Modulverzeichnis

zu der Prüfungs- und Studienordnung für den Master-Studiengang "Sustainable Forest and Nature Management" (SUFONAMA) (Amtliche Mitteilungen I 36/2012 S. 1891, zuletzt geändert durch Amtliche Mitteilungen I Nr. 63/2020 S. 1332)

Module

Übersicht nach Modulgruppen

I. Sustainable Forest and Nature Management (SUFONAMA)

1. First Year of Studies in Goettingen

To successfully complete the first year of studies in Goettingen a total of 60 C must be earned.

a. Compulsory

The following six compulsory modules must be completed:

b. Mandatory Winter semester

From the following modules one module must be completed:

c. Mandatory Summer semester

From the following modules either M.SUFONAMA.3 or M.SUFONAMA.5 must be completed. Out of the other modules one module must be completed:

2. Second Year of Studies in Göttingen

To successfully complete the second year of studies in Goettingen a total of 60 C must be earned.

a. Compulsory

The following four compulsory modules must be completed:

b. Mandatory

From the following modules one module must be completed:

c. Master thesis

Completion of the Master´s thesis is worth 30 Credits.

Georg-August-Universität Göttingen	6 C
Module M.FES.124: Modern Concepts and Methods in Macroecology and Biogeography	4 WLH

Learning outcome, core skills:	**Workload:**
The course will introduce students to the principles and modern methods in macroecology and biogeography. Students will gain a comprehensive understanding of the physical and biological processes influencing species distributions and diversity patterns worldwide. Additionally, students will be introduced to modern environmental and biodiversity modelling methods in R, which are important for analyzing and understanding the consequences of global change on species distributions. In self-directed projects, students will work with real data to solve modern macroecological problems. Through these theoretical and practical classes, students will gain a profound understanding of modern macroecological and biogeographical concepts, including threats to biodiversity and conservation prioritization.	Attendance time: 56 h Self-study time: 124 h

Course: Modern concepts and methods in macroeco-logy and biogeography	4 WLH
(Lecture, Exercise) *Contents*: Exercise = Computer course (3 WHL) and Lectures (1 WHL)	

Examination: Term Paper (max. 20 pages)	6 C

Examination requirements:	
Students can apply knowledge about modern concepts and methods in macroecology and biogeography. They demonstrate knowledge on how to plan, conduct and report on a macroecological analysis using modern computer software.	

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:**
Maximum number of students: not limited	

| Georg-August-Universität Göttingen | 6 C |
| Module M.FES.312: International Forest Policy and Economics | 4 WLH |

Learning outcome, core skills:	Workload:
Global environmental and forest policy:	Attendance time:
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.	56 h Self-study time: 124 h
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.	

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:	
• Understanding of the theory in policy analysis and application to international cases • Knowledge of actors and instruments of international forest regimes • 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:	Recommended previous knowledge:
none	none
Language:	**Person responsible for module:**
English	Prof. Dr. Carola Paul
Course frequency:	**Duration:**

each winter semester	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.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: 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:**
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:**
Political evaluation

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.

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. | **Workload:**
Attendance time:
56 h
Self-study time:
124 h |

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: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** 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 **Modul M.FES.700: Forest management under different climatic conditions** *English title: Forest Management under Different Climatic Conditions*	6 C 4 SWS

Lernziele/Kompetenzen: The course imparts knowledge about the sustainable management of forest ecosystems. 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. Examples from temperate and tropical forest ecosystems will be given. An excursion illustrates the concept of continuous-cover-forestry for multiple uses which is presently the most important approach in Central European silviculture.	**Arbeitsaufwand:** Präsenzzeit: 56 Stunden Selbststudium: 124 Stunden

Lehrveranstaltung: Forest Ecosystem management (Vorlesung)	2 SWS
Lehrveranstaltung: Management of Tropical and subtropical forests (Vorlesung)	1 SWS
Lehrveranstaltung: Continuous cover Forestry for multiple uses (Exkursion)	1 SWS
Prüfung: KlausurWritten exam (90 minutes)	6 C

Prüfungsanforderungen: Knowledge of silvicultural measures such as tending, thinning and final harvest systems and understanding how these measures impact ecological and physiological processes (tree competition, biomass partitioning, etc.). Fundamentals of the Close-to-nature forestry approach.	

