

General remarks for the use of the module handbook

Study Programme International Forest Ecosystem Management (B.Sc.)

Curriculum effective from WS 2009/10

The present module descriptions for the Bachelor Study Programme International Forest Ecosystem Management (B.Sc.) contains apart from the specification of the teaching and examination form, also information about content, learning objectives and structure of the offered modules and module components.

The module handbook especially facilitates the selection of elective modules, the preparation for individual courses, as well as the goal orientated planning of the whole study process. Information about entry requirements as well as recommended related elective modules and references should facilitate planning and implementation. The following goals matrix indicates the mandatory and elective modules that are contributing to the overall learning objectives. The goals matrix hereby provides a decision support for the selection of elective modules. Furthermore it shows knowledge, skills and competences, that are required to reach the overall learning objectives and that will be enhanced by the selection of relevant modules.

The following considerations and rules apply for the selection of elective modules:

Each elective module is assigned to a specific semester and can only be selected once. Elective modules of higher semesters can be preselected or elective modules of lower semesters can be selected later on, if possible from an organisational point of view. It is recommended to follow the sequence of the elective modules indicated by the curriculum because it represents the ideal and consecutive structure of the study programme and therefore the best preparation for following modules.

The elective module “Foreign language” can be chosen only twice; the corresponding courses have to be either in different consecutive levels or different languages (English language is not allowed as it is an entrance requirement for the study programme).

The elective module “specialisation module (I, II & III)” does not contain a specific topic, but represents an option to freely select, according to the personal interest of the student, modules of other study programmes at the University of Applied Sciences Eberswalde or other Universities. The head of the study programme approves the “specialisation module”, if it complies with the goals of the study programme and personal study and job perspectives of the student.

If the number of applicants for elective modules exceeds the number of available places, the places are given by lot, but priority is given to students from the semesters, where the module is regularly offered. 10% of the places can be reserved for students according to criteria defined by the module coordinator not later than one week before the start of the registration for elective modules. The registration and selection procedure of the elective modules is accomplished by the head of the study programme until the start of the examination period of the previous semester (exception: selection procedure for the first and sixth semester will be accomplished during the first week of the lecture period of the relevant semester).

All other specific requirements for the selection of modules are determined in the corresponding module description. For further thematic questions about the modules, the responsible module coordinator is named in the corresponding module description.

Teaching and examination forms:

Teaching form					Examination form							
Lecture	Seminar	Practical Exercise	Tutorial	Project	Technical discussion	Project presentation	Oral report	Written exam	Term paper	Protocol	Work report	Project report
L	S	PE	T	P	TD	PP	OR	WE	TP	P	WR	PR

SWH = semester work hours; TL = teaching language; EF = examination form; 1 ECTS Credit = 30 h workload

**Goals matrix of the Study Programme
International Forest Ecosystem Management (B.Sc.)**

<p align="center">Goal of the Study Programme International Forest Ecosystem Management (B.Sc.)</p> <p>The study programme qualifies for an application-oriented employment in national and international organisations focussing on natural resource management. The graduates are enabled to conserve and manage (forest) ecosystems according to the principle of sustainability.</p> <p>Students will acquire the skills to document and analyse ecological and social systems. By acquiring skills in strategic and adaptive management, students will be able to develop specific action recommendations and implement them in a goal-oriented manner. The knowledge acquired and international experience gained can be put to global use in forest and land use planning and conservation projects. Among other things, this results in a special qualification for dealing with the challenges in developing countries.</p>		
<p>Overall learning objectives</p>	<p>Qualification of learning outcomes</p>	<p>Modules (incl. ECTS Credits) <i>(M = Mandatory / E = Elective)</i></p>
<p>Natural (forest) resources managers</p> <p>Graduates will be involved in the design and implementation of worldwide projects for the management of forest ecosystems, nature reserves and international development cooperation (e.g. The Nature Conservancy, WWF, Conservation International, FAO, GTZ, DED, EU, The World Bank, UNEP, NABU, forestry operations and forestry service providers etc).</p>	<p>Knowledge</p> <p>Graduates will have a broad discipline knowledge base, in particular application-related knowledge of managing (forest) ecosystems and planning, communicating and implementing strategies.</p> <p>Skills</p> <p>Graduates will be capable of strategic planning and adaptive management of projects as part of sustainable natural (forest) resource management.</p> <p>Competencies</p> <p>Graduates will be competent in the field of self-organisation and time management, information management, communication and team skills, leadership skills and conflict management.</p>	<p>Especially important for objectives</p> <p>Adaptive conservation site management (E 4) Applied silviculture and risk management (M 6) Entrepreneurship (E 4) Forest and landscape development (E 4) Forest management strategies and evaluation (M 6) Forest utilisation (E 4) Hunting (E 6) Project-based conservation and land-use management (M 6) Technical fundamentals of forestry (M 7)</p> <p>Important for objectives</p> <p>Application of Geographic Information Systems in natural resource management (E 4) Bachelor seminar (M 2) Bachelor thesis (M 12) Biosphere reserve management (E 4) Exercises in forest harvest planning (E 4) Exercises in forestry work (E 4) Forest and landscape development for recreational use (E 4) Forest landscape restoration (E 4) Hunting practice (E 2) Information- and (non)knowledge management (E 4) Modern hunting strategies (E 4) Practical exercises in nature conservation (E 4)</p>

		<p>Practical study semester abroad (E 30) Short rotation & agro forestry (E 4) Specialisation module I (E 4) Specialisation module II (E 4) Specialisation module III (E 4) Student research colloquium (M 4)</p>
<p>Mediator and communicator Graduates will design and organise the communication process with stakeholders (stakeholder dialogues) to resolve the problems of land use and natural resource management (e.g. in international development cooperation (DED, InWEnt, GTZ), international and local NGOs etc).</p>	<p>Knowledge Graduates will have knowledge of interdisciplinary and target group-oriented information transfer, as well as target-oriented and joint cooperation in groups.</p> <p>Skills Graduates will be able to support communication between the relevant players in the land use sector as transdisciplinary team leaders and mediators and to contribute to goal-oriented conflict resolution.</p> <p>Competencies In particular, graduates will have the following competencies: leadership skills, team and communication skills, competence in the field of interdisciplinary and transdisciplinary methods as well as in information and conflict management.</p>	<p>Especially important for objectives Biodiversity and sustainability (M 5) Environmental education (E 4) Intercultural communication (E 4) Project-based conservation and land-use management (M 6) Public relations and group related communication (E 4)</p> <p>Important for objectives Adaptive conservation site management (E 4) Bachelor seminar (M 2) Bachelor thesis (M 12) Biosphere reserve management (E 4) Foreign language I (E 2) Foreign language II (E 2) Information and knowledge management (E 4) Practical study semester abroad (E 30) Social forestry and extension methods (E 4) Specialisation module I (E 4) Specialisation module II (E 4) Specialisation module III (E 4) Student research colloquium (M 4)</p>
<p>Employees working on natural scientific projects Graduates will work on ecological environmental monitoring and research projects as well as on forest resource management projects (e.g. environmental/forestry authorities and research institutes).</p>	<p>Knowledge Graduates will have knowledge about fundamental ecological processes and natural scientific methods and instruments.</p> <p>Skills Graduates will be able to analyse and document abiotic and biotic components, their interactions and the functionality of ecosystems and, if necessary, derive corresponding management</p>	<p>Especially important for objectives Applied forest ecology (M 7) Bachelor seminar (M 2) Bachelor thesis (M 12) Biodiversity and sustainability (M 5) Data assessment & analysis I (M 8) Data assessment & analysis II (M 8) Database management (M 5) Field and laboratory training in soil science (E 4) Forest ecology (M 8) Forest growth and inventory (M 8) Fundamentals of plant and soil science (M 4) Site ecology (M 6) Student research colloquium (M 4) Zoological fundamentals (M 4)</p>

	<p>measures.</p> <p>Competence Graduates will be able to think analytically and synthetically.</p>	<p>Important for objectives Application of Geographic Information Systems (E 4) Applied forest phytopathology (E 4) Botanic exercises (E 4) Dendroecology (E 4) Element budgets of global forest ecosystems (E 4) Exercises in zoology and game management (E 4) Field exercises in zoology and wildlife biology (E 4) Forest damage diagnostics (E 4) Fundamentals of phytopathology and environmental monitoring (E 4) Plant identification (E 4) Practical study semester abroad (E 30) Specialisation module I (E 4) Specialisation module II (E 4) Specialisation module III (E 4) Wildlife biology (E 4)</p>
<p>Employees working on socio-economic projects Graduates will be involved in planning, implementing and assessing socio-economic studies as part of land use and natural resource planning projects (e.g. at universities, research institutes, NGOs etc). In particular, socio-empirical methods will be employed here.</p>	<p>Knowledge Graduates will be aware of the economic and social relations of land use and natural resource planning as well as of research methods for socio-economic, cultural and political systems.</p> <p>Skills Graduates will be qualified to record and evaluate the social, cultural, economic and political framework conditions of a society using qualitative and quantitative methods of analysis.</p> <p>Competencies Graduates will have good communication skills.</p>	<p>Especially important for objectives Applied economics (E 4) Bachelor seminar (M 2) Bachelor thesis (M 12) Data assessment & analysis II (M 8) Development & environmental policy (M 6) Economics & social science (M 4) Social forestry and extension methods (E 4) Student research colloquium (M 4)</p> <p>Important for objectives Environmental legislation (E 4) Information and knowledge management (E 4) Intercultural communication (E 4) Practical study semester abroad (E 30) Specialisation module I (E 4) Specialisation module II (E 4) Specialisation module III (E 4)</p>

**Module handbook
of the Study Programme
International Forest Ecosystem Management (B.Sc.)**

Module	Biodiversity and sustainability	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to participate actively and in competent manner in debates on current issues of sustainability, of natural resource management and conservation. Their knowledge is based on a complex and integrative ecosystem approach, which are embedded in human systems.	
Examination form	Technical discussion 20 min, Written exam 90 min	
ECTS-Credits	5	Workload 150 h / Semester
SWH instructed	4	

Module component	Biological diversity and nature conservation	
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (60h)	
Language	German	
Examination form	Technical discussion 20 min (50%)	
Entry requirements		
Goal	Students are able to present and critically evaluate current environmental challenges of nature conservation on the basis of basic knowledge about the development, scope and status of biodiversity, as well as an anthropological, historical, evolutionary and dynamic understanding of the environment. They know about the importance of the ecosystem approach for modern biodiversity and natural resource management and have knowledge about current approaches to biodiversity conservation in forest ecosystems.	
Content	Biodiversity or biological diversity is the object of protection of modern nature conservation and covers much more than just the abundance of species, namely, above all, aspects of functionality and dynamics of ecosystems. Conservation is presented as an interdisciplinary challenge and cultural achievement: Taking into account socio-economic realities the assessment and decisions for the preservation of nature must be based on scientific knowledge of biological diversity and the processes needed to ensure its functionality. Cultural, socio-economic and political frameworks, as well as nature conservation initiatives are explained exemplarily. Important key questions relate to the self-conception, functions and goals of modern conservation, of which the appropriate prioritized actions are to be derived. Fundamentals of protected area management will be treated, as well as the requirements towards effective nature conservation in (central European) forests.	
Recommended related elective modules	Adaptive conservation site management, Biosphere reserve management, Project-based conservation and land-use management	
Competence	Technical competence (100%)	
References	Groom, M.J., G. K. Meffe, & C. R. Carroll (2006) Principles of Conservation Biology (3rd edition), Sinauer, 699 pages.	

Güthler, W., Market, R., Häusler, A. & Dolek, M. (2005) Vertragsnaturschutz im Wald - Bundesweite Bestandsaufnahme und Auswertung. BfN-Skripte 146: 1-180.

Häusler, H., A. & Scherer-Lorenzen, M. (2002) Nachhaltige Forstwirtschaft in Deutschland im Spiegel des ganzheitlichen Ansatzes der Biodiversitätskonvention. BfN-Skripten 62: 1-66. bzw. Häusler, A. & Scherer-Lorenzen, M. (2001): Sustainable Forest Management in Germany: The Ecosystem Approach of the Biodiversity Convention Reconsidered. BfN-Skripten 51: 1-65.

Ibisch, P.L. & M. Bertzky (2006): Halting biodiversity loss: fundamentals and trends of conservation science and action. In Biodiversity: Structure and Function, from Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [<http://www.eolss.net>]

Landesforstverwaltung Brandenburg (2004) Waldbau-Richtlinie 2004. „Grüner Ordner“. http://www.mluv.brandenburg.de/cms/media.php/2324/waldb_rl.pdf

Primack, R.B. (2004) A primer of conservation biology (3rd edition), Sinauer, 280 pages.

Winkel, G., Schaich, H.; Konold, W. & Volz, K.-R. (2005): Naturschutz und Forstwirtschaft. Bausteine einer Naturschutzstrategie im Wald. Bonn (BUNDESAMT FÜR NATURSCHUTZ); Schriftenreihe Naturschutz und Biologische Vielfalt. 398 S.

Weitere Literatur wird im Rahmen der Veranstaltung genannt bzw. zur Verfügung gestellt.

Module	Biodiversity and sustainability
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Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to participate actively and in competent manner in debates on current issues of sustainability, of natural resource management and conservation. Their knowledge is based on a complex and integrative ecosystem approach, which are embedded in human systems.	
Examination form	Technical discussion 20 min, Written exam 90 min	
ECTS-Credits	5	Workload 150 h / Semester
SWH instructed	4	

Module component	With nature for people - introduction to sustainable development	
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Coordinator	Prof. Dr. Heike Molitor	
Lecturer	Dozenten aus allen Fachbereichen	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (30h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to engage in interdisciplinary and cross-linked theoretical examination of the concept of 'sustainable development' and can transfer this knowledge to practical examples.	
Content	The sustainability discourse is critically reflected in the light of historical and theoretical aspects. A basis for the proposed concept of sustainable development is the system theoretical approach, which emanates from a world of interlocked nested systems. The respective sub-systems are analyzed with respect to their own sustainability and their influence on the sustainability of other systems. Reviewed will be e.g. the climate system, the earth, ecosystems, the human system (with respect to biological, cultural, social, economic, ethical aspects). Based on this theoretical analysis a description of specific examples of the implementation of the sustainability approach in subsystems with regard to courses of studies such as organic agriculture, forestry, wood science technology, and others, is explained.	
Recommended related elective modules	Applied forest ecology	
Competence	Technical competence (100%)	
References	<p>Bund für Umwelt und Naturschutz Deutschland, Brot für die Welt, Evangelischer Entwicklungsdienst (Hrsg.) (2008): Zukunftsfähiges Deutschland in einer globalisierten Welt. Ein Anstoß zur gesellschaftlichen Debatte. Bonn.</p> <p>Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (BMU) (Hrsg.) (o.J.): Umweltpolitik. Agenda 21. Konferenz der Vereinten Nationen für Umwelt und Entwicklung im Juni 1992 in Rio de Janeiro. – Dokumente -. Bonn.</p> <p>Bundesregierung (2002): Nationale Nachhaltigkeitsstrategie "Perspektiven für Deutschland"</p>	

(www.bmu.de/files/pdfs/allgemein/application/pdf/nachhaltigkeit_strategie.pdf).

Wiegandt, K. (Hg.) (2007): Mut zur Nachhaltigkeit: 12 Bücher über die Zukunft der Erde. (<http://www.mut-zur-nachhaltigkeit.de/images/dokumente/Buchtitel/gesamtueberblick.pdf>)

Hauff, V. (1987): Unsere gemeinsame Zukunft. Der Brundtland-Bericht der Weltkommission für Umwelt und Entwicklung. Herausgegeben von der Weltkommission für Umwelt und Entwicklung. Greven.

Meadows D. et al. (1972): Die Grenzen des Wachstums. Bericht des Club of Rome zur Lage der Menschheit. Deutsche Verlags-Anstalt, Stuttgart.

Meadows D. et al. (2007): Grenzen des Wachstums. Das 30-Jahre-Update ; Signal zum Kurswechsel. Hirzel, Stuttgart.

Statistisches Bundesamt (2008): Nachhaltige Entwicklung in Deutschland. Indikatorenbericht 2008. Wiesbaden
(<http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Content/Publikationen/Fachveroeffentlichungen/UmweltoekonomischeGesamtrechnungen/Indikatorenbericht2008,property=file.pdf>).

Vester, F. (2008): Die Kunst vernetzt zu denken. Ideen und Werkzeuge für einen neuen Umgang mit Komplexität. Bericht an den Club of Rome. dtv, 6. Auflage.

Module	Database management	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Alfred Schultz	aschultz@fh-egerswalde.de
Status	Mandatory	
Goal	Students have basic knowledge of environmental data collection and analysis and are able to plan and to implement databases and to retrieve data from databases.	
Examination form	Work report, Written exam 90 min	
ECTS-Credits	5	Workload 150 h / Semester
SWH instructed	4	

Module component	Biometry	
Coordinator	Prof. Dr. Alfred Schultz	
Lecturer	Prof. Dr. Alfred Schultz	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places	25	
Teaching form	Lecture (15h), Practical Exercise (15h), self-study (60h)	
Language	English	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students have basic knowledge of environmental data collection and analysis and distinguished practical skills to conduct data analyses manually or supported by computer software.	
Content	The course introduces students to principles and methods of collecting and analyzing data in forest ecosystems and landscapes. The concept of random variables as well as typical probability distributions related to forest and environmental problems are introduced. Feature recording and scaling are discussed. The most important descriptive statistics are covered. In the field of inferential statistics confidence intervals, and parametric and non-parametric tests to compare means and distributions are introduced. Students conduct practical analytical exercises while using measurement and observation data.	
Recommended related elective modules		
Competence	Technical competence (40%), Methodological competence (40%), Personal competence (10%), Media competence (10%)	
References	<p>Stoyan, D. (1998): Stochastik für Ingenieure und Naturwissenschaftler. Wiley-VCH Verlag.</p> <p>Sokal, R.R. & F.J. Rohlf (1995): Biometry. Freeman.</p> <p>diverse Autoren (2002, 2003): Einführung in die Biometrie. Band 1 bis 4. Senat der Bundesforschungsanstalten des Bundesministeriums für Verbraucherschutz, Ernährung und Landwirtschaft.</p> <p>Norusis, M.J. (2008): SPSS 17.0 – Guide to Data Analysis. Prentice Hall.</p> <p>Hinton, P.R., C. Brownlow, I. McMurry & B. Cozens (2004): SPSS Explained. Routledge.</p>	

Field, A. (2005): Discovering Statistics Using SPSS. Sage Publications.

