

## Mandatory modules

<b>Module</b>	<b>Fundamentals of wildlife biology &amp; zoology</b>	<b>M.01.0010</b>		
<b>Semester</b>	<b>1</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Siegfried Rieger</b>	<b>Siegfried.Rieger@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>Students are enabled to determine relevant animal phylum, groups of insects and pest species and to explain their biological and ecological features.</b>			
<b>Examination form</b>	<b>Written exam 120 min</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>6</b>			
Module component	Wildlife biology & zoology	K.01.0014.V.PL		
Coordinator	Prof. Dr. Siegfried Rieger			
Lecturer	Prof. Dr. Siegfried Rieger, Prof. Dr. Andreas Linde			
ECTS-Credits	4			
SWH	4	Workload: 120 h / Semester		
Max. study places				
Teaching form	Lecture (60h), Self-study (60h)	Module type		
Language	German, English	x continuous	partly blocked	blocked
Examination form	Written exam 120 min (65%)			
Entry requirements				
Goal	Students are enabled to identify relevant animal taxa, explain their anatomical and biological characteristics and their function in (forest-) ecosystems. 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.			
Content	First, students are introduced to the basics of animal physiology with particular emphasis on practical relevance, e.g. for plant protection. The evolutionary development of the animal phyla is presented and the characteristic features in the anatomy and biology of the animal groups are identified. The characteristics of the major animal groups and species are introduced to enable the students to identify animals in the field. 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.			
Recommended related elective modules				
Competences	Technical competence (80%) Methodological competence (20%)			
Literature	Andersen, R., Duncan, P., Linell, J.(Eds.) 1998. The European Roe Deer: The Biology of Success. Scandinavian University Press Briedermann, L., 2009. Schwarzwild. Kosmos Verlag. Bützler, W. 2001. Rotwild. BLV Verlag. Campbell, A., Reece, J. 2002. Biologie. Spektrum Akademischer Verlag. Clutton-Brock, T. H., Guinness F. E., Albon, S.D. 1982. Red Deer. University of Chicago Press. Hennig, R., 2007. Schwarzwild. BLV Verlag.			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	<p>Kurt, F. 2002. Das Reh in der Kulturlandschaft.</p> <p>Meile, P., Ratti, P., Giacometti M. 2006. Der Steinbock. Salm Verlag</p> <p>Schnidrig, R., Salm U. P. 2008. Die Gemse. Salm Verlag.</p> <p>Siefke, A., Stubbe, Chr. 2008. Das Damwild. Neumann-Neudamm Verlag.</p> <p>Stubbe, C. 2008. Rehwild. Kosmos Verlag.</p> <p>Uloth, W., Piegert, H. 2009. Der Europäische Mufflon. Neumann – Neudamm Verlag Kosmos Verlag.</p> <p>Wagneknecht, E. 2000. Rotwild. Nimrod Verlag.</p> <p>Wehner, R., Gehring, W. 1995. Zoologie. Thieme Verlag.</p> <p>Additional literature will be announced at the beginning of the module.</p>		
<b>Module component</b>	<b>Applied forest entomology</b>	<b>K.01.0002</b>	
Coordinator	Prof. Dr. Curt Majunke		
Lecturer	Prof. Dr. Curt Majunke		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Lecture (30h), Self-study (30h)	Module type	
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
			<input type="checkbox"/> blocked
Examination form	Written exam 120 min (35%)		
Entry requirements			
Goal	The participants acquire basic knowledge on anatomy, physiology, biology and ecology of insects. Moreover, the most important insect groups in Central European forests including the damages they cause, can be identified by the students.		
Content	Study of the morphology of relevant forest insects as the basis of their differentiation and study of important physiological or ecological behavior patterns of selected groups of forest insects in relation to forest trees. Furthermore, other important representatives from the groups of socially and entomophagously living insect groups will be treated. At the example of the order coleoptera biological and ecological characteristics of important families and genera will be taught.		
Recommended related elective modules			
Competences	Technical competence (70%) Methodological competence (30%)		
Literature	<p>Amann, G.: Kerfe des Waldes. 11. durchges. Aufl. , Augsburg, Naturbuch-Verlag, 1995.</p> <p>Carter, D.J.: Raupen und Schmetterlinge Europas. Berlin und Hamburg: Verlag Paul Parey, 1987.</p> <p>Chinery, M.: Insekten Mitteleuropas. Berlin und Hamburg: Verlag Paul Parey, 1984.</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>		