Zugangsvoraussetzungen: keine	**Empfohlene Vorkenntnisse:** Basics in tree physiology and soil science
Sprache: Englisch	**Modulverantwortliche[r]:** Prof. Dr. Christian Ammer
Angebotshäufigkeit: jedes Wintersemester	**Dauer:** 1 Semester
Wiederholbarkeit: gemäß Prüfungs- und Studienordnung	**Empfohlenes Fachsemester:**
Maximale Studierendenzahl: nicht begrenzt	

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:	Recommended previous knowledge:
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 | 6 C |
| **Module M.FES.719: Remote sensing image processing with open source software** | 4 WLH |

Learning outcome, core skills:	**Workload:**
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.	Attendance time: 56 h Self-study time: 124 h

Course: Remote sensing image processing with open source software (Lecture, Exercise)	4 WLH
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.	
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:	**Recommended previous knowledge:**
none	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	6 C
Module M.FES.721: Ecological functions of wildlife: implications for conservation and management	4 WLH

Learning outcome, core skills:	**Workload:**
Animals fulfill various ecological roles within ecosystems. For example, many vertebrate species act as 'mobile links' and transport genetic material or organic matter across large spatial extends. Similarly, the presence or absence of large carnivores, or the abundance of large herbivores in an ecosystem can substantially impact its properties. While the reciprocal relationships between animals and the environment have long been recognized in ecology, we are only now realizing how important anthropogenic activities are for the functions that animals have in ecosystems.	Attendance time: 56 h Self-study time: 124 h
The aim of the course is to provide students with an overview of the ecological functions of vertebrate animals and why considering human influences on vertebrate species can be crucial for ecosystem management and biodiversity conservation. In addition, the course will also provide students with a basic understanding on how to investigate these functions and their consequences for ecosystem functions and services	

Course: Ecological functions of wildlife: implications for conservation and management (Lecture, Seminar)	4 WLH
Examination: Oral Presentation (approx. 20 minutes) **Examination prerequisites:** Written exam (30 minutes)	6 C

Examination requirements:	
To successfully complete the course, students have to demonstrate a general understanding of 1. functions fulfilled by vertebrates within ecosystems; 2. human impacts on these ecosystem functions; 3. how to analyze animal-ecosystem relationships; 4. the implications of animal-ecosystem relationships for management and conservation The written exam (examination prerequisite) will take place in the first half of the semester.	

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

40	

Georg-August-Universität Göttingen **Modul M.FES.730 (SUF): Forestry in Germany** *English title: Forestry in Germany*	10 C 7 SWS

Lernziele/Kompetenzen: Basic understanding of the history, recent developments and perspectives in the forestry sector and related industries in Germany. Based on concrete examples the student will get a basic understanding of various aspects of forestry in Germany. Teaching and learning methods: Several field trips are intended to give a more detailed overview of 1. Gene conservation and forest tree breeding, 2. Wood processing and wood Biology, 3. Forest development and processing technology, 4. Management of community forests, 5. Silviculture of major tree species in Germany, 6. Road construction and maintenance, harvesting of timber and other forest operations and 7. Forest assessment and forest planning.	**Arbeitsaufwand:** Präsenzzeit: 98 Stunden Selbststudium: 202 Stunden

Lehrveranstaltung: Forestry in Germany (Exkursion, Seminar) *Inhalte*: 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.	4 SWS
Prüfung: Oral presentation (approx. 15 minutes) with written outline (max. 15 pages)	6 C

Lehrveranstaltung: Forestry in Germany+ (Exkursion) *Inhalte*: In the course of this field trip students shall deepen their understanding of German forestry systems through additional field trips to different regions of Germany and by applying the learned forest management, inventory and research techniques to a small case study. Students will be able to gain and interdisciplinary perspective and critically assess topical discussions surrounding forestry in Germany.	3 SWS
Prüfung: Oral presentation (approx. 10 minutes) with written outline (max 15 pages)	4 C

Prüfungsanforderungen: Important aspects of German Forestry as well as of the wood-processing industry. Forest management, silviculture, forest utilisation, labour science and process technology, forest economics, 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).

Zugangsvoraussetzungen: Enrolled in the study program SUFONAMA	**Empfohlene Vorkenntnisse:** keine
Sprache: Englisch	**Modulverantwortliche[r]:** Dr. Markus Müller
Angebotshäufigkeit: jedes Sommersemester	**Dauer:** 1 Semester
Wiederholbarkeit: gemäß Prüfungs- und Studienordnung	**Empfohlenes Fachsemester:**
Maximale Studierendenzahl: nicht begrenzt	

Georg-August-Universität Göttingen **Module M.SUFONAMA.1: Contemporary Temperate Forest and Nature Management**	5 C