Module	Database management	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Alfred Schultz	aschultz@fh-egerswalde.de
Status	Mandatory	
Goal	Students have basic knowledge of environmental data collection and analysis and are able to plan and to implement databases and to retrieve data from databases.	
Examination form	Work report, Written exam 90 min	
ECTS-Credits	5	Workload 150 h / Semester
SWH instructed	4	

Module component	Database management	
Coordinator	Oskar Dietterle	
Lecturer		
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Practical Exercise (30h), self-study (30h)	
Language	German	
Examination form	Work report (50%)	
Entry requirements		
Goal	Students are able to plan and to implement databases and to retrieve data from databases.	
Content	Character and structure of relational data bases; terms data base, data set, data field, master data and variable data; creating tables; correlating tables – referential integrity; creating forms and reports for displaying and entering data sets; interpreting data by using different types of queries, like update queries, use of criteria and formula.	
Recommended related elective modules		
Competence	Technical competence (50%), Methodological competence (40%), Media competence (10%)	
References	Said Baloui: Access 2003 Kompendium: Professionelles Arbeiten mit Daten, Markt + Technik Verlag, München, 2004. Said Baloui: Access 2002 Kompendium: Datenbank planen, entwickeln, optimieren, Markt + Technik Verlag, München, 2001.	

Module	Economics and social science	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Wolf-Henning von der Wense	vdwense@fh-eberswalde.de
Status	Mandatory	
Goal	Students are able to apply socioeconomical principles in the context of economic relations and the management of forest and forest service businesses.	
Examination form	Oral report, Written exam 90 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Introduction to socioeconomics	
Coordinator	Prof. Dr. Martin Welp	
Lecturer	Prof. Dr. Martin Welp	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (22h), Practical Exercise (8h), self-study (30h)	
Language	English	
Examination form	Written exam (25%), Oral report (25%)	
Entry requirements		
Goal	The students acquire knowledge and skills related to socioeconomic dimensions of ecosystem management.	
Content	This course introduces students to human dimension in forestry through an investigation of social, economic and cultural aspects of forest management and conservation. The course is also designed to provide students with a range of exercises to build their skills in research, presentations, and teamwork. The first part of the course covers basic theory and concepts, including: human-nature interactions, property regimes, social actors in forest management and conservation, cultural dimensions of forestry including different value system, and models of social forestry. The module will furthermore introduce the students to selected management approaches and economic evaluations tools. Students will conduct group research and make a presentation on a selected socio-economic issue.	
Recommended related elective modules	Project-based conservation and land-use management, Social forestry and extension methods	
Competence	Technical competence (25%), Methodological competence (25%), Social competence (25%), Personal competence (25%)	
References	<p>Bengston, David N. 1994. Changing Forest Values and Ecosystem Management. Society and Natural Resources, Volume 7, pp. 515-522.</p> <p>McKean, M.A. 2000. Common property: What is it, what is it good for, what makes it work? In: Clark C., McKean, M. and Ostrom, E. (eds) People and Forests: Communities, Institutions and Governance. MIT Press, Cambridge, Mass. pp. 29-51.</p> <p>Banana & Gombya-Ssembajjwe 2000. Successful forest management: The importance of security of tenure and rule enforcement in Ugandan forests.</p>	

Module	Economics and social science	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Wolf-Henning von der Wense	vdwense@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to apply socioeconomical principles in the context of economic relations and the management of forest and forest service businesses.	
Examination form	Oral report, Written exam 90 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Basics of economics	
Coordinator	Prof. Dr. Wolf-Henning von der Wense	
Lecturer	Prof. Dr. Wolf-Henning von der Wense	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (24h), Practical Exercise (6h), self-study (30h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to understand economic principles and to relate them to forestry issues. They are able to review all forestry activities in regard to their economic importance and to use their knowledge of economics as a decision tool.	
Content	This sub-module teaches students important basics of economic relations in businesses. Companies and businesses are at the center of attention. At first, their classification and position in the economy (markets, market mechanisms) is treated. Within, their relations to the environment are presented with the claims of various stakeholders in business economy, and the respective objectives of the owners (success and material goals) are developed using sustainability criteria. In addition to the organizational basis, students will learn about different acting approaches of businesses on the market and how they sell both tangible and intangible products. Finally, a basic knowledge of financial accounting to track conditions and economic processes in enterprises are taught.	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Jung, H. 2008. Allg. Betriebswirtschaftslehre, Oldenbourg. München</p> <p>Oesten, G. und Roeder, A. 2002. Management von Forstbetrieben, Bd. 1 – Grundlagen, Betriebspolitik. Kessel. Remagen-Oberwinter</p> <p>Sagl, W. 1995. Bewertung in Forstbetrieben. Parey. Berlin, Oxford, Blackwell</p> <p>Schmitthüsen, F. et al. 2009. Unternehmerisches Handeln in der Wald- und Holzwirtschaft. 2. Aufl. Verlag Universität Freiburg, Inst. f. Forstökonomie</p>	

Module	Fundamentals of plant and soil science	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Harald Schill	hschill@fh-eberswalde.de
Status	Mandatory	
Goal	The students are enabled to apply methods and techniques of botany and soil science in practice.	
Examination form	Written exam 180 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	General botany	
Coordinator	Prof. Dr. Harald Schill	
Lecturer	Prof. Dr. Harald Schill	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (30h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to name and identify fundamentals of botany with focus on trees.	
Content	Overview on the plant kingdom, morphology of higher plants: plant life forms, focus on trees; cytology: structure of the plant cell; genetics; reproduction; anatomy/histology: construction of plant organs: leaf, stem, root; systematics: fungi, mosses, ferns, seed plants.	
Recommended related elective modules	Botanic exercises, Dendroecology, Plant identification	
Competence	Technical competence (90%), Methodological competence (10%)	
References	<p>JACOB, F.; JÄGER, E.J.; OHMANN, E. (1987): Botanik. G. Fischer Verlag, Jena;</p> <p>STRASBURGER, E. (1996): Lehrbuch der Botanik. G. Fischer Verlag, Stuttgart</p> <p>SCHÜTT, P.; SCHUCK, H.J.; STIMM, B.(1992): Lexikon der Forstbotanik. ecomed Verlag, Landsberg</p>	

Module	Fundamentals of plant and soil science	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Harald Schill	hschill@fh-eberswalde.de
Status	Mandatory	
Goal	The students are enabled to apply methods and techniques of botany and soil science in practice.	
Examination form	Written exam 180 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Soil science	
Coordinator	Prof. Dr. Winfried Riek	
Lecturer	Prof. Dr. Winfried Riek	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (27h), Practical Exercise (3h), self-study (30h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students have a basic understanding of the origin and structure of different (forest) soil types and are enabled to use this knowledge to understand the functions of soils in the ecosystem.	
Content	In this lecture geological and mineralogical fundamentals of soil science are taught. The focus is set on the development of soils: from pedogenetic factors and a detailed presentation of pedogenetic processes to the resulting soil characteristics. The soil classification in Germany is presented in broad strokes. In addition, chemical and physical soil properties like acidity, cation exchange, C/N ratio, soil density, microstructure, texture and porosity are explained using examples and are intensively treated. Selected field and laboratory methods for soil identification will be taught. The students are enabled to characterize soils according to their morphological, chemical and physical characteristics and to derive parameters of water and nutrient budget.	
Recommended related elective modules	Field and laboratory training in soil science	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Blum, W. 2007: Bodenkunde in Stichworten. Borntraeger Verlagsbuchhandlung, Berlin Stuttgart.</p> <p>MLUR 2003: Steckbriefe Brandenburger Böden. Loseblattsammlung. Potsdam.</p> <p>Mückenhausen, E. 1974: Die Bodenkunde. DLG-Verlag. Frankfurt.</p> <p>Riek, W. Stähr, F. 2004: Eigenschaften typischer Waldböden im Nordostdeutschen Tiefland unter besonderer Berücksichtigung von Brandenburg. Eberswalder Forstliche Schriftenreihe. Landesforstanstalt und MLUR (Hrsg.). Eberswalde Potsdam.</p> <p>Stahr, K., Kandeler, E., Herrmann, L., Streck, T. 2008: Bodenkunde und</p>	

Module	Zoological fundamentals	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to determine relevant animal phylum, groups of insects and pest species.	
Examination form	Written exam 120 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Applied forest entomology	
Coordinator	Prof. Dr. Curt Majunke	
Lecturer	Prof. Dr. Curt Majunke	
ECTS- Credits	1	Workload 30 h / Semester
SWH	1	
Max. study places		
Teaching form	Lecture (15h), self-study (15h)	
Language	German	
Examination form	Written exam (33%)	
Entry requirements		
Goal	Participants are able to recognise the most abundant groups of insects living in forests; herein the recognition of important silvicultural pests and their infestation images is of particular importance. Participants learn the ability to recognize the most common of living in the forest insect groups, particular importance is the recognition of the important silvicultural pests and their infestation images.	
Content	Studies of biological and ecological characteristics, as well as the economic importance of silvicultural pathogens relevant in Central Europe. Furthermore, other important representatives from the groups of parasitoids and predators are treated. These include species, genera and families from the orders of beetles, butterflies, Hymenoptera and Diptera (biology, ecology and economic importance of insect species and groups, respectively, relevant to forestry in systematic order, study of the occurrence of various pests in the respective host plants) .	
Recommended related elective modules	Applied forest ecology	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Amann, G.: Kerfe des Waldes. 11. durchges. Aufl. , Augsburg, Naturbuch-Verlag, 1995.</p> <p>Grüne, S.: Handbuch zur Bestimmung der europäischen Borkenkäfer. Hannover: Schaper Verlag, 1979.</p> <p>Novak, V., Stary,B., Hrozinka, F., Stary, B.: Atlas nützlicher Forstinsekten. 5., unveränd. Aufl., Stuttgart: Enke Verlag, 1992.</p> <p>Chinery, M.: Insekten Mitteleuropas. Berlin und Hamburg: Verlag Paul Parey, 1984.</p>	

Carter, D.J.: Raupen und Schmetterlinge Europas. Berlin und Hamburg: Verlag Paul Parey, 1987.

Module	Zoological fundamentals	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to determine relevant animal phylum, groups of insects and pest species.	
Examination form	Written exam 120 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Zoology and wildlife biology	
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Siegfried Rieger	
ECTS- Credits	3	Workload 90 h / Semester
SWH	3	
Max. study places		
Teaching form	Lecture (36h), Seminar (9h), self-study (45h)	
Language	German, English	
Examination form	Written exam (66%)	
Entry requirements		
Goal	<p>Students are able to identify relevant groups of animals and explain their anatomical and biological characteristics.</p> <p>In addition, students have an overview of the biology and ecology of wildlife with emphasis on mammals. Another focus is the knowledge of wildlife species and the overview on habits and lifestyle of native wildlife relevant for hunting.</p>	
Content	<p>First, students are introduced to the basics of animal physiology. This is done with regard to applied knowledge, e.g. for plant protection. The evolutionary development of the animal phyla is presented and the specific features in the construction and biology of the animal groups are identified. The characteristics of the major animal groups and species are introduced to enable the students to be able to carry out identification in the field.</p> <p>Furthermore, the biology and ecology of selected wildlife species is presented. The emphasis is on mammals. It is mediated knowledge of wildlife species and an overview on habits and lifestyle of native wildlife relevant for hunting.</p>	
Recommended related elective modules	Exercises in zoology and game management, Field exercises in zoology and wildlife biology, Wildlife biology	
Competence	Technical competence (80%), Methodological competence (20%)	
References	<p>Wehner, R., Gehring, W. 1995. Zoologie. Thieme Verlag.</p> <p>Campbell, A., Reece, J. 2002. Biologie. Spektrum Akademischer Verlag.</p> <p>Weitere Literatur wird zu Beginn der Veranstaltung bekannt gegeben.</p>	

Module	Botanic exercises
Study programme	International Forest Ecosystem Management
Semester	1. Sem.
Module coordinator	Prof. Dr. Harald Schill hschill@fh-egerswalde.de
Status	Elective
Coordinator	Prof. Dr. Harald Schill
Lecturer	Prof. Dr. Harald Schill
ECTS- Credits	4 Workload 120 h / Semester
SWH	3
Max. study places	30
Teaching form	Lecture (22h), Practical Exercise (22h), self-study (75h)
Language	German
Examination form	Written exam
Entry requirements	
Goal	Students are enabled to apply the taxonomic-methodical approach of plant identification. They further gain extended knowledge of morphology of trees and shrubs and knowledge of species.
Content	Fundamentals of woody plant morphology, crown morphology, architectural models, identification exercises, practical identification exercises: deciduous trees and shrubs, field work
Recommended related elective modules	Dendroecology, Plant identification, Site ecology
Competence	Technical competence (50%), Methodological competence (50%)
References	BARTELS, H. (1993): Gehölkunde. E. Ulmer, Stuttgart FITSCHEN, J. (2002): Gehölkflora. Quelle & Meyer, Wiebelsheim; BRAUNE, W.; LEMAN, A.; TAUBERT, H. (1990): Pflanzenanatomisches Praktikum. G. Fischer, Stuttgart

Module	Foreign language I	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Evi Sammer	esammer@fh-eberswalde.de
Status	Elective	
Coordinator	Evi Sammer	
Lecturer	Dozenten Sprachenzentrum	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Seminar (30h), self-study (30h)	
Language	German, English	
Examination form	Written exam	
Entry requirements		
Goal	Students are able to communicate field-related in foreign language skills.	
Content	Depending on the respective language.	
Recommended related elective modules		
Competence	Technical competence (75%), Social competence (25%)	
References		

Module	Hunting
Study programme	International Forest Ecosystem Management
Semester	1. Sem.
Module coordinator	Prof. Dr. Siegfried Rieger srieger@fh-eberswalde.de
Status	Elective
Coordinator	Prof. Dr. Siegfried Rieger
Lecturer	Prof. Dr. Siegfried Rieger, Prof. Dr. Klaus Günther-Dieng, Dr. Hubertus Welsch
ECTS- Credits	6 Workload 180 h / Semester
SWH	6
Max. study places	10
Teaching form	Lecture (27h), Practical Exercise (36h), Seminar (27h), self-study (90h)
Language	German
Examination form	Written exam (50%), Project presentation (50%)
Entry requirements	Hunting experience (Jagdpraktisches Jahr)
Goal	The student is able to apply fundamentals of game biology, hygiene and hunting practice in the context of ecosystem-oriented hunting. In this context, students can demonstrate expertly handling, use and technology of hunting and hunting relevant handguns. Students know the rules of hunting law and regulations of the arms law governing the use of hunting weapons, as far as they are necessary for obtaining a hunting license and hunting practice. They can judge issues of hunting in conformity with hunting law and assess the relationship between hunting law and forest/nature protection law.
Content	This subject gives in-depth fundamentals of the biology and ecology of species subject to hunting law and principles of relevant domestic animals. Other important topics are current methods of hunting, hunting practice, training and use of hunting dogs, wildlife diseases, treatment and utilization of hunted wild game, including the hygiene and safety regulations. In addition legal provisions for hunting licenses, hunting society, hunting grounds contracts, hunting protection, grant and refusal of hunting license, deer hunting and damage claims, charge and paid hunting license, open and close hunting season , wildlife trade, hunting weapons and others are treated. Another focus of this subject lies in the theoretical foundations for weaponry and handling of weapons. Students learn the important skills for safe handling of hunting arms (rifles and handguns) in small groups (seminar exercise). Based on this knowledge exercises for rifle shooting (standing buck, running boar), shotgun (clay pigeon) and pistols in a block course during the semester and on weekends are provided.
Recommended related elective modules	
Competence	Technical competence (90%), Methodological competence (10%)
References	Blase, Richard (2007): Die Jägerprüfung. 29. Auflage; Verlag Quelle und Meyer. Krebs, Herbert (2007): Vor und nach der Jägerprüfung; BLV Verlag. Aktuelle Gesetzestexte BJagdG und LJagdG Wolfgang Lipps (2004) : Jagdrecht in Brandenburg, Verlag Neudamm-Neudamm Mark Pückler (2002) : Der Jäger und sein Recht, Band 5, Verlag:Kosmos (Franckh-Kosmos) , Parey Zeitschriftenverlag

Seibt Siegfried (2007): Grundwissen Jägerprüfung. 2. Auflage; Kosmos Verlag

Kromschröder/Becker (1998): Vorbereitung auf die Jägerprüfung in Wort und Bild. 2000 Fragen und Antworten. Wild und Hund Leserservice

Hespeler, Bruno (2004): Jagdwissen auf einen Blick. 2. Auflage; BLV Verlag

Lipps, Wolfgang (2004): Jagdrecht in Brandenburg; Textausgabe mit Kommentar; Neumann-Neudamm Melsungen.