# Module catalogue - International Forest Ecosystem Management (B.Sc.)

effective from winter term 2016/17

Module	Soil science & site ecology	M.01.0001		
Semester	1			
Module coordinator	Prof. Dr. Winfried Riek	Winfried.Riek@hnee.de		
Status	Mandatory module			
Goal	The students are enabled to apply methods and techniques of soil science and site ecology in practice. They are capable to understand forest sites as ecosystems.			
Examination form	Written exam 120 min			
ECTS-Credits	4			
SWH	4			
Module component	Soil science	K.01.0004.V.PL		
Coordinator	Prof. Dr. Winfried Riek			
Lecturer	Prof. Dr. Winfried Riek			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (30h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 120 min (50%)			
Entry requirements				
Goal	Students have a basic understanding of the origin, the structure and the characteristics 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, soil structure, 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	Exercises in soil science und site ecology			
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	<p>Blum, W. 2012. Bodenkunde in Stichworten. Borntraeger Verlagsbuchhandlung. Berlin Stuttgart.</p> <p>MLUR 2003. Steckbriefe Brandenburger Böden. Loseblattsammlung. Potsdam.</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 Standortlehre. Grundwissen Bachelor. Ulmer UTB, Stuttgart.</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Site & vegetation ecology	K.01.0001.V.PL		
Coordinator	Prof. Dr. Winfried Riek			
Lecturer	Prof. Dr. Winfried Riek et al.			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places	20			
Teaching form	Lecture (30h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 120 min (50%)			
Entry requirements				
Goal	Students are enabled to assess forest sites based on climatological, geological and pedological characteristics and on vegetation survey. The basics of the northeast German site assessment method (SEA95) are known. In addition, students are also familiar with the nomenclature of the international soil classification and know globally applicable methods of site ecological assessment.			
Content	The focus of the lecture is the heat-, water- and nutrient-balance of forest ecosystems and their characterization in terms of growth potentials and risks. Site ecological characteristics as effective rooting zone, plant-available water, nutrient stocks, acid-base status, buffer-capacity and humus status are defined and are defined and simple field methods for their estimation and evaluation explained. The special site assessment method in the Northeastern German lowlands (SEA95) and its importance for forest management is explained. Another focus is on soils of other climates, their systematics and ecological properties, which are described on the basis of the international soil classification system (WRB). The possibility of bioindication by using local plant associations are presented as well as relationships between climate and vegetation zones in a global perspective.			
Recommended related elective modules	Exercises in soil science & site ecology			
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	<p>Arbeitskreis Standortkartierung in der Arbeitsgemeinschaft Forsteinrichtung 2003. Forstliche Standortaufnahme. Begriffe, Definitionen, Einteilungen, Kennzeichnungen, Erläuterungen.</p> <p>Ellenberg, H.; Weber, H. E.; Düll, R.; Wirth, V.; Werner, W.; Paulißen, D. 1992. Zeigerwerte von Pflanzen in Mitteleuropa. Scripta Geobotanica Bd. 18, Goltze Verlag. Göttingen.</p> <p>Gauer, J., Aldinger, E. 2005. Waldökologische Naturräume Deutschlands Forstliche Wuchsgebiete und Wuchsbezirke. Mitt. des Vereins für Forstliche Standortskunde und Forstpflanzenzüchtung. Nr.43. Stuttgart.</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>SEA 95. Anleitung für die forstliche Standortserkundung im nordostdeutschen Tiefland (Standortserkundungsanleitung). Bände 1-4. Eberswalde. (unveröffentlicht).</p> <p>Walter, H.; Breckle, S.-W. 1999. Vegetation und Klimazonen. UTB. Stuttgart.</p> <p>Zech, W., Schad, P., Hintermaier-Erhard, G. 2014. Böden der Welt. Springer. Berlin Heidelberg.</p>			