Learning outcome, core skills: This course focuses on enabling participants' ability to apply scientific knowledge and reasoning to critically assess and discuss popular discourses on topics in the global policy debate within a selected topic of relevance to forest and nature management. The topic may vary from year to year; currently the course focuses on the relationships between climate change and management strategies - from the impact of climate change on forest and nature health and productivity to the subsequent related impacts on management strategies. Teaching and learning methods: The course is entirely based on interactions in virtual space. Each theme is structured as a standard format e-module: 1. students study provided topic iiterature and complete a self-test multi- ple-choice exercise; texts and problems are continuously discussed online with module responsible faculty, 2. students online discuss exercises with each other, facilitated by course responsible faculty and specially invited resource persons.	**Workload:** Attendance time: 0 h Self-study time: 150 h

Course: Contemporary temperate forest and nature management (Course) *Contents*: The first part of the course emphasises the biophysical and economic impacts of climate change on forests and nature in temperate countries. Central themes are changes in forest and nature cover and composition, stocks and growth of timber and non-timber forest products, and associated economic impacts. The second part of the course emphasises the forest and nature related impacts on management strategies, with particular attention to the complex production and conservation issues and the selection of adaption and mitigation strategies.	
Examination: Term paper (project proposal; max. 3 pages, 15%) and written examination (85%)	5 C

Examination requirements: 1. Knowledge about climate change, forest and nature development relationships 2. ability to critically assess and discuss discourses and evidence in this area 3. ability to assess how science is used in policy debates, and 4. ability and experience in interacting and discussing in professional forums. Students are assessed based on their participation. Each multiple-choice test and online discussion is assessed and students awarded a percentage mark; their final mark is determined by the sum of percentages across the entire course, internal examiner.	

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

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.SUFONAMA.2: Location Specific Knowledge in Forest and Nature Management**	7,5 C

Learning outcome, core skills: The aim is to impart a thorough understanding of the importance of field work preparation. This will be achieved through acquisition of in-depth factual location specific knowledge, building on theoretical knowledge obtained in other courses, relevant to temperate forest and nature management issues and development of practical skills with emphasis on 1. ability to collect, analyse and evaluate appropriate qualitative and quantitative information, and combining this with 2. choice of appropriate research tools in order to plan high quality field work. Teaching and learning methods: Teaching is done through internet based e-modules. Each module contains well- defined learning objectives, literature and exercises, including multiple-choice self-tests and mediated online discussions. Students will work in inter-institutional virtual groups to arrive at project proposals that will form the basis for research work in the Joint Summer Module or the Forest Research Project.	**Workload:** Attendance time: 0 h Self-study time: 225 h

Course: Location specific knowledge in forest and nature management (Course) *Contents*: The course is a preparatory course for the Joint Summer Module or the Forest Research Project. The course includes training in locating and assessing location specific literature; conducting critical online discussions as part of project preparation; preparing and analysing empirically based project proposals; selecting appropriate data collection instruments; finalising a fieldwork project proposal.	
Examination: Term paper (project proposal; max. 10 pages, 50%) and written examination (50%)	7,5 C

Examination requirements: In-depth location specific factual knowledge; ability to collect, analyse and evaluation qualitative and quantitative information; ability to select and design relevant data collection instruments; ability to design coherent research project proposal; ability to reflect on risks and ethics in relation to data collection in developing countries. Final mark made up of assessment of project proposal (50%) and completion of multiple-choice tests and online discussion participation in e-modules (written examination) (50%).	

Admission requirements: none	**Recommended previous knowledge:** none
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.SUFONAMA.3: Joint Summer Module**	7,5 C (incl. key comp.: 3 C) 6 WLH

Learning outcome, core skills: Course objectives: 1. To visit and observe a range of field sites of diverse forest and nature structure, land use and management practices; 2. to meet local managers and administration; 3. to meet local interest groups and users; 4. to participate in group discussions about the issues raised during visits; 5. to develop a critical and analytical attitude to the natural and managed environment; 6. to develop skills in designing and executing a research project. Teaching and learning methods: Students will apply concepts acquired during theoretical lectures in Year 1 of the Course. Field exercises will demonstrate the applicability of the central concepts. Each student will participate in a supervised group. Each group will prepare a synopsis before the project, conduct fieldwork, prepare and submit a course report.	**Workload:** Attendance time: 84 h Self-study time: 141 h

Course: Joint summer module (Excursion) *Contents*: A two-week field course to an environmentally diverse area. This will alternate between the Consortium countries. Students will be taken to a variety of sites, which demonstrate a range of forest and nature types, and a range of conservation and sustainability issues. Some of these will involve meeting and discussion with local experts. In the second week, students will work in small teams on a project evolved in discussion with the teaching staff.	
Examination: Group presentation (approx. 30 minutes, 40%) and supplementary report (max. 5,000 words, 60%)	7,5 C

Examination requirements: Students should be able to: identify and discuss the key factors that influence the management of forest and natural areas in particular environmental contexts. Key skills include: an ability to apply principles to locally specific knowledge/conditions; to critically judge the usefulness of methods and the reliability of collected data as well as the significance of obtained results; project and hypothesis design and execution; data interpretation and analysis.	