Module	Information- and (non)knowledge management	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch, Christoph Nowicki	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Lecture (18h), Practical Exercise (5h), Project (22h), self-study (75h)	
Language	English	
Examination form	Oral report	
Entry requirements		
Goal	Students are able to critically assess and use information sources for the purpose of preparing a technical paper or presentation. They understand the fundamentals of information and knowledge management and dispose of a good knowledge about useful information sources in the field of conservation and sustainable use of natural resources	
Content	<p>This course is designed as a response to the ever increasing overload of scientific and technical information and the growing challenge to permanently update acquired knowledge. The special character of scientific information and the relative value of knowledge are discussed. Students also will learn about the various forms of non-knowledge that are especially relevant in the context of ecosystem management and the Ecosystem Approach. The students shall practice effective and efficient techniques related to searching, documentation, learning and presenting technical information. The course will focus on examples of information dealing with aspects of the conservation and sustainable use of natural resources. It shall enhance general methodological and soft skills required throughout the studies and the professional career. Important topics are critical treatment and management of available information (online sources, advanced use of search machines, evaluation of information quality, online offers of scientific providers and relevant institutions, use of data bases), efficient learning and time management (priority setting, rapid appraisal of texts, work techniques and concentration, administration and storage of information), technically adequate and target-audience-oriented presentation of information (example preparation of PowerPoint presentations). Student groups are asked to prepare an oral report (ppt-presentation). Therefore, they have to:</p> <ul style="list-style-type: none"> • gather information on a selected topic (e.g., inter-governmental organizations and the information offer related to biodiversity, conservation, environment and forests, or scientific journals and how to use their information offer) • assess the information if it is relevant and useful • characterize and document it • use it for the presentation adequately citing the relevant information • deliver an effective presentation. 	
Recommended related elective modules	Project-based conservation and land-use management	
Competence	Technical competence (30%), Methodological competence (30%), Social competence (10%), Personal competence (10%), Media competence (20%)	
References	Barker, J. & J. Kupersmith (2007) UC Berkeley - Teaching Library Internet Workshops. Evaluating web pages: techniques to apply & questions to ask.	

Finding information on the internet: a tutorial.
<http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html>

Lyman, P. et al. (2004) How much information 2003? University of Berkely.
<http://www2.sims.berkeley.edu/research/projects/how-much-info-2003/>

Mikkeli Polytechnic Library and Information Centre
http://opko.laurea.fi/tiedonhallinta/polku/eng/wheretoget/2_1.html

Russell, M.A. & W.M. Shriner (2001) Creating Effective PowerPoint Presentations. <http://www.gst-d2l.com/TLC/TLCProj.html>

Sinex, S.A. (2002) Dynamic PowerPoint: a method for increased class participation. Prince George's Community College.
http://academic.pgcc.edu/~ssinex/DPP/Discover_alive.ppt

Vitek, W., Vitek, B. & Jackson, W. (2008). The Virtues of Ignorance: Complexity, Sustainability, and the Limits of Knowledge. University Press of Kentucky, Lexington.

Waltner-Toews, D., Kay, J.J. & Lister, N.-M.E. (eds., 2008). The Ecosystem Approach. Complexity, Uncertainty, and Managing for Sustainability. Columbia University Press, New York.

Further bibliography is mentioned and/or provided during the course.

Module	Intercultural communication	
Study programme	International Forest Ecosystem Management	
Semester	1. Sem.	
Module coordinator	Prof. Dr. Martin Welp	mwelp@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Martin Welp	
Lecturer	Prof. Dr. Martin Welp	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	32	
Teaching form	Lecture (15h), Practical Exercise (15h), Seminar (15h), self-study (75h)	
Language	English	
Examination form	Technical discussion 20 min (50%), Oral report (50%)	
Entry requirements		
Goal	Students have knowledge about the theoretical fundamentals of intercultural communication and are able to apply intercultural competences and skills in teams and in different kinds of organisations.	
Content	<p>In a globalized and interdependent world Intercultural communication is becoming more and more important. In future working life in natural resources management work is frequently organised in international teams. The module starts with an overview about different concepts of culture. It then leads to barriers in intercultural communication including misunderstandings and other problems that can be explained with the help of communication theories. Communication theories are also relevant when analysing the role of language in culture as well as non-verbal communication.</p> <p>Practical exercises with students, such as “Diversity Workshop” and “Mirror: Personal Profile” help to improve intercultural communication competences. Furthermore, students prepare a presentation based on an intercultural communication case study. Guest lecturers tell students about professional challenges in the field of development cooperation as well as multicultural communication from a policy science perspective.</p>	
Recommended related elective modules		
Competence	Methodological competence (33%), Social competence (33%), Personal competence (33%)	
References	<p>Baumer, Thomas: Handbuch Interkulturelle Kompetenz.-orell füssli Verlag AG, 2002.</p> <p>Bolten, J. u. C. Ehrhardt (Hrsg.): Interkulturelle Kommunikation: Texte und Übungen zum interkulturellen Handeln. Verlag Wissenschaft und Praxis, 2003.</p> <p>Beck-Wirtschaftsberater: Lokales Denken, globales Handeln. Interkulturelle Zusammenarbeit und globales Management. (Geert Hofstede). Deutscher Taschenbuch Verlag (dtv) München, 2. Aufl. 2001.</p> <p>Dahl, S. : Intercultural Skills for Business, London, ECE, 2000.</p> <p>Hall, E.T. u. M. R. Hall: Understanding cultural differences. Yarmouth, Me., Intercultural Press, 1990.</p> <p>Hofstede, G.H.: Culture’s consequences, international differences in</p>	

workrelated values. Beverly Hills, Sage Publications, 1980.

Module	Public relations and group related communication
Study programme	International Forest Ecosystem Management
Semester	1. Sem.
Module coordinator	Astrid Schilling aschilling@fh-egerswalde.de
Status	Elective
Coordinator	Astrid Schilling
Lecturer	Astrid Schilling, Gastdozenten, Prof. Dr. Heike Molitor, Gastdozenten
ECTS- Credits	4 Workload 120 h / Semester
SWH	4
Max. study places	20
Teaching form	Lecture (30h), Practical Exercise (12h), Project (6h), Seminar (12h), self-study (6h)
Language	German
Examination form	Project presentation (50%), Term paper (50%)
Entry requirements	
Goal	Students gain practical tools applicable in dealing with media (press, television, radio) and print media (printing, publishing) as well as representatives of public relations (press officer). They are enabled, using their emotional intelligence, to creatively communicate, write (creative writing) and organize thereby addressing the audience needs.
Content	<p>Theoretical fundamentals of public relations (PR) and event management are taught. Public relations and crisis PR for environmental and forestry issues for small and medium enterprises are in focus. Players in the PR, dealing with media and media representatives, forms of media relations and public relations communications are contents of the lectures. Insights into the history of forestry education and research (location Eberswalde) and new findings on the perception of forestry work yesterday and today are given to strengthen the awareness for the importance of public relations in the forestry sector and account for the new job description.</p> <p>In group and project work on the topic of a concrete event, students have to show their team skills and organizational skills. In preparation for the homework (write a press text for a certain audience (readers)) theoretical and immediately applicable knowledge on press releases, creative writing, mind mapping, printing products, design elements and layout is taught.</p>
Recommended related elective modules	
Competence	Technical competence (20%), Methodological competence (10%), Social competence (10%), Personal competence (10%), Media competence (50%)
References	<p>Faulstich, Werner: Grundwissen Öffentlichkeitsarbeit. – UTB für Wissenschaft: Uni-Taschenbücher; 2151.- München: Fink, 2001.</p> <p>Franck, Norbert: Handbuch Presse- und Öffentlichkeitsarbeit. Ein Praxisleitfaden für Vereine, Verbände und Institutionen. –S. Fischer Taschenbuch Verlag, Frankfurt am Main, 2003.</p> <p>Langmaack, B. u. M. Braune – Krickau: Wie die Gruppe laufen lernt. Beltz Verlag, Weinheim, 2000.</p> <p>Luthe, Detlef: Öffentlichkeitsarbeit für Nonprofit-Organisationen. Eine Arbeitshilfe. - Maro Verlag Augsburg, 4. Aufl. 2003.</p> <p>Marmet, Otto: Ich und du und so weiter. Kleine Einführung in die Sozialpsychologie. 9. Aufl. Beltz, Weinheim. 2006.</p>

Schulz von Thun, F.: Miteinander reden, Störungen u. Klärungen - Allgemeine Psychologie der Kommunikation. Rowohlt, Reinbek, 1997.

Schwäbisch, L & Siems, M.: Anleitung zum sozialen Lernen für Paare , Gruppen und Erzieher. Rowohlt, Reinbek, 1986.

Stahl, E.: Dynamik in Gruppen. Handbuch der Gruppenleitung. Belz, Weinheim, Basel, Berlin. 2002.

Von Werder, L.: Lehrbuch des kreativen Schreibens. - Schibri-Verlag, 4. Aufl., 2001.

Module	Data assessment and analysis I	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Barbara Wolff	bwolff@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to assess, store and analyze environmental data.	
Examination form	Project presentation, Written exam 90 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Forest mensuration I	
Coordinator	Prof. Dr. Barbara Wolff	
Lecturer	Prof. Dr. Barbara Wolff	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (18h), Practical Exercise (12h), self-study (60h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are skilled for the efficient and independent investigation, processing and analysis of simple space-oriented forest data.	
Content	Introduction to scientific/technical principles of cartography and applied geodesy for forestry- relevant applications; parameters of forest mensuration for single trees and forest stands; handling relevant measuring instruments of measurement and dendrometry; planning and realization of simple investigations in forests, analysis of forest data.	
Recommended related elective modules	Data assessment and analysis II	
Competence	Technical competence (50%), Methodological competence (30%), Personal competence (20%)	
References	<p>AVERY, T. E. & BURKHART, H. 1994: Forest Measurements. 4th edition. McGraw-Hill. 408p.</p> <p>GÄRTNER, M. & HAGEBUSCH, A. 1998: Fachkunde für Vermessungstechniker. 9. Auflage, Rheinland-Verlag, Pulheim, 351 S.</p> <p>HAKE, G., GRÜNREICH, D. & MENG, L. 2002: Kartografie (8. Auflage). De Gruyter Lehrbuch. 8. Auflage 603 S.</p> <p>WERNER, H., KURTH, H. ET AL. 1991: Forstvermessung und -Karten. Verl. F. Bauwesen. 148 S.</p> <p>KRAMER, H. & AKCA, A. 1995: Leitfaden zur Waldmesslehre; 3. Auflage. J.D.Sauerländer's Verlag, Frankfurt/M. 266S.</p> <p>VAN LAAR, A. & AKCA, A. 1997: Forest Mensuration, Cuvillier Verlag, Göttingen. 418 S.</p>	

Module	Data assessment and analysis I	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Barbara Wolff	bwolff@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to assess, store and analyze environmental data.	
Examination form	Project presentation, Written exam 90 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Introduction to Geographic Information Systems	
Coordinator	Prof. Dr. NN (GIS)	
Lecturer	Prof. Dr. NN (GIS)	
ECTS- Credits	5	Workload 150 h / Semester
SWH	4	
Max. study places		
Teaching form	Lecture (42h), Practical Exercise (18h), self-study (90h)	
Language	English	
Examination form	Project presentation (50%)	
Entry requirements		
Goal	Students are enabled to use geographic information system for natural resource management.	
Content	This module introduces GIS as a management tool and provides an overview of application opportunities of GIS in forestry. The following subjects will be covered in detail: spatial data and information; GIS technologies; maps; coordinate systems; legends; layouts; application of GIS in forestry. Students will learn to apply a selected software product and will work on the analysis and visualization of spatial data of a forest ecosystem or other ecosystem.	
Recommended related elective modules		
Competence	Technical competence (50%), Methodological competence (30%), Personal competence (10%), Media competence (10%)	
References	<p>Longley, P.A., M.F. Goodchild, D.J. Maguire & D.W. Rhind (2001): Geographic Information Systems and Science. John Wiley & Sons.</p> <p>A.H. Robinson, J.L. Morrison, P.C. Muehrcke, A.J. Kimerling & S.C. Guphill (1995): Elements of Cartography. John Wiley & Sons.</p>	

Module	Forest ecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled to contribute to the mitigation of negative interdependency in forest ecosystems and the demand of wild animals.	
Examination form	Project presentation, Written exam 120 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Game management	
Coordinator	Prof. Dr. Siegfried Rieger	
Lecturer	Prof. Dr. Siegfried Rieger	
ECTS- Credits	2	Workload 60 h / Semester
SWH	1	
Max. study places		
Teaching form	Lecture (12h), Seminar (3h), self-study (45h)	
Language	German	
Examination form	Written exam (30%)	
Entry requirements		
Goal	Students have the ability to apply their ecological knowledge so as to match the demands of wild animals with anthropogenic demands.	
Content	Varying topics and case studies from the field of game management with the emphasis on ecosystem-compatible treatment of hoofed game populations and resettlement of large meat eating predators.	
Recommended related elective modules	Field exercises in zoology and wildlife biology	
Competence	Technical competence (70%), Methodological competence (30%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	

Module	Forest ecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled to contribute to the mitigation of negative interdependency in forest ecosystems and the demand of wild animals.	
Examination form	Project presentation, Written exam 120 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Silvicultural basics	
Coordinator	Prof. Dr. Dieter Murach	
Lecturer	Prof. Dr. Dieter Murach	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (15h), Practical Exercise (6h), Seminar (9h), self-study (30h)	
Language	German, English	
Examination form	Written exam (30%)	
Entry requirements		
Goal	Students will gain an understanding of the interrelationship forest man-environment of forest ecosystems based on the combination of knowledge from the forest based disciplines.	
Content	Based on the knowledge of the basic disciplines of forestry, in particular soil science, vegetation science, and forest botany, the basic interactions between forest ecosystems and their environment are discussed. Important environmental and site factors are presented; their identification in the field is explained; and it will be discussed the effect of these conditions on the growth of individual trees and stands. Especially the element and water balance of forests will be discussed in detail. The ecological requirements of tree species will be outlined and the environmental consequences of the management of forest ecosystems will be explained with examples.	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Mitscherlich, G. 1975, 1978, 1981: Wald, Wachstum und Umwelt, 3Bände. Sauerländer's Verlag, Frankfurt.</p> <p>Otto, H.-J. 1994: Waldökologie. Ulmer-Verlag Stuttgart.</p> <p>Burschel, P. und Huss, J. 1997: Grundriss des Waldbaus: Ein Leitfaden für Studium und Praxis. Blackwell Wissenschafts-Verlag.</p> <p>Dengler, A. 1990: Waldbau auf ökologischer Grundlage. Band 1 und 2. Parey-Verlag Hamburg und Berlin.</p>	

Module	Forest ecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled to contribute to the mitigation of negative interdependency in forest ecosystems and the demand of wild animals.	
Examination form	Project presentation, Written exam 120 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Ecology	
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Harald Schill, Prof. Dr. Barbara Wolff	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Lecture (18h), Practical Exercise (9h), Project (18h), self-study (75h)	
Language	German, English	
Examination form	Project presentation (40%)	
Entry requirements		
Goal	Students understand the basic principles of ecology and the methods used to investigate (forest) ecosystems. They are able to apply that knowledge in practical field work, analyze the results and draw conclusions on the status and potential development of a managed forest ecosystem.	
Content	In the lecture part, students will be introduced to the fundamentals of ecology (energy flow, food chains, nutrient cycling) and the adaptations of organisms to environmental factors (light, temperature etc.). Furthermore, the development of ecosystems is highlighted and common methods for the investigation of (forest-) ecosystems are presented. In the practical part, students will work in groups on long-term experimental plots. These are small sections of diverse forest ecosystems in the surroundings of Eberswalde which have been managed in different ways, therefore ranging from close-to-nature forests to artificial, single-tree species forest stands. Instructed by various experts, students will analyze the site conditions (soil, climate), vegetation (species and structure), stand structure and yield, and animal community of the plots. Students will learn to organize and perform practical work in the field as a team. The practical part and the lectures are continued in the 3rd semester (Applied Forest Ecology).	
Recommended related elective modules		
Competence	Technical competence (35%), Methodological competence (35%), Social competence (20%), Personal competence (10%)	
References	Mühlenberg: Freilandökologie (UTB). Begon, Harper, Townsend: Ökologie (Springer, 2009). Southwood, Henderson: Ecological Methods (Wiley- Blackwell 2000).	