# Module catalogue - International Forest Ecosystem Management (B.Sc.)

effective from winter term 2016/17

Module	Fundamentals of socio-economy	M.01.0062
Semester	1	
Module coordinator	Prof. Dr. Martin Welp	Martin.Welp@hnee.de
Status	Mandatory module	
Goal	Students are enabled to apply socioeconomical principles in the context of economic relations and the management of forest and forest service businesses.	
Examination form	Written exam 120 min (75%), Oral Report (25%)	
ECTS-Credits	4	
SWH	4	
Module component	Introduction to socioeconomics	K.01.0078.V.PL
Coordinator	Prof. Dr. Martin Welp	
Lecturer	Prof. Dr. Martin Welp	
ECTS-Credits	2	
SWH	2	Workload: 60 h / Semester
Max. study places		
Teaching form	Lecture (22h), Practical exercise (8h), Self-study (30h)	Module type
Language	English	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Prüfungsleistung	Oral Report (25%), Written exam 120 min (25%)	
Entry requirements		
Goal	Students are enabled to apply socioeconomical principles in the context of economic relations and the management of forest and forest service businesses.	
Content	<p>This course introduces students to human dimension in nature and forests 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 systems, 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.</p>	
Recommended related elective modules		
Competences	Technical competence (25%) Methodological competence (25%) Social competence (25%) Personnel competence (25%)	
Literature	<p>Katila, P. et al. 2010. Making forests work for people and nature</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>Responding to global drivers of change. IUFRO (International Union of Forest Research Organizations). 33 p</p>	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Basics of economics	K.01.0008.V.PL		
Coordinator	Prof. Dr. Wolf-Henning von der Wense			
Lecturer	Prof. Dr. Wolf-Henning von der Wense			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (24h), Practical exercise (6h), Self-study (30h)	Module type		
Language	German	x continuous	partly blocked	blocked
Examination form	Written exam 120 min (50%)			
Entry requirements				
Goal	The students are enabled to understand economic interrelations between the enterprise and environment. They are capable to analyse and assess enterprises according to their performance, and to apply models to optimize economic processes.			
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				
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	<p>Jung, H. 2010. Allg. Betriebswirtschaftslehre, Oldenburg. München</p> <p>Oesten, G. und Roeder, A. 2012. Management von Forstbetrieben, Bd. 1 – 3 ife.uni-freiburg.de</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. dbv Gernsbach.</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Ecosystem-based nature conservation and sustainable development</b>	<b>M.01.0007</b>		
<b>Semester</b>	<b>1</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Pierre Ibisch</b>	<b>Pierre.Ibisch@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>The students are enabled to actively and vividly take part in the discussions and in the contemporary debates about the topical questions and concerns of sustainability, nature resource management and nature conservation. Their knowledge is based on a complex and integrative reflection and acknowledgement of ecosystems, in which humans systems are embedded.</b>			
<b>Examination form</b>	<b>Technical discussion 20 min (50%), Written exam 90 min (50%)</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>			
Module component	Biological diversity, nature conservation & ecosystem management	K.01.0003.V.PL		
Coordinator	Prof. Dr. Pierre Ibisch			
Lecturer	Prof. Dr. Pierre Ibisch			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (30h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Technical discussion 20 min (50%)			
Entry requirements				
Goal	<p>The students are enabled to actively and vividly take part in the discussions and in contemporary debates about the topical questions and concerns of sustainability, nature resource management and of nature conservation. Their knowledge is based on a complex and integrative reflection and acknowledgement of ecosystems, in which humans systems are embedded.</p> <p>Based on the elementary knowledge of the evolution, dimensions and status quo of biological diversity, as well as the the anthropological, historical, evolutionary, and dynamic reflection of nature, the students can critically assess the topical challenges of nature conservation.</p> <p>They have knowledge of the importance of the ecosystembased approach for modern biodiversity and nature resource management and they have knowledge of the actual approaches to the maintainance of biodiversity in forest ecosystems.</p>			
