte einsetzen. Außerdem können Studierende selbst Texte aus den unterschiedlichen Wissenskulturen differenzieren und über die Vielfalt verschiedener Wissenskulturen reflektieren. Zudem können sie akademische Präsentationen in verschiedenen akademischen Traditionen effizient halten. Die erworbenen Kenntnisse während des Workshops befähigen die Studierenden, erfolgreich an Tagungen mit Präsentationen teilzunehmen und ein Manuskript dem jeweiligen Forschungskontext gemäß zu verfassen.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Akademisches Schreiben und Präsentieren in den Naturwissenschaften: deutsch, englisch, mehrsprachig... (für Master-Studierende) (Block course) *Course frequency:* irregular	2 WLH
Examination: Portfolio (max. 20 pages) **Examination prerequisites:** regelmäßige Teilnahme; konzipierende Schreibaufgaben (max. 15 Seiten) **Examination requirements:** Kompetenzen in der Vorbereitung von naturwissenschaftlichen Publikationen, reflektiertes Wissen über akademische Schreibprozesse, der schriftlich konzipierten Mündlichkeit, der funktionalen Medienerstellung und –nutzung für einen akademischen Vortrag, Kompetenzen zur Reflexion akademischer Präsentationen.	6 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** none
Language: German, English	**Person responsible for module:** Dr. Melanie Brinkschulte
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations:

Dieses Modul wird für Studierende in international orientierten Studiengängen empfohlen.

This module is recommended to students in international study programs.

Georg-August-Universität Göttingen **Module SK.IKG-ISZ.59: Giving Academic Presentations**	5 C 2 WLH

Learning outcome, core skills: Nach Abschluss dieses Moduls kennen die Studierenden die (wissenschafts-)sprachlichen Anforderungen, die sie beim Halten erster Referate in einer universitären Lehrveranstaltung erfüllen müssen. Sie sind in der Lage, komplexe Informationen zielgruppenspezifisch aufzubereiten und können reflektiert geeignete Medien für ihren Vortrag auswählen. Sie haben grundlegende Kenntnisse schriftlich konzipierter Mündlichkeit und sind in der Lage, diese auf eigene Vorträge anzuwenden. Zudem kennen die Studierenden geeignete Formate, um im digitalen Raum Inhalte zu präsentieren. Sie können diese Formate kontextorientiert anpassen und zielgerichtet einsetzen.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Workshop: Mehrsprachig Referate und Präsentationen vorbereiten und halten / Preparing Presentations Across Languages - MultiConText (Block course) *Course frequency:* irregular	2 WLH
Examination: Portfolio (max. 20 pages) **Examination prerequisites:** Konzipierende Schreibaufgaben (max. 15 Seiten); Referat (ca. 20 Minuten), regelmäßige Teilnahme **Examination requirements:** Kompetenzen in Bereichen der akademischen mündlichen Rhetorik, schriftlich konzipierten Mündlichkeit, der funktionalen Medienerstellung und –nutzung für einen akademischen Vortrag auch in digitalen Räumen, Kompetenzen zur Reflexion akademischer Präsentationen.	5 C

Admission requirements: Deutsch und/oder Englisch auf GER-Niveau mind. C1	**Recommended previous knowledge:** keine
Language: German, English	**Person responsible for module:** Ella Grieshammer
Course frequency: unregelmäßig	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 1 - 6
Maximum number of students: 12	

Georg-August-Universität Göttingen	3 C
Module SK.Phil-VML.1a: Visual and Media Literacy	2 WLH

Learning outcome, core skills:	Workload:
Die Studierenden erwerben Fähigkeiten in den *New Literacies* der visuellen Kompetenz und der Medienkompetenz. Sie lernen die Darstellungsmittel verschiedener Medien und ihrer Genres kennen und vergleichen und setzen sich kritisch-analytisch mit Medienformen und Medieninhalten auseinander. Sie erarbeiten sich Analysefähigkeiten verschiedener narrativer Bildmedien auf der Basis einschlägiger geistes-, kultur-, medien- und kommunikationswissenschaftlicher Theorien und Methoden.	Attendance time: 28 h Self-study time: 62 h

Course: Seminar	

Examination: Einzel- oder Gruppenreferat (max. 3 Personen) mit Diskussion (30 minutes), not graded **Examination prerequisites:** Regelmäßige aktive Teilnahme an der Lehrveranstaltung	3 C

Examination requirements:	
Die Studierenden zeigen, dass Sie ihre visuellen Kompetenzen und Medienkompetenzen kritisch vertieft haben. Sie weisen nach, dass sie sich analytisch mit spezifischen Medienformen und deren Inhalten auseinandersetzen und dafür relevante Methoden und Theorien auswählen und anwenden können.	

Admission requirements: keine	Recommended previous knowledge: Englischkenntnisse auf Niveau B2 des Gemeinsamen Europäischen Referenzrahmens
Language: English	Person responsible for module: Prof. Dr. Barbara Schaff
Course frequency: each semester	Duration: 1 semester[s]
Number of repeat examinations permitted: twice	Recommended semester:
Maximum number of students: 20	

Additional notes and regulations:
Empfohlenes Fachsemster: Bachelor: 2-6; Master 1-4

Georg-August-Universität Göttingen **Module SK.Phil-VML.1b: Visual and Media Literacy**	5 C 2 WLH

Learning outcome, core skills: Die Studierenden erwerben Fähigkeiten in den *New Literacies* der visuellen Kompetenz und der Medienkompetenz. Sie lernen die Darstellungsmittel verschiedener Medien und ihrer Genres kennen und vergleichen und setzen sich kritisch-analytisch mit Medienformen und Medieninhalten auseinander. Sie erarbeiten sich Analysefähigkeiten verschiedener narrativer Bildmedien auf der Basis einschlägiger geistes-, kultur-, medien- und kommunikationswissenschaftlicher Theorien und Methoden.	**Workload:** Attendance time: 28 h Self-study time: 122 h

Course: Seminar	

Examination: Term Paper (max. 3500 words) **Examination prerequisites:** Einzel- oder Gruppenreferat (max. 3 Personen) mit Diskussion (ca. 30 Minuten) Regelmäßige aktive Teilnahme an der Lehrveranstaltung	5 C

Examination requirements: Die Studierenden zeigen, dass Sie ihre visuellen Kompetenzen und Medienkompetenzen kritisch vertieft haben. Sie weisen nach, dass sie sich analytisch mit spezifischen Medienformen und deren Inhalten auseinandersetzen und dafür relevante Methoden und Theorien auswählen und anwenden können.	

Admission requirements: keine	**Recommended previous knowledge:** Englischkenntnisse auf Niveau B2 des Gemeinsamen Europäischen Referenzrahmens
Language: English	**Person responsible for module:** Prof. Dr. Barbara Schaff
Course frequency: each semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	

Additional notes and regulations: Empfohlenes Fachsemester: Bachelor: 2-6; Master 1-4