Module	Site ecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Winfried Riek	wriek@fh-eberswalde.de
Status	Mandatory	
Goal	Students are able to understand forest sites as ecological systems. Students are further able to describe sites according to their geological, soil and climatic characteristics and to identify foreign and native tree and shrub species.	
Examination form	Written exam 120 min	
ECTS-Credits	6	Workload 180 h / Semester
SWH instructed	4	

Module component	Dendrology	
Coordinator	Prof. Dr. Harald Schill	
Lecturer	Prof. Dr. Harald Schill, Dr. Bernhard Götz	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (15h), Practical Exercise (15h), self-study (60h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to identify native and foreign species of trees and shrubs by using identification hand-books. Students further gain knowledge of tree-ecology and systematics of selected tree-taxa.	
Content	Fundamentals of tree-taxonomy, including morphology, ecology and distribution range of trees; field trips: identification exercises for conifers, broadleaved trees and shrubs.	
Recommended related elective modules	Plant identification	
Competence	Technical competence (50%), Methodological competence (50%)	
References	FITSCHEN, J. (2002): Gehölzflora. Quelle & Meyer, Wiebelsheim BARTELS, H. (1993): Gehölzkunde. E. Ulmer Verlag, Stuttgart	

Module	Site ecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Winfried Riek	wriek@fh-egerswalde.de
Status	Mandatory	
Goal	Students are able to understand forest sites as ecological systems. Students are further able to describe sites according to their geological, soil and climatic characteristics and to identify foreign and native tree and shrub species.	
Examination form	Written exam 120 min	
ECTS-Credits	6	Workload 180 h / Semester
SWH instructed	4	

Module component	Site ecology	
Coordinator	Prof. Dr. Winfried Riek	
Lecturer	Prof. Dr. Winfried Riek, Dr. Steffen Schobel	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (27h), Practical Exercise (3h), self-study (60h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to understand forest sites as ecological systems and to identify opportunities and risks based on geological, soil and climatic characteristics. Knowledge of the forest site is recognized and used as a basis for silvicultural activities in terms of sustainable forest management.	
Content	Students are taught fundamentals and advanced knowledge of applied soil science, climatology and hydrology. In the center of attention is the temperature, water and nutrient balance of forest ecosystems. Climate parameters are presented and the process of vertical and horizontal air differentiation is being explained. Simple methods for the estimation and calculation of soil ecological and site parameters, such as effective root space, usable field capacity, soil water available for plants, nutrient supply, acid-base conditions, buffer capacity and humus condition and their interpretation are taught deepeningly. Questions of site change and its influencing factors are discussed on the basis of recent findings. Further content of the lectures are site investigation procedures of the different counties and the use of the forest site map. As a result of this knowledge conclusions for forest management (tree species selection) are derived based on site conditions.	
Recommended related elective modules	Field and laboratory training in soil science	
Competence	Technical competence (50%), Methodological competence (50%)	
References	<p>Arbeitskreis Standortskartierung in der Arbeitsgemeinschaft Forsteinrichtung 2003: Forstliche Standortsaufnahme. IHW-Verlag Eching bei München.</p> <p>Gisi, U. 1997: Bodenökologie. Georg Thieme-Verlag. Stuttgart.</p> <p>Riek, W. Stähr, F. 2004: Eigenschaften typischer Waldböden im Nordostdeutschen Tiefland unter besonderer Berücksichtigung von Brandenburg. Eberswalder Forstliche Schriftenreihe. Landesforstanstalt und</p>	

MLUR (Hrsg.). Eberswalde Potsdam.

Zech, W., Hintermaier-Erhard 2002: Böden der Welt. Spektrum Akademischer Verlag. Heidelberg Berlin.

Module	Biosphere reserve management	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Practical Exercise (40h), Seminar (5h), self-study (75h)	
Language	German, English	
Examination form	Project report (50%), Oral report (50%)	
Entry requirements		
Goal	The students are enabled to critically discern the management challenges and strategic conservation planning in biosphere reserves on the basis of a concrete example of an area.	
Content	<p>Biosphere reserves are model regions, where the coexistence of man and nature is to be developed and tested by the way of examples. They are internationally recognized under the UNESCO program 'Man and the Biosphere' (MAB) in accordance with defined criteria as part of the World Network of Biosphere Reserves. Biosphere reserves are among the most important elements of conservation strategies of most countries in the world. Part of the course is the visit of a biosphere reserve (at home or abroad (the instructor reserves the right to define the study visit every year new on the basis of current circumstances. Under some circumstances, the availability of funding and affordability for the interested students will be considered.)). The situation of the reserve should be considered in a comprehensive way. An introduction to natural history and ecology of the visited sites only plays a secondary role. The main objective is to primarily understand the nature conservation policy framework for protected area management and the collection of important current problems and management challenges. In the context of student presentations and discussions with staff of the protected area administration conservation objectives and implementation strategies should be critically analyzed and documented. Among other issues, it involves the evaluation of protection and management effectiveness and the development of proposals for solving existing problems. The practical exercise in the protected areas will be prepared in form of seminars. The results of the exercises are summarized in a report.</p>	
Recommended related elective modules	Adaptive conservation site management, Project-based conservation and land-use management	
Competence	Technical competence (70%), Social competence (20%), Personal competence (10%)	
References	<p>Bruner, A. G., Gullison, R. E., Rice, R. E. & G. A. B. da Fonseca (2001). Effectiveness of parks in protecting tropical biodiversity. <i>Science</i> 291, 125–128.</p> <p>Dudley, N, Mulongoy, K. J., Cohen, S., Stolton, S., Barber, C.V. & S. B. Gidda (2005). Towards effective protected area systems: an action guide to implement the convention on biological diversity programme of work on protected areas. Convention on Biological Diversity, Secretariat Montreal, CA: Secretariat of the Convention on Biological Diversity. http://www.biodiv.org/doc/publications/cbd-ts-18.pdf</p>	

Hockings, M., Stolton, S. & N. Dudley (2000). Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas. Best Practice Protected Area Guidelines Series No. 6. IUCN, Gland, Switzerland and Cambridge, UK. <http://www.iucn.org/dbtw-wpd/edocs/PAG-006.pdf>

Lockwood, M., G. Worboys & A. Kothari (eds.) (2006). Managing Protected Areas - a global guide. Earthscan.

Vanclay, J.K., A. G. Bruner, R. E. Gullison, R. E. Rice, and G. A. B. da Fonseca (2001). The effectiveness of Parks. *Science* 293, 1007a-1007.

Website der World Commission on Protected Areas
<http://www.iucn.org/themes/wcpa/>

Weitere Literatur – v.a. zum konkret besuchten Schutzgebiet - wird im Rahmen der Veranstaltung genannt bzw. zur Verfügung gestellt.

Module	Dendroecology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Harald Schill	hschill@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Harald Schill	
Lecturer	Prof. Dr. Harald Schill	
ECTS- Credits	4	Workload 120 h / Semester
SWH	2	
Max. study places	10	
Teaching form	Lecture (30h), self-study (90h)	
Language	German	
Examination form	Written exam	
Entry requirements	General botany	
Goal	The students are enabled to identify function, correlations and plant-physiological as well as genetic mechanisms.	
Content	Plant physiology at the example of carbon and water balance; applied genetics of trees	
Recommended related elective modules		
Competence	Technical competence (90%), Methodological competence (10%)	
References	<p>LARCHER, W. (1994): Ökophysiologie der Pflanzen. E.Ulmer Verlag, Stuttgart;</p> <p>RAVEN, P. et al. (2005): Biologie der Pflanzen, Walter de Gruyter, Berlin; Lyr, H.;</p> <p>FIEDLER, H.J.; TRANQUILLI, W. (1992): Physiologie und Ökologie der Gehölze; G. Fischer, Jena</p> <p>HATTEMER, H. H.; BERGMANN, E.; ZIEHE (1993): Einführung in die Genetik für Studierende der Forstwissenschaft. Sauerländer's Verlag, Frankfurt a.M.</p>	

Module	Environmental education	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Astrid Schilling	aschilling@fh-eberswalde.de
Status	Elective	
Coordinator	Astrid Schilling	
Lecturer	Astrid Schilling, Gastdozenten	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Lecture (18h), Practical Exercise (9h), Project (5h), Seminar (14h), self-study (75)	
Language	German	
Examination form	Project presentation (50%), Project report (50%)	
Entry requirements		
Goal	Students are sensitized to the issue of environmental education (especially for forest-related education) in terms of sustainability and to become multipliers for an environmentally sustainable acting with strong environmental skills. They gain the ability to independently carry out a guide tour through the forest with a specific audience. Students will understand environmental education as a forward-looking concept that, in addition to the ecological dimensions, also has in mind the economic, social, and global dimension of sustainable development.	
Content	The module will impart information, practices and values to enable acting and responsible people to deal with the consequences of their actions in the natural, built and social environment. Further, the history of environmental education and its global impact in the 21st century are covered as well as its place in the education for sustainable development. The students deal with the implementation of nature related environmental education, appropriate for different age and target groups. For planning and implementing a guided forest tour, didactic and methodological fundamentals are taught. According to the international orientation of the program, the environmental education in other countries is discussed presenting examples. Other important aspects are the user-oriented processing of knowledge in natural sciences, outdoor and wilderness education, experiencing nature with all senses (Flow Learning), the tree as a symbol, forms of learning and action in environmental education and the study of specific target groups (e.g. disabled people) as well as institutions and organizations for environmental education at home and abroad.	
Recommended related elective modules		
Competence	Technical competence (40%), Methodological competence (30%), Social competence (20%), Personal competence (10%)	
References	<p>Bayerisches Staatsministerium für Ernährung, Landwirtschaft und Forsten: Forstliche Bildungsarbeit. Ein Leitfaden für Förster. (Ordner: Loseblattsammlung), 6. Aufl. 2004.</p> <p>Bolay, E.; B. Reichle: Handbuch der waldbezogenen Umweltbildung. Teil 1: Theorie.-Schneider verlag GmbH, November 2007.</p> <p>Brämer, Rainer: Natur obskur: Wie Jugendliche heute Natur erfahren. - Oekom Verlag, 1. Aufl. 2006</p> <p>Cornell, Joseph: Mit Cornell die Natur erleben: Natureerfahrungsspiele für Kinder und Jugendliche. - Verlag an der Ruhr, 1. Aufl. 2006</p>	

Grupo Aprender con la Naturaleza: A Day of Adventure in the Forest: Environmental Activities for Protected Areas, Panama, 2003. (in Zusammenarbeit mit der GTZ Deutschland)

Lingelbach, J.; L. Purcell (ed.): Hands-On Nature. Information and Activities for Exploring the Environment with Children. - Vermont Institute of Natural Science (USA), 1986.

Lohri, F.; A. Schwyter Hofmann: Treffpunkt Wald. Waldpädagogik für Forstleute., 2. Aufl. 2004.

Palmer, J.: Environmental Education in the 21st Century: Theory, Practice, Progress and Promise.-London and New York, 1998.

Module	Exercises in zoology and game management	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Siegfried Rieger	srieger@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Siegfried Rieger	
Lecturer	Prof. Dr. Siegfried Rieger, Prof. Dr. Andreas Linde	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	10	
Teaching form	Lecture (5h), Practical Exercise (31h), Seminar (9h), self-study (75h)	
Language	German	
Examination form	Work report	
Entry requirements	Successful completion of the module "Zoological fundamentals"	
Goal	<p>Students can identify a range of regionally occurring species. They are familiar with the species' biological characteristics and protection status. Students have working knowledge of current recording methods.</p> <p>Students can identify problem areas of wildlife management, analyze the arguments of representatives of various stakeholders and develop solutions. They possess skills to collaborate in the creation of wildlife management plans.</p>	
Content	<p>Based on the module "Zoological fundamentals", here the knowledge of the regionally occurring species is taught. There will be treated both groups of vertebrates (including amphibians, reptiles, birds, mammals) and invertebrates (ground running arthropods, aquatic organisms). The module focuses on the identification of species (identification exercises, seminars), but also covers common recording methods exercised in practice (including limnological methods). In addition, knowledge of biology, ecological requirements and about the dangers of animal species is taught in the context of lectures, exercises and seminars.</p> <p>In addition, building on the theoretical fundamentals mediated in the sub-module "ecology and wildlife management", current examples of wildlife management are presented. Locally in various natural areas, the problem areas are identified, areas of conflict are analyzed and solutions are presented. In addition, different management strategies are presented.</p>	
Recommended related elective modules	Field exercises in zoology and wildlife biology	
Competence	Technical competence (40%), Methodological competence (35%), Social competence (15%), Personal competence (5%), Media competence (5%)	
References	<p>Bährmann / Müller: Bestimmung wirbelloser Tiere.</p> <p>Aktuelle Literatur wird – angepasst an die jeweiligen Praxisbeispiele – vor Beginn des Moduls bekanntgegeben.</p>	

Module	Field and laboratory training in soil science	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Winfried Riek	wriek@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Winfried Riek	
Lecturer	Prof. Dr. Winfried Riek, Andrea Koj	
ECTS- Credits	4	Workload 120 h / Semester
SWH	2	
Max. study places	20	
Teaching form	Practical Exercise (30h), self-study (90h)	
Language	German	
Examination form	Work report	
Entry requirements		
Goal	Students know the basics of practical sampling and laboratory analysis in soil science. They are able to develop sampling approaches independently to select and carry out appropriate laboratory tests and to critically interpret the results. In the field they are able to derive appropriate estimation parameters for soil identification from morphological characteristics of the soil profile.	
Content	Methods for the investigation of soils are presented and applied together. The use of drilling and sampling equipment will be practically explained. The differences between original-volume and disturbed samples, as well as questions of the representativeness of the sample are elaborately presented. After that, the lab technical devices are introduced, as well as the own implementation of soil physical and chemical analysis to derive soil parameters, such as particle size cumulative curve, pore volume, bulk density, pH-value, loss on ignition, cation exchange capacity, acid / base neutralization capacity and carbonate capacity. In small groups different examination series will be evaluated and the soil science laboratory results are comparatively discussed and debated. The overall validity of the analysis carried out will be developed on the basis of all group results and their dispersion and will be critically examined.	
Recommended related elective modules	Field exercises in site ecology	
Competence	Technical competence (30%), Methodological competence (50%), Social competence (10%), Personal competence (10%)	
References	Arbeitskreis Standortkartierung in der Arbeitsgemeinschaft Forsteinrichtung 2003: Forstliche Standortsaufnahme. IHW-Verlag Eching bei München. Riek, W., Wolff, B. (2007): Bodenkundliche Indikatoren für die Auswertung der Bodenzustandserhebung im Wald (BZE II). Forschungszentrum Waldökosysteme der Universität Göttingen. Reihe B. Band 74. Göttingen.	

Module	Field exercises in zoology and wildlife biology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Siegfried Rieger	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Practical Exercise (36h), Seminar (9h), self-study (75h)	
Language	German, English	
Examination form	Project presentation	
Entry requirements	Successful completion of the module "Zoological fundamentals"	
Goal	The students are able to recognize and assess correlations between habitat and biology, ecology and life. The theoretical fundamentals of the sub-module in zoology and wildlife biology will be strengthened through practical exercises. The students acquire applicable knowledge of species (wildlife, ornithology, entomology, botany, etc.).	
Content	Based on the module "Zoological fundamentals" (1. semester), knowledge of the species in regions outside Germany is mediated in this exercise as part of a weeklong excursion. Both groups of vertebrates (including amphibians, reptiles, birds, mammals), as well as invertebrates (mainly arthropods) are covered. The identification of species (identification exercises in the field) is in the foreground. In addition, knowledge of biology, environmental claims, threats to the species and protected area management is mediated by means of presentations. With regard to vertebrate biology, the ecology and management of large mammals is the focus of attention.	
Recommended related elective modules		
Competence	Technical competence (50%), Methodological competence (30%), Social competence (15%), Personal competence (5%)	
References	Bährmann / Müller: Bestimmung wirbelloser Tiere. Aktuelle Literatur wird – angepasst an die jeweiligen Praxisbeispiele – vor Beginn des Moduls bekannt gegeben.	

Module	Foreign language II	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Evi Sammer	esammer@fh-eberswalde.de
Status	Elective	
Coordinator	Evi Sammer	
Lecturer	Dozenten Sprachenzentrum	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Seminar (30h), self-study (30h)	
Language	German, English	
Examination form	Written exam	
Entry requirements		
Goal	Students are able to communicate field-related in foreign language skills.	
Content	Depending on the respective language.	
Recommended related elective modules		
Competence	Technical competence (75%), Social competence (25%)	
References		

Module	Hunting practice	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Siegfried Rieger	srieger@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Siegfried Rieger	
Lecturer	Prof. Dr. Siegfried Rieger	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places	8	
Teaching form	Practical Exercise (27h), Project (3h), self-study (30h)	
Language	German	
Examination form	Project report	
Entry requirements	Hunting licence	
Goal	Students have sound hunting-practical skills and are able to hunt ecosystem adapted according to the technical requirements.	
Content	Making use of the Universities hunting ground. Additional teaching of ecosystem adapted hunting strategies und practical hunting skills, game hygiene and proper handling. Written analysis of hunting activities.	
Recommended related elective modules		
Competence	Technical competence (40%), Methodological competence (30%), Social competence (10%), Personal competence (20%)	
References	Hespeler, Bruno (2000): Jagd 2000 plus; nimrod Verlag. Wölfel, Helmuth (Hg.) (2003) : Bewegungsjagden; Leopold Stocker Verlag. Kujaweski, Olgierd (2007): Wildbrethygiene.	

Module	Plant identification
Study programme	International Forest Ecosystem Management
Semester	2. Sem.
Module coordinator	Prof. Dr. Harald Schill hschill@fh-eberswalde.de
Status	Elective
Coordinator	Prof. Dr. Harald Schill
Lecturer	Prof. Dr. Harald Schill
ECTS- Credits	4 Workload 120 h / Semester
SWH	2
Max. study places	20
Teaching form	Practical Exercise (15h), Seminar (15h), self-study (90h)
Language	German, English
Examination form	Written exam
Entry requirements	
Goal	Students can apply the fundamentals of plant systematics and applied vegetation science and are enabled to identify native herbaceous plant species by using identification hand-books.
Content	Fundamentals of plant systematics (selected herbaceous plant families); morphology of stem, flowers and fruits; practical exercises of plant identification; vegetation of the world, european forests.
Recommended related elective modules	Dendroecology
Competence	Technical competence (50%), Methodological competence (50%)
References	ROSE, F. (1991): The Wildflower Key. Penguin Books. Harmondsworth SCHMEIL, O.; FITSCHEN, J. (2002): Flora von Deutschland. Quelle & Meyer, Wiebelsheim

Module **Practical exercises in nature conservation**

Study programme	International Forest Ecosystem Management
Semester	2. Sem.
Module coordinator	Prof. Dr. Pierre Ibisch pibisch@fh-egerswalde.de
Status	Elective
Coordinator	Prof. Dr. Pierre Ibisch
Lecturer	Prof. Dr. Pierre Ibisch
ECTS- Credits	4 Workload 120 h / Semester
SWH	3
Max. study places	10
Teaching form	Practical Exercise (36h), Seminar (9h), self-study (75h)
Language	German
Examination form	Technical discussion 20 min
Entry requirements	
Goal	Students are qualified to critically discuss nature conservation measures based on specific examples of selected protection objects and on the basis of their theoretical knowledge.
Content	Based on various examples located in the area of Eberswalde, analyses of nature conservation situations are carried out and protection measures for different protected objects are discussed. The students will be familiarized with different protection approaches (e.g. different categories of protected areas, in situ and ex situ conservation, integrative and segregative actions).
Recommended related elective modules	Adaptive conservation site management, Biosphere reserve management
Competence	Technical competence (100%)
References	Groom, M.J., G. K. Meffe, & C. R. Carroll (2006) Principles of Conservation Biology (3rd edition), Sinauer, 699 pages. Güthler, W., Market, R., Häusler, A. & Dolek, M. (2005) Vertragsnaturschutz im Wald - Bundesweite Bestandsaufnahme und Auswertung. BfN-Skripte 146: 1-180. Ibisch, P.L. & M. Bertzky (2006): Halting biodiversity loss: fundamentals and trends of conservation science and action. In Biodiversity: Structure and Function, from Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [http://www.eolss.net] Winkel, G., Schaich, H.; Konold, W. & Volz, K.-R. (2005): Naturschutz und Forstwirtschaft. Bausteine einer Naturschutzstrategie im Wald. Bonn (BUNDESAMT FÜR NATURSCHUTZ); Schriftenreihe Naturschutz und Biologische Vielfalt. 398 S. Weitere Literatur wird im Rahmen der Veranstaltung genannt bzw. zur Verfügung gestellt.