Content	<p>Biodiversity is the object of protection of modern nature conservation and embraces more than the mere richness of species, especially the aspects of functionality and of dynamic ecosystems. Nature conservation is described as an interdisciplinary challenge and cultural accomplishment: in awareness and consideration of the socioeconomic conditions we have to take knowledge-based decisions and value judgements about biodiversity conservation.</p> <p>The cultural, socioeconomic and political frameworks and initiatives of nature conservation are explained by way of example. Relevant guiding questions refer to the self-conception, functioning and the goals of modern nature conservation, from which priority methods and measures can be derived. The fundamentals of protected area management such as the specific requirements are treated as well as requirements for an effective conservation of European forests.</p>			
Recommended related elective modules				
Competences	Technical competence (100%)			
Literature	Groom, M.J., G. K. Meffe, & C. R. Carroll 2006. Principles of Conservation Biology (3rd edition), Sinauer, 699 pages. (4th edition 2015)			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	<p>Ibisch, P.L., S. Kreft &amp; V. Luthardt (eds.) 2012. Regionale Anpassung des Naturschutzes an den Klimawandel: Strategien und methodische Ansätze zur Erhaltung der Biodiversität und Ökosystemdienstleistungen in Brandenburg. Hochschule für nachhaltige Entwicklung Eberswalde, Eberswalde (ISBN 978-3-00-038210-9) (online <a href="http://project2.zalf.de/inkabb/projekte/teilprojekt-16-1/teilprojekt-16">http://project2.zalf.de/inkabb/projekte/teilprojekt-16-1/teilprojekt-16</a>).</p> <p>Ibisch, P.L., P. Hobson, &amp; A. Vega 2010. Mutual mainstreaming of biodiversity conservation and human development: towards a more radical Ecosystem Approach. In: Ibisch, P.L., A. Vega E. &amp; T.M. Herrmann (eds.): Interdependence of biodiversity and development under global change. Technical Series No. 54. Secretariat of the Convention on Biological Diversity, Montreal, 224 pp. (ISBN 92-9225-279-8) (online: <a href="http://www.cbd.int/doc/publications/cbd-ts-54-en.pdf">http://www.cbd.int/doc/publications/cbd-ts-54-en.pdf</a>). 15-34.</p> <p>Ibisch, P.L. &amp; 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, [<a href="http://www.eolss.net">http://www.eolss.net</a>]</p>		
Module component	With nature – for humans: Introduction to sustainable development		K.01.001?
Coordinator	Prof. Dr. Pierre Ibisch		
Lecturer	Prof. Dr. Heike Molitor, Prof. Dr. Pierre Ibisch et al.		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places	500		
Teaching form	Lecture (30h), Self-study (30h)		Module type
Language	German	x continuous	partly blocked
Examination form	Written exam 90 min (50%)		
Entry requirements			
Goal	The students approach and reflect the interdisciplinary, interconnected theoretical foundations of the concept of sustainable development and can apply their knowledge and lessons learned to practical case studies.		
Content	<p>The discourse on sustainability is critically reflected in relation to historical and theoretical aspects. A fundamental basis of the presented concept of sustainable development is the approach of systemics, which parts from conceiving the world as nested systems.</p> <p>The specific single systems are analyzed in relation to their independent sustainability and how they influence other systems. The following exemplary systems are mentioned: climate system, geological systems, ecosystems, and the human system (in relation to biological, cultural, social, economic and ethical aspects). On the basis of these theoretical analyses some examples of implemented sustainability approaches in different subsystems are demonstrated (e.g., in relation to the study programs of e.g. ecological agriculture, forestry, wood sciences).</p>		
Recommended related elective modules			
Competences	Technical competence (100%)		
Literature	<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" (<a href="http://www.bmu.de/files/pdfs/allgemein/application/pdf/nachhaltigkeit_strategie.pdf">www.bmu.de/files/pdfs/allgemein/application/pdf/nachhaltigkeit_strategie.pdf</a>).</p> <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>Hauff, V. 1987. Unsere gemeinsame Zukunft. Der Brundtland-Bericht der Weltkommission für Umwelt und Entwicklung. Herausgegeben von der Weltkommission für Umwelt und Entwicklung.</p>		

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Greven.