Admission requirements: none	**Recommended previous knowledge:** none
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 **Modul M.SUFONAMA.4: Research planning** *English title: Research Planning*	6 C

Lernziele/Kompetenzen: The aim of the course is to provide tools for, and experience with, systematic design of research projects related with natural and social science aspects of natural resources management. An additional important aim is inculcation of the values of scholarship: inquiry, reflection, integrity, open mindedness, evidence-based thinking, and collegiality. Teaching and learning methods: The course is organised as a combination of lectures from different research groups, theoretical exercises, discussions and review of course paper drafts focusing on critical discussion of student presentations and development of constructive comments. Specific activities include: introduction to course; supervisor identification and consultations; presentation of research design principles; student presentation of draft parts of research design; review of peers' draft research design; student-led topical presentations, incl. critical review of selected published paper.	**Arbeitsaufwand:** Präsenzzeit: 42 Stunden Selbststudium: 138 Stunden

Lehrveranstaltung: Research planning (Kurs) *Inhalte*: After an overview of research activities of selected research groups, students will prepare a plan for a research study within natural resources management, e.g. a thesis. The plan must incorporate a literature review, a clear statement of hypotheses or questions to be addressed, an outline of the methods to be used and an assessment of any risks and ethical issues involved. Identification and assessment of risk and ethical issues is an essential feature designed to ensure that projects are carried out safely and with due regard to others and the environment. The review is expected to contain a critical appraisal of the assembled material and to be produced to journal standard.	
Prüfung: Term paper (max. 10 pages, 50%) and Portfolio (50%)	6 C

Prüfungsanforderungen: Understanding of the quality parameters of research design. Ability to 1. argue cogently and to think critically within the parameters of a particular academic discipline; 2. apply principles for good research design, including critical discussion of literature and problem identification, development of hypotheses and research questions, determination of data requirements, and selection of appropriate methods; and 3. reflect on risks and ethical issues in relation to project implementation. Students should be able to 1. demonstrate independent learning skills necessary for the foundation of lifelong learning; 2. tackle scientific problems by collecting, analysing and evaluating appropriate qualitative and quantitative information and using it creatively; and 3. display the competencies, key skills, behaviour and attitudes in relation to individual and group work required in a professional working life.	

Zugangsvoraussetzungen: SUFONAMA student only	**Empfohlene Vorkenntnisse:** keine
Sprache: Englisch	**Modulverantwortliche[r]:** Prof. Dr. Alexander Knohl
Angebotshäufigkeit: jedes Wintersemester	**Dauer:** 1 Semester
Wiederholbarkeit: gemäß Prüfungs- und Studienordnung	**Empfohlenes Fachsemester:**
Maximale Studierendenzahl: nicht begrenzt	

Georg-August-Universität Göttingen **Module M.SUFONAMA.5: Forest research project**	7,5 C (incl. key comp.: 3 C) 6 WLH

Learning outcome, core skills: In this course the student will join one of the research groups within the Faculty of Forest Sciences and Forest Ecology and conduct a forest research project where he/she applies skills and concepts acquired during theoretical lectures in Year 1. The objectives are 1. To learn about a specific research topic related to natural sciences or socio-economic aspects of natural or managed forests, 2. to meet and interact with other researchers, 3. to participate in scientific discussions; 4. to develop a critical and analytical attitude to research; 5. to develop skills in designing and executing a research project.	**Workload:** Attendance time: 84 h Self-study time: 141 h

Course: Forest research project *Contents*: About two-weeks of either field or laboratory work is followed by about 4 weeks of data analysis and report writing. At the end of the project, the research will be presented at the respective research group and the report submitted.	6 WLH
Examination: Presentation (approx. 30 minutes, 40%) and report (max. 5,000 words, 60%)	7,5 C

Examination requirements: Students should be able to apply skills and concepts to a specific research project; to critically judge the usefulness of methods and the reliability of collected data as well as the significance of obtained results; project and hypothesis design and execution; data interpretation and analysis.	

Admission requirements: Only for students enrolled in SUFONAMA	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Alexander Knohl
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	