Module	Wildlife biology	
Study programme	International Forest Ecosystem Management	
Semester	2. Sem.	
Module coordinator	Prof. Dr. Siegfried Rieger	srieger@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Siegfried Rieger	
Lecturer	Prof. Dr. Siegfried Rieger	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Seminar (45h), self-study (75h)	
Language	German	
Examination form	Project presentation	
Entry requirements	Successful completion of the module "Zoological fundamentals"	
Goal	Students have an overview of the biology and ecology of wildlife with emphasis on mammals and birds. Another focus is the lifestyle of native wildlife.	
Content	Contents of this module are biology and ecology of selected species of wild animals. Students choose a species or species group from a predefined list. After extensive study of literature about the selected species, students are requested to hold a presentation on biology, ecology, current issues and management strategies. The preparation takes place in small groups and the presentation before the entire group.	
Recommended related elective modules		
Competence	Technical competence (40%), Methodological competence (20%), Social competence (10%), Personal competence (10%), Media competence (20%)	
References	Literaturrecherche ist ein wesentlicher Teil bei der Ausarbeitung der Präsentation.	

Module	Applied forest ecology	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to apply scientific methods for the analysis and identification of forest fauna and ecosystems regarding appropriate silvicultural management.	
Examination form	Project report, Written exam 90 min	
ECTS-Credits	7	Workload 210 h / Semester
SWH instructed	5	

Module component	Forest entomology	
Coordinator	Prof. Dr. Curt Majunke	
Lecturer	Prof. Dr. Curt Majunke	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Practical Exercise (22h), Seminar (8h), self-study (60h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students have the ability to recognize the most common groups of insects in forests with a special focus on the recognition of important pest species and their damage scheme in forestry systems.	
Content	Subject of this course are the studies of biological and ecological characteristics and economic importance of silviculturally relevant pathogens in Central Europe. Other important representatives from the groups of parasitoids and predators are covered. These include especially species, genera and families from the orders of beetles, butterflies, hymenoptera and diptera (biology, ecology and economic importance of relevant insect species in forestry - or groups - in systematic order, study of the occurrence of various pests on appropriate host plants).	
Recommended related elective modules	Forest growth and inventory	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Amann, G.: Kerfe des Waldes. 11. durchges. Aufl. , Augsburg, Naturbuch-Verlag, 1995.</p> <p>Grüne, S.: Handbuch zur Bestimmung der europäischen Borkenkäfer. Hannover: Schaper Verlag, 1979.</p> <p>Novak, V., Stary, B., Hrozinka, F., Stary, B.: Atlas nützlicher Forstinsekten. 5., unveränd. Aufl., Stuttgart: Enke Verlag, 1992.</p> <p>Chinery, M.: Insekten Mitteleuropas. Berlin und Hamburg: Verlag Paul Parey, 1984.</p> <p>Carter, D.J.: Raupen und Schmetterlinge Europas. Berlin und Hamburg: Verlag Paul Parey, 1987.</p>	

Module	Applied forest ecology	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Andreas Linde	alinde@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to apply scientific methods for the analysis and identification of forest fauna and ecosystems regarding appropriate silvicultural management.	
Examination form	Project report, Written exam 90 min	
ECTS-Credits	7	Workload 210 h / Semester
SWH instructed	5	

Module component	Applied ecology	
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Winfried Riek, Prof. Dr. Barbara Wolff	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Lecture (18h), Practical Exercise (9h), Project (18h), self-study (75h)	
Language	German, English	
Examination form	Project report (50%)	
Entry requirements		
Goal	Students are able to analyze (forest-)ecosystems in respect of site conditions, nutrient availability, climatic conditions, stand structure and growth parameters, and plant and animal community. Furthermore, students know the different interactions among organisms and the concepts of Applied Ecology (e.g. biological control).	
Content	The students continue the practical, analytical work on the experimental plots (see module Ecology, 2nd semester). They apply different methods in field ecology and the concept of plant communities and ground beetles as indicators for site conditions and the status of ecosystems. Students will learn to organize and perform practical work in the field as a team, and summarize and interpret all results in a written report. The lecture part of the course focuses on Applied Ecology. Population ecology and its application (biological control) will be studied, as well as the significance of global changes (here: invasive species) for ecosystems. Furthermore, students will learn concepts of intra- and interspecific interactions.	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (35%), Social competence (25%), Personal competence (10%)	
References	Mühlenberg: Freilandökologie (UTB). Begon, Harper, Townsend: Ökologie (Springer 2009). Southwood, Henderson: Ecological Methods (Wiley-Blackwell 2000).	

Module	Data assessment and analysis II	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Barbara Wolff	bwolff@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to assess, store and analyze environmental data as well as to design, implement and analyze social surveys related to target groups.	
Examination form	Project presentation, Work report, Written exam 90 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Social survey methods	
Coordinator	Prof. Dr. Martin Welp	
Lecturer	Prof. Dr. Martin Welp	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (15h), Practical Exercise (15h), self-study (60h)	
Language	English	
Examination form	Project presentation (33%)	
Entry requirements		
Goal	Students are able to design and implement social scientific studies related to natural resources management.	
Content	<p>The students are introduced to survey design and methodology in order to be enabled to conduct scientific surveys that yield accurate, unbiased, and generalizable results about opinions, attitudes and behaviour of the society or parts thereof. Surveys are a systematic way of asking people to volunteer information about their attitudes, behaviours, opinions and beliefs. The success of survey research is based on how close the answers that people give to survey questions match reality. Surveys as a research method are widely used, including public opinion polls, market research studies and in academic social science studies. Planners and administrators use surveys to get baseline information for policy decisions. Social scientists use surveys to measure for example voter behaviour. Economists rely on regular consumer surveys for information on family financial conditions of families. Students will explore the range of areas in which surveys are used. Furthermore they will design a survey, conduct it as well as analyze and present the results. Students will critically discuss the applied method, possible biases and other methodological and conceptual aspects of their project.</p>	
Recommended related elective modules	Adaptive conservation site management, Social forestry and extension methods	
Competence	Technical competence (20%), Methodological competence (20%), Social competence (20%), Personal competence (20%), Media competence (20%)	
References	<p>Keith F. Punch. 2005. Introduction to Social Research. Quantitative and Qualitative Approaches. Sage Publications, London. 336 p.</p> <p>James L. Creighton 2005. The public participation handbook. Making better Decision through Citizen Involvement.</p>	

Module	Data assessment and analysis II	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Barbara Wolff	bwolff@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to assess, store and analyze environmental data as well as to design, implement and analyze social surveys related to target groups.	
Examination form	Project presentation, Work report, Written exam 90 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Geographical information systems and remote sensing I	
Coordinator	Prof. Dr. NN (GIS)	
Lecturer	Prof. Dr. NN (GIS)	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (15h), Seminar (15h), self-study (30h)	
Language	English	
Examination form	Work report (33%)	
Entry requirements		
Goal	Students are enabled to use geographic information system and remote sensing techniques for natural resources management.	
Content	Geographic Information Systems (GIS) are introduced from various viewpoints: traditional and GIS maps are introduced and compared. The role of GIS in spatial information systems is discussed. Special features of GIS such as map projection, geo-referencing, data types and spatial data formats are handled in detail. The second focus is on Remote Sensing (RS). The role of RS as method of monitoring and inventory of forest and environment is introduced, discussed and demonstrated with the help of various practical applications. Different branches of RS such as photographs, aerial RS and satellite RS are handled. Another focus is on image processing and on image interpretation and classification. The use of RS as source of GIS data and information is demonstrated. Examples for practical exercises come mainly from forest protection.	
Recommended related elective modules	Project-based conservation and land-use management	
Competence	Technical competence (50%), Methodological competence (20%), Personal competence (20%), Media competence (10%)	
References	<p>Longley, P.A., M.F. Goodchild, D.J. Maguire & D.W. Rhind (2001): Geographic Information Systems and Science. John Wiley & Sons.</p> <p>A.H. Robinson, J.L. Morrison, P.C. Muehrcke, A.J. Kimerling & S.C. Guptill (1995): Elements of Cartography. John Wiley & Sons.</p> <p>Campbell, J.B. (2002): Introduction to Remote Sensing. Guilford Press, New York.</p> <p>Lillesand, T.M., R.W. Kiefer (1999): Remote Sensing and Image Interpretation. John Wiley & Sons, Inc.</p>	

Module	Data assessment and analysis II	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Barbara Wolff	bwolff@fh-egerswalde.de
Status	Mandatory	
Goal	The students are enabled to assess, store and analyze environmental data as well as to design, implement and analyze social surveys related to target groups.	
Examination form	Project presentation, Work report, Written exam 90 min	
ECTS-Credits	8	Workload 240 h / Semester
SWH instructed	6	

Module component	Forest mensuration II	
Coordinator	Prof. Dr. Barbara Wolff	
Lecturer	Prof. Dr. Barbara Wolff	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (18h), Practical Exercise (12h), self-study (60h)	
Language	German	
Examination form	Written exam (33%)	
Entry requirements		
Goal	Students are able to get involved in forest mensuration, especially in forest taxation and complex forest ecological investigations.	
Content	Measurement of single trees and stand; area/mass/increment calculation; methods of stand inventory; target-orientated conception of forest mensuration.	
Recommended related elective modules	Forest growth and inventory	
Competence	Technical competence (50%), Methodological competence (40%), Personal competence (10%)	
References	<p>EVERY, T. E. & BURKHART, H. 1994: Forest Measurements. 4th edition. McGraw-Hill. 408p.</p> <p>GÄRTNER, M. & HAGEBUSCH, A. 1998: Fachkunde für Vermessungstechniker. 9. Auflage, Rheinland-Verlag, Pulheim, 351 S.</p> <p>HAKE, G., GRÜNREICH, D. & MENG, L. 2002: Kartografie (8. Auflage). De Gruyter Lehrbuch. 8. Auflage 603 S.</p> <p>WERNER, H., KURTH, H. ET AL. 1991: Forstvermessung und -Karten. Verl. F. Bauwesen. 148 S.</p> <p>KRAMER, H. & AKCA, A. 1995: Leitfaden zur Waldmesslehre; 3. Auflage. J.D.Sauerländer's Verlag, Frankfurt/M. 266S.</p> <p>VAN LAAR, A. & AKCA, A. 1997: Forest Mensuration, Cuvillier Verlag, Göttingen. 418 S.</p>	

Module	Technical fundamentals of forestry	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled, by means of the correspondent biological and technical skills, to manage forest ecosystems target-orientated and have knowledge in measurement, utilisation and marketing of timber and other forest products.	
Examination form	Written exam 90 min	
ECTS-Credits	7	Workload 210 h / Semester
SWH instructed	6	

Module component	Harvest planning in forestry	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (30h)	
Language	German, English	
Examination form	Written exam (33%)	
Entry requirements		
Goal	Students are able to contribute to the planning and implementation of resource protecting, sustainable harvest planning in forestry in an international context.	
Content	Significance, aims and restrictions of timber harvesting; logging technologies and processes; planning process; implementation and controls; RIL (reduced impact logging).	
Recommended related elective modules	Exercises in forest harvest planning, Forest and landscape development	
Competence	Technical competence (70%), Methodological competence (30%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben	

Module	Technical fundamentals of forestry	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled, by means of the correspondent biological and technical skills, to manage forest ecosystems target-orientated and have knowledge in measurement, utilisation and marketing of timber and other forest products.	
Examination form	Written exam 90 min	
ECTS-Credits	7	Workload 210 h / Semester
SWH instructed	6	

Module component	Forest products	
Coordinator	Prof. Dr. NN (Forstnutzung)	
Lecturer	Prof. Dr. NN (Forstnutzung)	
ECTS- Credits	3	Workload 90 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (60h)	
Language	German, English	
Examination form	Written exam (33%)	
Entry requirements		
Goal	Students have special knowledge in wood anatomy with a focus on domestic timber and dominate the identification of wood, wood defect detection and the assessment and evaluation for the purpose of timber grading.	
Content	This module contains the following topics: anatomy of wood; cytology: structure and function of wood cells; histology: structure and function of wood fibres; wood species identification; chemical wood composition; physical properties of wood; growth characteristics and wood defects; causes, diagnosis and effects on sorting and use; characteristics of trunk form, inner composition of wood.	
Recommended related elective modules	Forest utilisation	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Grammel, R. (1989): Forstbenutzung (Pareys Studentexte Nr. 67), Berlin/Hamburg.</p> <p>Knigge, W.; Schulz, H. (1966): Grundriß der Forstbenutzung, Parey-Verlag Berlin/Hamburg.</p> <p>Sachsse, H. (1984): Einheimische Nutzhölzer und ihre Bestimmung nach makroskopischen Merkmalen, Pareys Studentexte Nr.44, Hamburg/Berlin.</p> <p>Wagenführ, R. (1999) Anatomie des Holzes DRW-Verlag Weinbrenner Leinfelden-Echterdingen.</p>	

Module	Technical fundamentals of forestry	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Mandatory	
Goal	Students are enabled, by means of the correspondent biological and technical skills, to manage forest ecosystems target-orientated and have knowledge in measurement, utilisation and marketing of timber and other forest products.	
Examination form	Written exam 90 min	
ECTS-Credits	7	Workload 210 h / Semester
SWH instructed	6	

Module component	Forest, humans and work	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (30h), self-study (30h)	
Language	German, English	
Examination form	Written exam (33%)	
Entry requirements		
Goal	Students are able to plan and supervise manual forest operations according to current standards.	
Content	Introduction; aspects of work physiology, work psychology and work sociology; environmental conditions in forestry work; work security; work loans; work organization.	
Recommended related elective modules	Exercises in forest harvest planning, Exercises in forestry work	
Competence	Technical competence (80%), Methodological competence (20%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben	

Module	Applied economics	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Wolf-Henning von der Wense	vdwense@fh-eberswalde.de
Status	Elective	
Examination form	Project report, Technical discussion 20 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Environmental economics	
Coordinator	Prof. Dr. Wolf-Henning von der Wense	
Lecturer	Prof. Dr. Wolf-Henning von der Wense, Wolfram Eilbacher	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places	24	
Teaching form	Lecture (15h), Practical Exercise (6h), Project (9h), self-study (30h)	
Language	German	
Examination form	Project report (50%)	
Entry requirements		
Goal	Students know the fundamentals of environmental economics and are able to classify and communicate environmental-economic issues.	
Content	The students receive theoretical knowledge on environmental economics and possibilities of assessing environmental services economically. Within the frame of a project it is dealt with case studies that are based on the utilization and conversion of natural resources. Students get to know the specific needs of different stakeholders and enforce this in a role-play.	
Recommended related elective modules		
Competence	Technical competence (40%), Methodological competence (40%), Social competence (20%)	
References	Bergen, V., Löwenstein, W., Olschewski, R. 2002. Forstökonomie, Vahlen. München Cansier, D. Umweltökonomie. Lucius & Lucius. Stuttgart	

Module	Applied economics	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Wolf-Henning von der Wense	vdwense@fh-eberswalde.de
Status	Elective	
Examination form	Project report, Technical discussion 20 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	4	

Module component	Forest economics	
Coordinator	Prof. Dr. Wolf-Henning von der Wense	
Lecturer	Prof. Dr. Wolf-Henning von der Wense	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places	24	
Teaching form	Lecture (9h), Practical Exercise (21h), self-study (30h)	
Language	German	
Examination form	Technical discussion 20 min (50%)	
Entry requirements		
Goal	Students know economic models and methods relevant for the management of forestry operations and can apply them purposefully and effectively in the context of decision making. They are able to give relevant economic advice to forest owners on the basis of individual operating conditions.	
Content	This sub-module provides the students with knowledge of internal procedures and processes in businesses and their economic significance. It covers the operational process areas (procurement, production, sales, investment and finance) and explains administrative actions. Forestry operations are investigated under optimization criteria. The students work with cost and performance models, and learn to deal with calculations and figures and how to interpret them. Basic knowledge regarding the evaluation of forestry operations, including the example of valuation of game damage, will be taught. The students will gain insight into the eligibility of privately owned forests and opportunities for an effective consulting of the clientele. Tax considerations are looked upon, as well.	
Recommended related elective modules	Entrepreneurship	
Competence	Technical competence (40%), Methodological competence (60%)	
References	<p>Jung, H. 2008. Allg. Betriebswirtschaftslehre, Oldenbourg. München</p> <p>Oesten, G. und Roeder, A. 2002. Management von Forstbetrieben, Bd. 1 – Grundlagen, Betriebspolitik. Kessel. Remagen-Oberwinter</p> <p>Sagl, W. 1995. Bewertung in Forstbetrieben. Parey. Berlin, Oxford, Blackwell</p> <p>Schmitthüsen, F. et al. 2009. Unternehmerisches Handeln in der Wald- und Holzwirtschaft. 2. Aufl. Verlag Universität Freiburg, Inst. f. Forstökonomie</p> <p>Setzer, F., Sinner, K. 2007. Waldbesitzerhandbuch. Neumann-Neudamm</p>	

Module	Element budgets of global forest ecosystems	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Dieter Murach	dmurach@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Dieter Murach	
Lecturer	Prof. Dr. Dieter Murach	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	15	
Teaching form	Lecture (9h), Practical Exercise (18h), Seminar (18h), self-study (75h)	
Language	German, English	
Examination form	Written exam	
Entry requirements	Basic knowledge in chemistry	
Goal	Students are familiar with approaches to quantify the balance of matter in forest ecosystems.	
Content	<p>In order to assess the importance of forests as carbon sinks, the carrying capacity of forest ecosystems regarding emissions, the risks of over-exploitation of our forests for timber energy production and many other issues, the corresponding fluxes and nutrient stores in forest ecosystems need to be quantified. Based on practical examples the corresponding methods are developed for the monitoring of chemical cycles in forest ecosystems. The influence of the forest manager on the element budget of forests is outlined. Monitoring concepts for the element budget of forest ecosystems are discussed as well as procedures for the assessment of nitrogen pollution on forest ecosystems in the context of environmental impact assessments.</p>	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (70%)	
References	Ulrich, B. 1990/91: Stoffhaushalt von Wald-Ökosystemen. Bioelementhaushalt. Vorlesungsskript Inst. f. Bodenkunde und Waldernährung, Uni Göttingen.	