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

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

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

# Module catalogue - International Forest Ecosystem Management (B.Sc.)

effective from winter term 2016/17

Module	Botany and wood science	M.01.0001		
Semester	1 & 2			
Module coordinator	Prof. Dr. Harald Schill	Harald.Schill@hnee.de		
Status	Mandatory module			
Goal	The students are enabled to apply methods and techniques of botany, wood science and dendrology in practice.			
Examination form	Written exam 180 min (80%), Written exam 90 min (20%)			
ECTS-Credits	8			
SWH	7			
Module component	General botany	K.01.0001.V.PL		
Semester	1			
Coordinator	Prof. Dr. Harald Schill			
Lecturer	Prof. Dr. Harald Schill			
ECTS-Credits	4			
SWH	4	Workload: 120 h / Semester		
Max. study places				
Teaching form	Lecture (30h), Practical exercise (30h), Self-study (60h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 180 min (60%)			
Entry requirements				
Goal	Students are enabled 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				
Competences	Technical competence (90%) Methodological competence (10%)			
Literature	Jacob, F.; Jäger, E.J.; Ohmann, E. 1987. Botanik. G. Fischer Verlag, Jena. Schütt, P.; Schuck, H.J.; Stimm, B. 1992. Lexikon der Forstbotanik. ecomed Verlag, Landsberg. Strasburger, E. 1996. Lehrbuch der Botanik. G. Fischer Verlag, Stuttgart.			
Module component	Wood species determination	K.01.0004.V.PL		
Semester	1			
Coordinator	Prof. Dr. Tobias Cremer			
Lecturer	Prof. Dr. Tobias Cremer			
ECTS-Credits	2			
SWH	1	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (3h), Practical exercise (12h), Self-study (45h)	Module type		

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*effective from winter term 2016/17*

Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 180 min (20%)			
Entry requirements				
Goal	The students have knowledge of the composition of wood. They gain necessary methodological abilities to determine relevant domestic and tropical wood species based on macroscopic attributes.			
Content	The module focuses on the macroscopic determination of common domestic wood species using different determination keys. Determination is done with the help of specimen and using everyday life objects. Further content of the modul is an introduction in the determination of tropical wood species.			
Recommended related elective modules				
Competences	Technical competence (60%) Methodological competence (40%)			
Literature	<p>Bäucker, E. et al. 2013. Bestimmung von Hölzern mit der Lupe: Ergänzungsskript zu den Übungen zur Holzartenbestimmung im Modul FOBF2, Skript der Professur für Forstnutzung in Dresden, 100 S.</p> <p>Frommhold, H. 2014. Holzartenerkennung an Stammscheiben. Shaker, Aachen, 86 S.</p> <p>Grosser, D. 1977. Die Hölzer Mitteleuropas. Springer Verlag, 236 S.</p> <p>Sachsse, H. 1984. Einheimische Nutzhölzer und ihre Bestimmung nach makroskopischen Merkmalen, Pareys Studentexte Nr. 44, Hamburg/Berlin, 160 S.</p> <p>Wagenführ, R. 1999. Anatomie des Holzes DRW-Verlag Weinbrenner Leinfelden-Echterdingen, 190 S.</p>			
Module component	Dendrology	K.01.0017.V.PL		
Semester	2			
Coordinator	Prof. Dr. Harald Schill			
Lecturer	Prof. Dr. Harald Schill et al.			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 90 min (20%)			