Module	Exercises in forestry work	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mrmussong@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	17	
Teaching form	Practical Exercise (22h), Seminar (22h), self-study (75h)	
Language	German	
Examination form	Project report	
Entry requirements		
Goal	Students are able to plan and guide forestry work.	
Content	Knowledge of the most important forest tools, devices and machines; application and areas of application; methodological knowledge of time and performance review calculation as well as work and machine cost calculation.	
Recommended related elective modules	Exercises in forest harvest planning	
Competence	Technical competence (40%), Methodological competence (20%), Social competence (20%), Personal competence (20%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben.	

Module	Forest and landscape development	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	4	Workload 120 h / Semester
SWH	4	
Max. study places	20	
Teaching form	Lecture (48h), Practical Exercise (12h), self-study (60h)	
Language	German	
Examination form	Written exam	
Entry requirements		
Goal	Students are able to contribute to the planning of the development of forests and landscapes, taking into account the management and recreational purposes	
Content	Introduction to forest development; major and minor road development; soil as building ground and building material; parameter of forest development; general development planning; development models; single planning; building realisation; maintenance; development for recreational purposes.	
Recommended related elective modules	Exercises in forest harvest planning, Forest and landscape development for recreational use	
Competence	Technical competence (60%), Methodological competence (30%), Personal competence (10%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben.	

Module	Forest damage diagnostics	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Curt Majunke	cmajunke@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Curt Majunke	
Lecturer	Prof. Dr. Curt Majunke, Dr. Paul Heydeck	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Practical Exercise (34h), Seminar (11h), self-study (75h)	
Language	German	
Examination form	Written exam	
Entry requirements		
Goal	Students are enabled to detect and based on obvisory opinion to describe forest damages of meteorogenic, anthropogenic and biotic reasons.	
Content	The curse focuses on the detection of forest damage caused by meteorological and climatic effects (especially storms, snow and droughts), anthropogenic influences (especially emissions, unbalanced nutrient contents, use of machinery, land melioration) and biotic induced forest damage (especially from vertebrates, insects and microorganisms) on the basis of field characteristics. Furthermore, knowledge of the professional removal of test material and documentation of relevant information on the damage formation and regime will be taught.	
Recommended related elective modules	Forest growth and inventory	
Competence	Technical competence (80%), Methodological competence (20%)	
References	Altenkirch, W., Majunke, C., Ohnesorge, B.: Waldschutz auf ökologischer Grundlage. Eugen Ulmer, 2002. Hartmann, G.,Nienhaus, F.,Butin, H.: Farbatlas Waldschäden. 3. Aufl. Eugen Ulmer, 2007.	

Module	Forest utilisation	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. NN (Forstnutzung)	
Status	Elective	
Coordinator	Prof. Dr. NN (GIS)	
Lecturer	Prof. Dr. NN (Forstnutzung)	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	30	
Teaching form	Lecture (22h), Practical Exercise (22h), self-study (75h)	
Language	German	
Examination form	Written exam	
Entry requirements	General botany	
Goal	Students are enabled to determine wood species, to recognise faults in the timber structure and how to assess and evaluate timber for sorting and utilisation.	
Content	The module covers fundamentals of wood anatomy with the following subejects: structure and function of wood cells and wood fibres, wood species identification of the chemical wood composition, physical properties of wood, growth characteristics and wood defects, causes, diagnosis and effects on sorting and use, principles of measuring, use and marketing of wood and other forest products.	
Recommended related elective modules		
Competence	Technical competence (60%), Methodological competence (30%), Personal competence (10%)	
References	Grammel, R. (1989): Forstbenutzung (Pareys Studentexte Nr. 67), Berlin/Hamburg. Knigge, W.; Schulz, H. (1966): Grundriß der Forstbenutzung, Parey-Verlag Berlin/Hamburg. Sachsse, H. (1991): Exotische Nutzhölzer, Pareys Studentexte Nr. 68, Hamburg/Berlin. Mitchel, A. (1981): Die Wälder der Welt, Hallwag Verlag Bern/Stuttgart. Frommhold, H. (2002): Technologische Eigenschaften und Verwendung des Holzes in „Ausländische Baumarten in Brandenburgs Wäldern“, Herausgeber: Landesforstanstalt Eberswalde.	

Module	Fundamentals of phytopathology and environmental monitoring	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Prof. Dr. Harald Schill	hschill@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Harald Schill	
Lecturer	Prof. Dr. Harald Schill, Prof. Dr. Barbara Wolff	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	10	
Teaching form	Lecture (36h), Practical Exercise (9h), self-study (75h)	
Language	German	
Examination form	Written exam	
Entry requirements		
Goal	Students are able to identify fundamental biotic and abiotic cause-and-effect-relations in plant diseases and to apply methods of environmental monitoring.	
Content	This module contains the following topics: biotic causes of diseases, focus on immissions; biotic pathogens, focus on fungi; host-parasite relationship; infection chains; wound reaction of plants; symptomatology; methods of environmental monitoring in forests.	
Recommended related elective modules	Applied forest phytopathology	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>HOFFMANN, G. et al. (1976): Lehrbuch der Phytomedizin. Verlag P. Parey, Hamburg und Berlin.</p> <p>SCHWERDTFEGER, F. (1981): Waldkrankheiten. Verlag P. Parey, Hamburg und Berlin.</p> <p>GÄUMANN, E. (1951): Pflanzliche Infektionslehre. Verlag Birkhäuser, Basel.</p>	

Module	Modern hunting strategies
Study programme	International Forest Ecosystem Management
Semester	3. Sem.
Module coordinator	Prof. Dr. Siegfried Rieger srieger@fh-egerswalde.de
Status	Elective
Coordinator	Prof. Dr. Siegfried Rieger
Lecturer	Prof. Dr. Siegfried Rieger
ECTS- Credits	4 Workload 120 h / Semester
SWH	4
Max. study places	8
Teaching form	Project (54h), Seminar (6h), self-study (60h)
Language	German
Examination form	Project presentation (50%), Project report (50%)
Entry requirements	Hunting licence
Goal	Students are able to organize hunting operations for public or private forestry owners according to modern, ecological principles. They are also able to independently plan, organize and conduct greater movement hunts.
Content	This subject introduces modern, ecosystem-oriented hunting strategies. According to the theoretical fundamentals practical knowledge of hunting safety regulations, logistics and game hunting hygiene will be deepened by the independent and responsible planning and execution of a movement hunt. This is done by regular practical hunting in the didactic-hunting grounds of the University of Applied Sciences Egerswalde. The success of the planned and implemented processes will be reviewed by the subsequent evaluation in form of a project report.
Recommended related elective modules	
Competence	Technical competence (40%), Methodological competence (20%), Social competence (40%)
References	Eisenbarth, Eberhard und Ophoven Ekkehard (2002): Bewegungsjagd auf Schalenwild; Kosmos Verlag Hespeler, Bruno (2000): Jagd 2000 plus; nimrod Verlag Kujaweski, Olgierd (2007): Wildbrethygiene Wölfel, Helmuth (Hg.) (2003) : Bewegungsjagden; Leopold Stocker Verlag Wölfel, Helmuth (Hg.) (2003) : Bewegungsjagden; Leopold Stocker Verlag

Module	Specialisation modul I	
Study programme	International Forest Ecosystem Management	
Semester	3. Sem.	
Module coordinator	Studiengangsleiter	
Status	Elective	
Coordinator	Studiengangsleiter	
Lecturer	N.N.	
ECTS- Credits	4	Workload 120 h / Semester
SWH	4	
Max. study places		
Teaching form	Project (60h), self-study (60h)	
Language	German, English	
Examination form	Project report (50%), Project presentation (50%)	
Entry requirements		
Goal	The students are able work on a specific topic in form of a project or document work and present the results.	
Content	The students deal with a question of practical relevance. To get to the corresponding results they apply appropriate methods. The results will be documented and presented in report form.	
Recommended related elective modules	Specialisation modul II	
Competence		
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	

Module	Applied silviculture and risk management	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Peter Spathelf	pspathelf@fh-eberswalde.de
Status	Mandatory	
Goal	The students are able to develop, evaluate and put into practice forest management strategies. In addition, their applicable knowledge in forest protection qualifies them to independently plan and conduct forest protection measures.	
Examination form	Written exam 120 min	
ECTS-Credits	6	Workload 180 h / Semester
SWH instructed	5	
Module component	Silviculture	
Coordinator	Prof. Dr. Peter Spathelf	
Lecturer	Prof. Dr. Peter Spathelf	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (21h), Practical Exercise (6h), Seminar (3h), self-study (30h)	
Language	English	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are able to develop, evaluate and put into practice forest management approaches/strategies on the basis of knowledge on forest ecology, forest growth and yield, soil sciences and silviculture. Specific silvicultural methods are well-known and can be applied to concrete situations according to the goals of the forest enterprise or the landowner, respectively.	
Content	<p>In the module ‚silviculture‘ specific tools of applied silviculture such as techniques of artificial and natural regeneration, tending of young stands and thinning, pruning, silvicultural systems, strategies to produce high valued timber are discussed and evaluated. Moreover, silvicultural techniques are applied in practical exercises.</p> <p>Additionally, emphasis is laid on programmes of close-to-nature silviculture, forest conversion and adaptation of forestry/silviculture to climate change as well as the maintenance of biodiversity in managed forests.</p> <p>In international forestry selected topics of plantation forestry and natural forest management are provided.</p>	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>FAO (2005): State of the world's forests. FAO, Rome. www.fao.org</p> <p>Fritz, P. (Hrsg.) 2006. Ökologischer Waldumbau in Deutschland. Fragen, Antworten, Perspektiven. Oekom-Verlag. 351 S.</p> <p>Nambiar, E.K.S. 1999. Pursuit of Sustainable Plantation Forestry. Southern African Forestry Journal, No 184. p. 45-62.</p> <p>Pearce, D., Putz, F.E. & Vanclay, J.K. (2003): Sustainable forestry in the tropics:</p>	

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Prabhu, B.R., Weidelt, H.-J. & Leinert, S. (1993): Erfahrungen und Möglichkeiten einer nachhaltigen Bewirtschaftung von artenreichen tropischen Regenwäldern. Weltforum Verlag, München, Köln, London. Band 109. 292 S.

Röhrig, E., Bartsch, N. & Von Lüpke, B. 2006. Waldbau auf ökologischer Grundlage. 7. Auflage. Verlag Eugen Ulmer Stuttgart. 479. S.

Smith, D.M. 1962. The practice of silviculture. John Wiley & Sons, New York. 578 p.

Spathelf, P., Schneider, P.R., Finger, C.A., 2001. Zur nachhaltigen Bewirtschaftung von Araukarien-Mischwäldern in Südbrasilien. Forstarchiv 72, 92-100.

Module	Applied silviculture and risk management	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Peter Spathelf	pspathelf@fh-eberswalde.de
Status	Mandatory	
Goal	The students are able to develop, evaluate and put into practice forest management strategies. In addition, their applicable knowledge in forest protection qualifies them to independently plan and conduct forest protection measures.	
Examination form	Written exam 120 min	
ECTS-Credits	6	Workload 180 h / Semester
SWH instructed	5	
Module component	Forest protection	
Coordinator	Prof. Dr. Curt Majunke	
Lecturer	Prof. Dr. Curt Majunke	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Lecture (18h), Practical Exercise (11h), Seminar (16h), self-study (75h)	
Language	German	
Examination form	Written exam (50%)	
Entry requirements		
Goal	Students are enabled to plan and practically implement forest protection measures.	
Content	The following subjects of forest protection are covered: possibilities and limits of forest health and prevention, causes and manifestations of important silvicultural forest diseases and forest damages and their impact on nature and forestry, monitoring and forecasting methods, prevention and control measures. Based on practical and theoretical examples, the variety of harmful effects is discussed and decision making in order to minimize damages is trained.	
Recommended related elective modules	Applied forest phytopathology	
Competence	Technical competence (40%), Methodological competence (40%), Social competence (10%), Personal competence (5%), Media competence (5%)	
References	<p>Altenkirch, W.; Majunke, C.; Ohnesorge, B.: Waldschutz auf ökologischer Grundlage. Eugen Ulmer, 2002.</p> <p>Hartmann, G., Nienhaus, F., Butin, H.: Farbatlas Waldschäden. 3. Aufl. Eugen Ulmer, 2007.</p> <p>König, H.-C.: Waldbrandschutz - Kompendium für Forst und Feuerwehr. 2007.</p>	

Module	Development and environmental policy	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Klaus Günther-Dieng	kgdieng@fh-egerswalde.de
Status	Mandatory	
Coordinator	Prof. Dr. Klaus Günther-Dieng	
Lecturer	Prof. Dr. Klaus Günther-Dieng, Prof. Dr. Hartmut Ihne	
ECTS- Credits	6	Workload 180 h / Semester
SWH	4	
Max. study places		
Teaching form	Lecture (30h), Practical Exercise (30h), self-study (120h)	
Language	English	
Examination form	Term paper (50%), Technical discussion 20 min (50%)	
Entry requirements		
Goal	Students know of the basic elements of the two sectoral politic fields concerning Development and Environment and the essential legal documents. They are able to take actively part in public discussions and write statements and other contributions e.g. for organization which are engaged in this field. They can develop arguments and are trained in dispute participation and moderation.	
Content	Starting with the differences between developed and developing countries and the common indicators the most important principles, strategies and means of international cooperation and assistance will be explained and discussed. The explanations will be illustrated by current legal cases. As an important part of international policy the globalized trade system will be discussed with the introduction to the basic regulations GATT, GATS and TRIPS. Also, the main actors and their tasks will be introduced divided in Governmental and Non-governmental Institutions. Finally, funding sources and regulations, furthermore conflicts and conflict management in natural resources will be discussed.	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (10%), Social competence (10%), Personal competence (10%)	
References	<p>FAO(2007, 2009): State of the World Forests.</p> <p>Nuscheler, Franz (2004): Entwicklungspolitik, Dietz Verlag.</p> <p>Head, Keith (2007): Elements of multinational strategy, Springer-Verlag.</p> <p>Wold, Ch.; Gaines, S.; Block,G. (2005): Trade and the Environment, Carolina acad. Press.</p> <p>UNEP - IISD (2008): Environment and Trade – Handbook.</p> <p>UNCTAD (2008): Trade and Development Report.</p> <p>World Bank (2007): Agriculture for development.</p> <p>Bhagwati, J. (2004): In defence of globalisation, Oxford University Press.</p> <p>Salzman, J.; Thompson, Barton H. (2007): Environmental Law & Policy.</p> <p>Hunter, D.; Salzman,J.; Zaelke, D. (2006): International Environmental Law &</p>	

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Rittberger, V.; Zangl, B.(2007): International Organisationen, Grundwissen Politik, Bd 10.

Module	Forest growth and inventory
Study programme	International Forest Ecosystem Management
Semester	4. Sem.
Module coordinator	Prof. Dr. Martin Guericke mguericke@fh-egerswalde.de
Status	Mandatory
Goal	Students are able to independently coordinate and contribute to forest inventories, yield predictions, harvesting techniques and forest protection measures.
Coordinator	Prof. Dr. Martin Guericke
Lecturer	Prof. Dr. Barbara Wolff, Prof. Dr. Martin Guericke
ECTS- Credits	6 Workload 180 h / Semester
SWH	4
Max. study places	
Teaching form	Lecture (42h), Practical Exercise (18h), self-study (120h)
Language	German, English
Examination form	Written exam
Entry requirements	Biometry, Forest Mensuration I and II
Goal	Students are able to estimate the impact of different parameters like genetic origin and soil or climatic conditions on growth and yield of single trees just as well on forest stands. They are able to differ between growth and yield functions, to apply a yield class system (yield table) to predict the productivity (timber) and to describe different types of stand structures and stand compositions. They are able to apply growth models and to use such models to calculate, to evaluate and to discuss the results of different growth scenarios. Further, students handle fundamental methods and techniques of forest inventories.
Content	<p>The part "forest growth" covers the following subjects: Study of forest site evaluation; site index and yield class systems just as the main structure and findings of yield tables. Practical exercises to work out stand descriptions, height measurements (site classification and height curve construction) just as measurements of basal area (stand density) to predict the current stand volume and the current increment based on yield tables are carried out. Characteristics of diameter growth and influencing factors (e.g. spacing and thinning) on quantity, quality and stability of single trees and forest stands were presented, moreover the characteristics / attributes of crowns (crown parameters) and measurement techniques of crown parameters and modelling of crown expansion were lectured. Fundamentals on growth modelling and the application of such models are presented.</p> <p>In the part "forest inventory" the following subjects will be covered: Statistical basics of forest inventory; sampling units; sampling procedure; data processing, analysis and presentation; planning and organisation of forest inventories; international case studies.</p>
Recommended related elective modules	Short rotation and agro forestry
Competence	Technical competence (60%), Methodological competence (25%), Social competence (5%), Personal competence (10%)
References	<p>Vanclay, J.K., 1994: Modelling Forest Growth and Yield. Applications to Mixed Tropical Forests. Cab International. ISBN: 0 85198 913 6.</p> <p>Pretzsch, H. (2002): Grundlagen der Waldwachstums-forschung, Parey Buchverlag im Blackwell Verlag, 378 S. ISBN: 3-8263-3223-7.</p> <p>AKCA, A. 2000: Forest Inventory. Eigenverlag Institut für Waldinventur und</p>

Waldwachstum, Uni Göttingen. 191 S.

COCHRAN, W. G. 1977: Sampling Techniques. 3. ed. Wiley & Sons, New York. 428 S.

DE VRIES, P. G. 1986: Sampling Theory for Forest Inventory. Springer. 339 S.

SHIVER, B.D. & BORDERS, B.E. 1996: Sampling Techniques for Forest Resources Inventories. Wiley, New York. 356 S.

Module	Student research colloquium	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Christoph Nowicki	cnowicki@fh-egerswalde.de
Status	Mandatory	
Coordinator	Christoph Nowicki	
Lecturer	Christoph Nowicki	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Seminar (45h), self-study (75h)	
Language	English	
Examination form	Protocol, Technical discussion 20 min (50%)	
Entry requirements		
Goal	Students are enabled to present and critically discuss recent projects on (forest) ecosystem management in different regions of the world. They will deepen their understanding of political, socioeconomic, geographical and ecological issues in the context of forest ecosystem management, obtaining a broad and integral vision of the existing challenges and possible approaches of local actors.	
Content	The course provides a platform for the presentation and discussion of diverse topics related to Forest Ecosystem Management facilitating the exchange of experiences and views, especially among IFEM students (4th semester) preparing the practical internship semester abroad and those who concluded it (6th semester). The latter present lectures on their semester abroad providing general political, geographical, ecological, and socioeconomic information about the host country and the sectors related to the use and conservation of natural resources, as well as specific insights into their research projects and ongoing activities of the host institutions. Accompanied by the module instructor, the presentations will be evaluated with regard to the content and formal presentation techniques by a group of 4th semester students together with the audience to enhance presentation, evaluation and listening skills. Furthermore, the 4th semester will summarize the project and region related results of each presentation in seminar proceedings, divided in different thematic chapters according to the diversity of presentations. The students of the 4th semester will form several groups to cover all thematic areas. One group (editorial board) will guide the process of writing the seminars proceedings.	
Recommended related elective modules		
Competence	Technical competence (50%), Social competence (20%), Personal competence (10%), Media competence (10%)	
References	Literature is covering the full range of international forest ecosystem management and will depend on the specific project. At the end of every presentation, references will be provided.	

Module	Adaptive conservation site management	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Lecture (14h), Practical Exercise (31h), self-study (75h)	
Language	English	
Examination form	Project presentation	
Entry requirements		
Goal	On the basis of basic knowledge about current protected area-related issues, the students are enabled to develop conservation strategies based on the principles of adaptive management.	
Content	Apart from attending the introductory lectures on current protected area-related issues provided by the instructor, student teams will develop a basic and simple management plan for an existing protected area following a methodological approach proposed by the The Conservation Measures Partnership (CMP): Open Standards for the Practice of Conservation. CMP is a partnership of important conservation NGOs (such as The Nature Conservancy, WWF, Conservation International or the IUCN Worlds Commission on Protected Areas) that seek better ways to design, manage, and measure the impacts of their conservation actions. This planning methodology represents a logical step-by-step procedure enabling the course participants to consider the relevant management challenges that exist in conservation projects worldwide. The course represents a combination of lectures on theoretical topics and an ongoing tutorial. The practical exercises will be carried out in small teams of 4-5 students.	
Recommended related elective modules	Project-based conservation and land-use management	
Competence	Technical competence (30%), Methodological competence (40%), Social competence (10%), Personal competence (10%), Media competence (10%)	
References	<p>Conservation Measures Partnership (2007) Open Standards for the Practice of Conservation. Version 2.0. October 2007. http://www.conservationmeasures.org/CMP/Site_Docs/CMP_Open_Standards_Version_2.0.pdf</p> <p>Conservation Measures Partnership & BENETECH (2009) Miradi. Adaptive management software for conservation projects. https://miradi.org/</p> <p>Lockwood, M., G. Worboys & A. Kothari (eds.) (2006) Managing protected areas - a global guide. Earthscan.</p> <p>Margoluis, R. & N. Salafsky. 1998. Measures of success: Designing, managing, and monitoring conservation and development projects. Washington D.C.: Island Press.</p> <p>Salafsky, N., R. Margoluis & K. Redford (2001) Adaptive Management: A tool for conservation practitioners. Biodiversity Support Program (BSP), WWF.</p>	

http://www.fosonline.org/resources/Publications/AdapManHTML/Adman_1.html

The Nature Conservancy: Conservation Action Planning (CAP) Resources.
Planning software, sample workbooks, handbooks, and related papers
<http://conserveonline.org/workspaces/cbdgateway/cap/resources>

Website der World Commission on Protected Areas
<http://www.iucn.org/themes/wcpa/>

Weitere Literatur wird im Rahmen der Veranstaltung genannt bzw. zur Verfügung gestellt.

Module	Application of Geographic Information Systems in natural resource management	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. NN (GIS)	
Status	Elective	
Coordinator	Prof. Dr. NN (GIS)	
Lecturer	Prof. Dr. NN (GIS)	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Practical Exercise (22h), Project (11h), Seminar (11h), self-study (75h)	
Language	English	
Examination form	Project presentation	
Entry requirements		
Goal	The students are able to apply geographic information systems (GIS) in the field of natural resource management in practice using case studies.	
Content	Students deal with a complex question of the analysis of spatial data using GIS tools. On the basis of the question, the relevant spatial data are obtained and analyzed and then integrated into the decision support.	
Recommended related elective modules	GIS and remote sensing II	
Competence	Technical competence (60%), Methodological competence (30%), Media competence (10%)	
References	<p>Longley, P.A., M.F. Goodchild, D.J. Maguire & D.W. Rhind (2001): Geographic Information Systems and Science. John Wiley & Sons.</p> <p>A.H. Robinson, J.L. Morrison, P.C. Muehrcke, A.J. Kimerling & S.C. Guphill (1995): Elements of Cartography. John Wiley & Sons.</p>	

Module	Applied forest phytopathology	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Curt Majunke	cmajunke@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Curt Majunke	
Lecturer	Prof. Dr. Curt Majunke, Dr. Paul Heydeck	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	50	
Teaching form	Lecture (18h), Practical Exercise (14h), Seminar (14h), self-study (75h)	
Language	German	
Examination form	Written exam	
Entry requirements		
Goal	Students are enabled to recognize fungi species (groups) important in forestry, to assess importance and infestation symptoms to implement proper prevention, monitoring and abatement measures.	
Content	The course has the following subjects: fundamentals of treatment and study of important tree disease; symptom analysis; diagnostics of microbial pathogen substances (including differential diagnosis); presentation of the way of living of important pathogens; counter measures.	
Recommended related elective modules	Forest ecology	
Competence	Technical competence (70%), Methodological competence (30%)	
References	<p>Altenkirch, W., Majunke, C., Ohnesorge, B.: Waldschutz auf ökologischer Grundlage. Eugen Ulmer, 2002.</p> <p>Butin, H.: Krankheiten der Wald- und Parkbäume. Diagnose - Biologie - Bekämpfung. 3. Aufl., Stuttgart, New York: Thieme Verlag, 1996.</p> <p>Hartmann, G.; Nienhaus, F.; Butin, H.: Farbatlas Waldschäden. Stuttgart: Ulmer Verlag, 2007.</p> <p>Nienhaus, F., Butin, H., Böhmer, B.: Farbatlas Gehölzkrankheiten. Stuttgart: Ulmer Verlag, 1992.</p> <p>Neger, F. W.: Die Krankheiten unserer Waldbäume und der wichtigsten Gartengehölze. Stuttgart: Enke Verlag, 1924.</p>	

Module	Entrepreneurship	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Hans-Peter Benedikt	hbenedikt@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Hans-Peter Benedikt	
Lecturer	Prof. Dr. Wolf-Henning von der Wense, Prof. Dr. Hans-Peter Benedikt, Sebastian Mittmann	
ECTS- Credits	4	Workload 120 h / Semester
SWH	4	
Max. study places		
Teaching form	Lecture (15h), Project (45h), self-study (60h)	
Language	German	
Examination form	Project report	
Entry requirements	Successful completion of basic modules (Fundamentals of forest economics, Applied forest economics and private forest consultancy)	
Goal	Students are able to develop a bankable business plan for a company's founding in the light of sustainability aspects, which meets all requirements concerning funding, organization and marketing as well as fiscal aspects. In team work with students from other departments, students learn to gain insights into the interaction of economics, ecology and social responsibility.	
Content	<p>Founding TOPSIM simulation. Students define in a team the strategy of their virtually founded company based on a business plan. They start a business and manage the business in competition with other teams over several periods. These business decisions must be taken to have the decisive importance both for the individual period and for the future of the company and its employees. Each of the phases includes specific economic, technical and social challenges. This is true for small sums, but great fun learning with the simulation. Finally, the students draw a conclusion about how their business has been merged into the virtual "reality."</p> <p>There is the possibility to participate in step 2 and 3 of the business plan competition and in further of the Career Center.</p>	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (40%), Social competence (30%)	
References	<p>Benedikt, H.-P., Mönkhoff, R. 2007. Nachhaltiges Wirtschaften, Mehring, Berlin.</p> <p>b-p-w.de: Handbuch.</p> <p>Hofert, S. 2009. Praxisbuch Existenzgründung. Eichborn, Frankfurt a. M.</p>	

Module	Exercises in forest harvest planning	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	17	
Teaching form	Practical Exercise (36h), Seminar (9h), self-study (75h)	
Language	German	
Examination form	Project report	
Entry requirements	Harvest planning in forestry	
Goal	Students are able to develop, plan and organise a project of forest harvesting measures in an international context.	
Content	Students work through the whole planning process of a harvesting measure in an actual forest stand.	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (30%), Social competence (10%), Personal competence (30%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben.	

Module	Forest and landscape development for recreational use	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Michael Mussong	mmussong@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Michael Mussong	
Lecturer	Prof. Dr. Michael Mussong	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	17	
Teaching form	Project (45h), self-study (75h)	
Language	German	
Examination form	Project report	
Entry requirements	Forest and landscape development	
Goal	Students are able to contribute to the planning of the development of forests and landscapes even in an international context, taking into account the management and recreational purposes.	
Content	Practical general and individual planning: projecting a development measure for recreational purposes.	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (30%), Social competence (10%), Personal competence (30%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	

Module	Short rotation and agro forestry	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Dieter Murach	dmurach@fh-eberswalde.de
Status	Elective	
Coordinator	Prof. Dr. Dieter Murach	
Lecturer	Prof. Dr. Dieter Murach, Astrid Schilling, Gastdozenten	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places		
Teaching form	Lecture (14h), Practical Exercise (14h), Seminar (18h), self-study (75h)	
Language	German, English	
Examination form	Technical discussion 20 min (50%), Project report (50%)	
Entry requirements		
Goal	<p>Short rotation forestry: Students know the basics of the management of wood as agricultural crops in the EU, particularly in view of the current technologies and the economics and the ecology of this new form of land use.</p> <p>Agroforestry: Students are enabled to recognize agroforestry systems and techniques, especially in developing countries of Asia, Africa and South America and to evaluate them in terms of their practicality also against the respective cultural background. Further, they are able to assess the situation, the importance of globally relevant agricultural crops and trees in agroforestry systems.</p>	
Content	<p>Short rotation forestry: The cultivation of fast-growing tree species on agricultural land in the EU (agricultural timber or short rotation forestry) is presented in theory and practice. Against the background of their study areas and research projects, the guidelines for the management of agricultural timber are developed by concrete examples. The topics include the framework for the production of agricultural timber in the EU, perspectives of agricultural timber for energy use, tree species selection, planting and harvesting techniques, economic characteristics, nutrient balance and ecology of short rotation forestry.</p> <p>Agroforestry: Students know about agroforestry systems and agroforestry technologies (agroforests, boundary systems, fauna based systems; Taungyas; trees with crops, physical support systems, water management systems) by means of examples in different countries / areas. An important aspect is the evaluation of agroforestry systems, e.g. by harvest principles and the land equivalent ratio (LER). Students will know about agricultural crops in the world (the importance of nutrition, presentation of main crops) and relevant agroforestry tree species (multipurpose trees). In a final project work in teams based on the example of a case study students will apply and reflect what they have learned as well as flexibility and conflict management.</p>	
Recommended related elective modules	Forest management strategies and evaluation	
Competence	Technical competence (60%), Methodological competence (20%), Social competence (20%)	
References	<p>Short Rotation Department of Environment, Food and Rural Affairs (Defra) 2004: Growing short rotation coppice. http://www.naturalengland.org.uk/Images/short-rotation-coppice_tcm6-4262.pdf [04.09.2009]</p>	

Tubby, I. & Armstrong, A. (2002). The Establishment and management of short rotation coppice. Forestry Commission Practice Note 7.
<http://www.forestry.gov.uk/Website/Publications.nsf/WebPubsByISBN/0855385677> [04.09.2009]

Liebhard, P. (2007): Energieholz im Kurzumtrieb - Rohstoff der Zukunft. 128 Seiten, Leopold Stocker Verlag ISBN 978-3-7020-1150-5.

Murach, D., Knur, L. und Schultz, M. (Hrsg.) 2009: DENDROM - Zukunftsrohstoff Dendromasse. Verlag Dr. Norbert Kessel. Remagen-Oberwinter (ISBN: 978-3-941300-05-7) 504 S.

Reeg, T., Bemman, A., Konold, W., Murach, D., Spiecker, H. (Hrsg.) 2009: Anbau und Nutzung von Bäumen auf landwirtschaftlichen Flächen. Wiley-VCH-Verlag Weinheim ISBN: 978-3-527-32417-0; 355 S.

Weitere Literatur im Intranet unter: S:\FB-FoWi_Lehre\Dozenten\Murach\Short rotation forestry\Literature

Agroforestry

Franzel, S. u. S.J. Scherr (Ed.): Trees on the Farm. Assessing the Adoption Potential of Agroforestry Practices in Africa. -CABI Publishing in association with the ICRAF, 2002.-197 pp.

Franke, W.: Nutzpflanzenkunde. Nutzbare Gewächse der gemäßigten Breiten, Subtropen und Tropen.- Thieme Verlag, Stuttgart, New York.-6. Aufl., 1997. -509 S.

Schroth, G. et al: Agroforestry and Biodiversity Conservation in Tropical Landscapes.-Island Press Washington, Covelo, Londin, 2004.- 523 pp.

Wojtkowski, P. A.: The Theory and Practice of Agroforestry Design. Science Publishers, Inc. USA, 1998.- 261 pp.

Module	Social forestry and extension methods	
Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Prof. Dr. Martin Welp	mwelp@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Martin Welp	
Lecturer	Prof. Dr. Martin Welp	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	25	
Teaching form	Lecture (22h), Seminar (22h), self-study (75h)	
Language	English	
Examination form	Technical discussion (50%), Oral report (50%)	
Entry requirements		
Goal	The students have a sound knowledge of the history, forms and challenges of social forestry as a discipline of importance especially in developing countries. They train related skills such as conducting stakeholder dialogues and conflict management.	
Content	<p>The course will introduce the students to the origin and history of social forestry. The approach implies decentralization, greater stakeholder participation, and the collaboration and coordination between central and local governments. The approach advocated that communities must be involved, given more rights and allowed greater access to forest resources in order to ensure sustainable use of the forest. Social forestry, among others, aims at managing forests to meet the growing demand for timber, fuel wood, fodder and other non-timber forest products. Different forms of social forestry are discussed including: community forestry, farm forestry, agro forestry, urban forestry and leasehold forestry. Their differences and similarities are discussed on the basis of case studies presented by students. It is furthermore discussed how the approach of social forestry can lead to a constructive dialogue with local stakeholders, and under which conditions it can catalyze rural development.</p> <p>The course provides the scientific fundamentals and concrete tools that facilitate extension in the context of forest ecosystem management (e.g. audience analysis and a selection of adequate extension methods, techniques and skills of organising and conducting meetings, preparing and delivering presentations using different media and equipments, communication of planning and evaluation techniques).</p>	
Recommended related elective modules		
Competence	Technical competence (20%), Methodological competence (20%), Social competence (20%), Personal competence (20%), Media competence (20%)	
References	<p>Arnold, J. E. M. 1992. Community Forestry: Ten Years in Review, FAO, Rome. (http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/u5610e/u5610e00.htm)</p> <p>Arnold, J.E.M. 2001. Forests and People: 25 Years of Community Forestry. Rome: FAO.</p> <p>Prins, Cornelis; Castillo, Oscar and Almendares, Rosa 2003. From conflict to co-management: the case of the Blue Forest. In: Castro, A. Peter and Nielsen, Erik (eds.) Natural resource conflict management case studies: an analysis of</p>	

power, participation and protected areas. FAO, Rome.