Entry requirements				
Goal	Students are enabled 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				
Competences	Technical competence (50%) Methodological competence (50%)			
Literature	<p>Bartels, H. 1993. Gehölkunde. E. Ulmer Verlag, Stuttgart</p> <p>Fitschen, J. 2002. Gehölzflora. Quelle &amp; Meyer, Wiebelsheim</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Data assessment & analysis I	M.01.0057				
<b>Semester</b>	<b>1 &amp; 2</b>					
<b>Module coordinator</b>	<b>Prof. Dr. Jan-Peter Mund</b>	<b>Jan-Peter.Mund@hnee.de</b>				
<b>Status</b>	<b>Mandatory module</b>					
<b>Goal</b>	<b>Students have basic knowledge of environmental data collection and analysis and are enabled to plan and to implement databases and geographical data.</b>					
<b>Examination form</b>	<b>Written exam 90 min (33%), Written exam 90 min (33%), Project presentation (33%)</b>					
<b>ECTS-Credits</b>	<b>6</b>					
<b>SWH</b>	<b>6</b>					
<b>Module component</b>	Biometry	K.01.0075.V.PL				
Semester	1					
Coordinator	Prof. Dr. Alfred Schultz					
Lecturer	Prof. Dr. Alfred Schultz					
ECTS-Credits	2					
SWH	2	Workload: 60 h / Semester				
Max. study places	25					
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (30h)	Module type				
Language	English	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">x</td> <td style="padding: 2px;">continuous</td> <td style="padding: 2px;">partly blocked</td> <td style="padding: 2px;">blocked</td> </tr> </table>	x	continuous	partly blocked	blocked
x	continuous	partly blocked	blocked			
Examination form	Written exam 90 min (33%)					
Entry requirements						
Goal	Students have basic knowledge of environmental data collection and analysis and distinguished practical skills to conduct data analyses supported by computer software.					
Content	<p>The course introduces students to principles and methods of collecting and analyzing data in forest ecosystems and other environmental areas and enables them to practically apply distinguished descriptive and analytical methods. Feature recording and scaling are discussed with numerous domain related examples.</p> <p>The concept of random variables as well as typical probability distributions in forest and environmental areas are introduced. The most important descriptive statistics are theoretically covered and practically trained. In the field of inferential statistics, confidence intervals, and parametric and non-parametric tests to compare means and distributions are introduced. Fundamental data collection approaches for non-mobile observation objects are introduced. Students learn to operate relevant statistical software and become enabled to conduct practical analytical exercises while using forest related measurement and observation data.</p>					
Recommended related elective modules						
Competences	Technical competence (40%) Media competence (10%) Methodological competence (10%) Personnel competence (10%)					
Literature	<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>Field, A. 2005/2009. Discovering Statistics Using SPSS. Second or third edition. Sage Publications.</p> <p>Norusis, M.J. 2011. IBM SPSS Statistics 19.0 – Guide to Data Analysis. Prentice Hall. (older and newer editions are similarly good)</p>					