Module	Specialisation modul II
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Study programme	International Forest Ecosystem Management	
Semester	4. Sem.	
Module coordinator	Studiengangsleiter	
Status	Elective	
Coordinator	Studiengangsleiter	
Lecturer	N.N.	
ECTS- Credits	4	Workload 120 h / Semester
SWH	4	
Max. study places		
Teaching form	Project (60h), self-study (60h)	
Language	German, English	
Examination form	Project report (50%), Project presentation (50%)	
Entry requirements		
Goal	The students are able work on a specific topic in form of a project or document work and present the results.	
Content	The students deal with a question of practical relevance. To get to the corresponding results they apply appropriate methods. The results will be documented and presented in report form.	
Recommended related elective modules	Specialisation modul III	
Competence		
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	

Module	Practical study semester abroad	
Study programme	International Forest Ecosystem Management	
Semester	5. Sem.	
Module coordinator	Studiengangsleiter	
Status	Mandatory	
Coordinator	Studiengangsleiter	
Lecturer		
ECTS- Credits	30	Workload 900 h / Semester
SWH		
Max. study places		
Teaching form	Project (h)	
Language		
Examination form	Project presentation (50%), Project report (50%)	
Entry requirements		
Goal	Students are enabled to effectively plan and conduct projects related to forest ecosystems management and the sustainable use of natural resources all over the world.	
Content	Students self-dependently conduct an applied but scientifically based internship project in accordance to the aim of the study programme.	
Recommended related elective modules	Student research colloquium	
Competence	Technical competence (25%), Methodological competence (25%), Social competence (25%), Personal competence (25%)	
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	

Module	Bachelor seminar	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Alle Dozenten des Fachbereichs	
Status	Mandatory	
Coordinator	Alle Dozenten des Fachbereichs	
Lecturer	Alle Dozenten des Fachbereichs	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Seminar (30h), self-study (30h)	
Language	German, English	
Examination form	Project presentation	
Entry requirements	Registration of Bachelor thesis by examination committee	
Goal	Students are able to work scientifically on a free chosen topic or formulation of a question. They are qualified to present methodological ideas, interim results as well as problems in relation with the chosen topic or the formulation of a question and develop jointly or individually solution strategies. Students are able to use methods of time and project management as well as to defend a self-dependently written scientific work.	
Content	The Student compiles the bachelor thesis under the lead of one or more tutor(s) and presents the topic (scientific background and integration of the topic), specific questions, methodology, own procedure as well as the results of their scientific work. The method of education is a form of seminar and educates the students to bring up different contents and clarifies contently open questions as well as solidifies presentation techniques and constructive behaviour of discussions.	
Recommended related elective modules		
Competence	Technical competence (25%), Methodological competence (25%), Social competence (15%), Personal competence (15%), Media competence (20%)	
References	<p>Bea, F.X., Scheurer S. und Hesselmann S. (2008): Projektmanagement. UTB, 732 S. ISBN: 978-3-8282-0234-4</p> <p>Will, H. (2000): Mini-Handbuch Vortrag und Präsentation, Beltz-Taschenbuch, 102 S. ISBN: 978-3-407-22615-0</p> <p>Lipp, U. (2008) : 100 Tipps für Training und Seminar, Beltz-Verlag, 240 S. ISBN: 978-3-407-36462-3</p> <p>sowie fallweise:</p> <p>Lozan, J.-L. und Kausch, H. (1998): Angewandte Statistik für Naturwissenschaftler, Parey Buchverlag Berlin, 287 S. ISBN: 3-8263-3159-1</p> <p>Oestreich, M. und Romberg, O. (2009): Keine Panik vor Statistik! Erfolg und Spaß im Horrorfach nichttechnischer Studiengänge, Vieweg+Teubner; Auflage: 2., überarbeitete und erweiterte Auflage, 327 S. ISBN: 978-3-834-80938-4</p>	

Module	Bachelor thesis	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Alle Dozenten des Fachbereichs	
Status	Mandatory	
Coordinator	Alle Dozenten des Fachbereichs	
Lecturer	Alle Dozenten des Fachbereichs	
ECTS- Credits	12	Workload 360 h / Semester
SWH		
Max. study places		
Teaching form	Project (h)	
Language	German, English	
Examination form	Project report	
Entry requirements		
Goal	Students are able to write a scientific report on a selected research topic. In the context of the report the student is able to formulate subject-specific questions and use known methods as well as develop new methods and can acknowledge the results critical in the context of similar studies. The student is able to write scientifically and has knowledge about the basics of good scientific practice.	
Content	The students independently run a scientific project, or are at least part of it, and come to their own results. Students use appropriate research methods according to the research problem, and come to results that are discussed in the light of similar studies. Finally, recommendations will be given for the practice. The result is a scientific report on the basis of these studies.	
Recommended related elective modules		
Competence	Technical competence (30%), Methodological competence (30%), Social competence (10%), Personal competence (10%), Media competence (20%)	
References	Schilling, A. 2005. Hinweise für das Anfertigen einer Bachelor-Arbeit/ Master-Arbeit am Fachbereich Forstwirtschaft. Fachhochschule Eberswalde. Unveröffentlicht.	

Module	Forest management strategies and evaluation	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. Peter Spathelf	pspathelf@fh-egerswalde.de
Status	Mandatory	
Coordinator	Prof. Dr. Peter Spathelf	
Lecturer	Prof. Dr. Barbara Wolff, Prof. Dr. Wolf-Henning von der Wense, Prof. Dr. Peter Spathelf, Prof. Dr. Martin Guericke	
ECTS- Credits	6	Workload 180 h / Semester
SWH	4	
Max. study places		
Teaching form	Project (60h), self-study (120h)	
Language	German, English	
Examination form	Project presentation (50%), Project report (50%)	
Entry requirements	Applied forest economics, Forest growth and yield I and II, Forest mensuration I and II, Forest growth and inventory, Silviculture	
Goal	Students are enabled to carry out integrated forest evaluation and management projects taking into account silvicultural and economic aspects.	
Content	Inventory and analysis of forest structures; controlling; ecological and economic modelling; short and long-term planning on an ecological basis; forest evaluation (soil, stands, forest enterprises) as a basis for selling decisions; auditing and the establishment of management plans.	
Recommended related elective modules		
Competence	Technical competence (20%), Methodological competence (40%), Social competence (40%)	
References	<p>Ebert, H.-P. 2006. Die Behandlung von häufig vorkommenden Baumarten. (Hauptbaumarten). Schriftenreihe der Hochschule für Forstwirtschaft Rottenburg. Nr. 14. 235 S.</p> <p>Fritz, P. (Hrsg.) 2006. Ökologischer Waldumbau in Deutschland. Fragen, Antworten, Perspektiven. Oekom-Verlag. 351 S.</p> <p>Roeder, A. 2002. Management von Forstbetrieben, Bd. 1 – Grundlagen, Betriebspolitik. Kessel. Remagen-Oberwinter.</p> <p>Pearce, D., Putz, F.E. & Vanclay, J.K. (2003): Sustainable forestry in the tropics: panacea or folly? Forest Ecology and Management 172 / 2-3. S. 229-247.</p> <p>Rittershofer, F. (1999). Waldpflege und Waldbau – für Studium und Praxis. Gisela Rittershofer Verlag, Freising. 492 S.</p> <p>Röhrig, E., Bartsch, N. & Von Lüpke, B. 2006. Waldbau auf ökologischer Grundlage. 7. Auflage. Verlag Eugen Ulmer Stuttgart. 479. S.</p> <p>Sagl, W. 1995. Bewertung in Forstbetrieben. Parey. Berlin, Oxford, Blackwell.</p> <p>Schmitthüsen, F. et al. 2009. Unternehmerisches Handeln in der Wald- und Holzwirtschaft. 2. Aufl. Verlag Universität Freiburg, Inst. f. Forstökonomie.</p> <p>Setzer, F., Spinner, K. 2007. Waldbesitzerhandbuch. Neumann-Neudamm.</p> <p>Sieder, P. (Hrsg.). Waldbau zur Jahrtausendwende. Rückblicke,</p>	

Nachdenklichkeiten, Ausblicke. Band 1-5. Shaker Verlag.

Smith, D.M. 1962. The practice of silviculture. John Wiley & Sons, New York. 578 p.

Von Teuffel, K., Baumgarten, M., Hanewinkel, M., Konold, W., Sauter, U.H., Spiecker, H., von Wilpert, K. (Hrsg.) 2005. Waldumbau – für eine zukunftsorientierte Waldwirtschaft. Ergebnisse aus dem Südschwarzwald.

Module	Project-based conservation and land-use management	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. Pierre Ibisch	pibisch@fh-egerswalde.de
Status	Mandatory	
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch, Prof. Dr. Martin Welp, Christoph Nowicki	
ECTS- Credits	6	Workload 180 h / Semester
SWH	4	
Max. study places		
Teaching form	Lecture (12h), Project (30h), Seminar (6h), Tutorial (12h), self-study (120h)	
Language	English	
Examination form	Project presentation (50%), Project report (50%)	
Entry requirements		
Goal	Starting with a concrete analysis of the situation from the perspective of an NGO, the students are able to propose an integrated conservation and development strategy in the form of a project application for a model region.	
Content	Based on the imparting of knowledge and methodological approaches in project planning and project management, the students analyze the conservation and development problems in a given model region. Making use of prior knowledge acquired from other modules and considering further contents transmitted on the issue of land use (and land use planning), competing teams develop a complete project proposal including project objectives, activities, time plan and resource plan and present this proposal to a fictitious donor.	
Recommended related elective modules		
Competence	Technical competence (35%), Methodological competence (35%), Social competence (20%), Personal competence (10%)	
References	<p>Conservation Measures Partnership (2007) Open Standards for the Practice of Conservation. Version 2.0. October 2007. http://www.conservationmeasures.org/CMP/Site_Docs/CMP_Open_Standards_Version_2.0.pdf</p> <p>Conservation Measures Partnership & BENETECH (2009) Miradi. Adaptive management software for conservation projects. https://miradi.org/</p>	

Module	Environmental legislation	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. Klaus Günther-Dieng	kgdieng@fh-egerswalde.de
Status	Elective	
Goal	Students know the elements of environmental law and in particular the classification of the areas of nature conservation legislation and environmental impact assessment (EIA), which will be covered in detail. They can formulate decisions in the field of nature conservation legislation and EIA, prepare comments about regionally significant projects and argumentatively deal with representatives of nature conservation.	
Examination form	Written exam 90 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	3	
Module component	Nature conservation legislation	
Coordinator	Prof. Dr. Klaus Günther-Dieng	
Lecturer	Prof. Dr. Klaus Günther-Dieng	
ECTS- Credits	2	Workload 60 h / Semester
SWH	2	
Max. study places		
Teaching form	Lecture (15h), Seminar (15h), self-study (30h)	
Language	German	
Examination form	Written exam (60%)	
Entry requirements		
Goal	Students are able to apply the constitution and importance of environmental law and its instruments, as well as knowledge about the state and federal nature protection law, especially in their relation to forests.	
Content	This module covers the following aspects: erms and definitions, environmental observation, landscape planning, general protection of nature and landscape (impact regulation); protection, nurturing and development of specific parts of nature and landscape; tree protection, protection and nurturing of animals and plant species in the wild; rest and recreation in nature and the countryside, collaboration of associations, forest cultivation and nature conservation. To a reasonable extent, explanations will be underlined by current appropriate legal cases on the basis of jurisprudence.	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (30%)	
References	KRATSCH D., SCHUHMACHER J. (2005): Naturschutzrecht. Naturschutzrecht (NatSchR), DTV-Beck (2002).	

Module	Environmental legislation	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. Klaus Günther-Dieng	kgdieng@fh-eberswalde.de
Status	Elective	
Goal	Students know the elements of environmental law and in particular the classification of the areas of nature conservation legislation and environmental impact assessment (EIA), which will be covered in detail. They can formulate decisions in the field of nature conservation legislation and EIA, prepare comments about regionally significant projects and argumentatively deal with representatives of nature conservation.	
Examination form	Written exam 90 min	
ECTS-Credits	4	Workload 120 h / Semester
SWH instructed	3	

Module component	Environmental impact assessment	
Coordinator	Prof. Dr. Klaus Günther-Dieng	
Lecturer	Prof. Dr. Klaus Günther-Dieng	
ECTS- Credits	2	Workload 60 h / Semester
SWH	1	
Max. study places		
Teaching form	Lecture (6h), Project (6h), Seminar (3h), self-study (45h)	
Language	German	
Examination form	Written exam (40%)	
Entry requirements		
Goal	Students are able to judge the legitimacy of an Environmental Impact Assessment (EIA) and to draft an expert's report.	
Content	The methodology of an EIA and of FFH impact assessments is explained with the help of planning materials; the plans are explained step by step and the results are critically discussed.	
Recommended related elective modules		
Competence	Technical competence (70%), Methodological competence (20%), Media competence (10%)	
References	Aktuelle Gesetzestexte: BundesnaturschutzG, LandesnaturschutzG BBG, UVPG. Kröger, Detlef; Klauss, Ingo (2010): Umweltrecht – schnell erfasst, Verlag Springer. Kerkmann, Jochen (2007): Naturschutzrecht in der Praxis, Lexxion Verlag. Schuhmacher, J. et. al. (2003): Bundesnaturschutzgesetz, Kohlhammer Kommentar. Gassner, Erich et. Al. (2005): UVP – Umweltverträglichkeitsprüfung in der Praxis, Müller C.F. Praxis Umweltrecht, Band 12. Stelzer, Volker (2006): Bewertungen im Umweltschutz und Umweltrecht, Springer Berlin.	

Module	Forest landscape restoration	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. Peter Spathelf	pspathelf@fh-egerswalde.de
Status	Elective	
Coordinator	Prof. Dr. Peter Spathelf	
Lecturer	Prof. Dr. Peter Spathelf	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	20	
Teaching form	Lecture (14h), Seminar (31h), self-study (75h)	
Language	English	
Examination form	Oral report	
Entry requirements		
Goal	Students are able to apply techniques of (forest) landscape restoration after a variety of disturbance types such as afforestation, rehabilitation of degraded land, water resource management in order to restore basic ecosystem / forest functions and contributing to the well-being of humans in different (forest) biomes of the world.	
Content	<p>The course provides insight into the basic approaches of Forest Landscape Restoration (FLR) in different biomes of the world (boreal and temperate zone, tropics and subtropics). Techniques of natural and artificial forest regeneration are discussed as well as enrichment planting, the rehabilitation of specific forest-related ecosystems, water resource management, the restoration of landfill areas and aspects of urban forestry / greening. It is emphasized that the approaches can only be implemented successfully with the participation of the local stakeholders. FLR requires the balance of all measures on a landscape level.</p> <p>A special focus in the module is laid on the restoration practices of open-cast mining areas in Germany.</p>	
Recommended related elective modules		
Competence	Technical competence (50%), Methodological competence (25%), Social competence (25%)	
References	<p>ITTO (2002): Guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests, Vol. 13. 84 p.</p> <p>Mansourian, S., Vallauri, D. & Dudley, N. (2005): Forest Restoration in Landscapes: Beyond Planting Trees. Springer. 437 p.</p> <p>Pflug, W. (Hrsg.) (1998): Braunkohlentagebau und Rekultivierung. Springer. 1068 S.</p>	

Module	GIS and remote sensing II	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Prof. Dr. NN (GIS)	
Status	Elective	
Coordinator	Prof. Dr. NN (GIS)	
Lecturer	Prof. Dr. NN (GIS)	
ECTS- Credits	4	Workload 120 h / Semester
SWH	3	
Max. study places	0	
Teaching form	Practical Exercise (22h), Project (11h), Seminar (11h), self-study (75h)	
Language	English	
Examination form	Project presentation	
Entry requirements		
Goal	The students are able to use GIS and remote sensing techniques in the field of natural resource management for the solution of practical case studies.	
Content	The various management tools of GIS are linked with each other to process issues in practical forest management as well as issues of natural resource management. The focus is on the use of GIS in particular for decision support.	
Recommended related elective modules	Specialisation modul III	
Competence	Technical competence (50%), Methodological competence (20%), Personal competence (20%), Media competence (10%)	
References	<p>Longley, P.A., M.F. Goodchild, D.J. Maguire & D.W. Rhind (2001): Geographic Information Systems and Science. John Wiley & Sons.</p> <p>A.H. Robinson, J.L. Morrison, P.C. Muehrcke, A.J. Kimerling & S.C. Guptill (1995): Elements of Cartography. John Wiley & Sons.</p>	

Module	Specialisation modul III	
Study programme	International Forest Ecosystem Management	
Semester	6. Sem.	
Module coordinator	Studiengangsleiter	
Status	Elective	
Coordinator	Studiengangsleiter	
Lecturer	N.N.	
ECTS- Credits	4	Workload 120 h / Semester
SWH	4	
Max. study places		
Teaching form	Project (60h), self-study (60h)	
Language	German, English	
Examination form	Project report (50%), Project presentation (50%)	
Entry requirements		
Goal	The students are able work on a specific topic in form of a project or document work and present the results.	
Content	The students deal with a question of practical relevance. To get to the corresponding results they apply appropriate methods. The results will be documented and presented in report form.	
Recommended related elective modules		
Competence		
References	Wird zu Beginn der Lehrveranstaltung bekannt gegeben/ to be announced at start of semester	