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	Sokal, R.R. & F.J. Rohlf 1995/2012. Biometry. Third or fourth edition. Freeman.		
	Stoyan, D. 1998. Stochastik für Ingenieure und Naturwissenschaftler. Wiley-VCH Verlag.		
Module component	Database management	K.01.0077	
Semester	2		
Coordinator	Oskar Dietterle		
Lecturer	Oskar Dietterle		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Practical exercise (30h), Self-study (30h)	Module type	
Language	English	x continuous	partly blocked
			blocked
Examination form	Written exam 90 min (33%)		
Entry requirements			
Goal	Students know that a database should reflect the structure of the part to manage of the real world as adequately as possible. Therefore, the first step when creating a database consists in the analysis of the real situation and the discovery of the essential types of objects, groups of people (the entities), the processes taking place between them and the relationships between them. Students are enabled to starting from this analysis to establish a database and to create the necessary tables with their fields and the matching field data types. They can import data from other files, such as Excel, as new tables or into existing tables. Students are enabled to create links between the tables and to construct different types of queries to evaluate the data from the tables. They are enabled to create forms for data input and reports for the structured output of the results.		
Content	Using the example of a library, the students get to know how to analyze a specific institution and create a database whose tables represent the essential components of the library. In this context, they learn the most important concepts, such as data field, field data type and record to know. They establish the relationships between the tables and import data into the tables. Using queries, they analyze the data, where they get to know the application of criteria, creating formulas and summarizing the data. On the basis of several specific examples (timber auction, car leasing, etc.), they perform the above steps independently, where the creation of forms with sub forms and also reports is included.		
Recommended related elective modules			
Competences	Technical competence (50%) Media competence (10%) Methodological competence (40%)		
Literature	<p>Baloui S. 2004. Access 2003 Kompendium: Professionelles Arbeiten mit Daten, Markt + Technik Verlag, München.</p> <p>Baloui S. 2001. Access 2002 Kompendium: Datenbank planen, entwickeln, optimieren, Markt + Technik Verlag, München.</p> <p>Hölscher L. 2010. Microsoft Access 2010 – Das Handbuch; Microsoft Press/O'Reilly. Köln, ISBN 9783866451452</p> <p>Microsoft Press/ O'Reilly 2011. Köln, ISBN 978366455481</p> <p>Stern A. Keine Angst vor Microsoft Access! Datenbanken verstehen, entwerfen und entwickeln; Für Access 2003 bis 2010.</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Introduction to geographic information systems		K.01.0083.V.PL
Semester	2		
Coordinator	Prof. Dr. Jan-Peter Mund		
Lecturer	Prof. Dr. Jan-Peter Mund		
ECTS-Credits	2		
SWH	2		Workload: 60 h / Semester
Max. study places			
Teaching form	Lecture (8h), Seminar (10h), Practical exercise (12h), Self-study (30h)	Module type	
Language	English	x continuous	partly blocked    blocked
Examination form	Project presentation (33%)		
Entry requirements			
Goal	Students are familiarised to collect and use spatial data in forest ecosystems, amongst others geospatial data infrastructure (GDI) and open source data structures by using open source geographic information systems (GIS).		
Content	This module introduces the fundamental methods and techniques of geographic information systems on the basis of open source GIS systems and provides an overview of application opportunities of GIS in forestry. The following subjects will be covered in detail: GIS technologies; geographical data bases, digital cartography and maps; GNSS principles and applications, coordinate and reference systems; application of GIS in forestry. Students will learn about selected software products, use typical GIS tools and will carry out a collection, analysis and visualization of geospatial data of a particular forest ecosystem or other ecosystem in a joint GIS-Project.		
Recommended related elective modules	Geographic information systems Forest utilization Forest landscape restoration		
Competences	Technical competence (50%) Media competence (20%) Methodological competence (20%) Personnel competence (10%)		
Literature	<p>Bartelme, N. (2005): Geoinformatik – Modelle, Strukturen, Funktionen.</p> <p>Bill, R. (1999): Grundlagen der Geoinformationssysteme. Band 1 &amp; 2. Heidelberg, Wichman.</p> <p>Campbell, J.B. (2007): Introduction to Remote Sensing. Guilford Press, New York.</p> <p>Ehlers, M. &amp; Schiewe, J. 2012. Geoinformatik.</p> <p>Jones, H. G. &amp; Vaughan, R. A. 2010: Remote Sensing of Vegetation: Principles, Techniques, and Applications</p> <p>Kappas, M. 2012. Geographische Informationssysteme (GIS): 2. Auflage - Neubearbeitung 2012 (Das Geographische Seminar).</p> <p>Lillesand, T.M., R.W. Kiefer (2007: Remote Sensing and Image Interpretation. John Wiley &amp; Sons, Inc.</p> <p>Longley, P.A., M.F. Goodchild, D.J. Maguire &amp; D.W. Rhind (2010): Geographic Information Systems and Science. John Wiley &amp; Sons.</p> <p>Robinson A.H., J.L. Morrison, P.C. Muehrcke, A.J. Kimerling &amp; S.C. Guptill (1995): Elements of Cartography. John Wiley &amp; Sons.</p> <p>Streit, U. et al. (2006): Einführung in die Geoinformatik. online-script. Institut für Geoinformatik, Münster.</p> <p><a href="http://ifgivor.uni-muenster.de/vorlesungen/Geoinformatik/index.html">http://ifgivor.uni-muenster.de/vorlesungen/Geoinformatik/index.html</a>.</p> <p>Additional relevant literature and current scientific resources will be presented during the lecture.</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Forest ecology I	M.01.0021
<b>Semester</b>	<b>2</b>	
<b>Module coordinator</b>	<b>Prof. Dr. Andreas Linde</b>	<b>Andreas.Linde@hnee.de</b>
<b>Status</b>	<b>Mandatory module</b>	
<b>Goal</b>	<b>The students are enabled to analyse and understand fundamental processes and structures in ecosystems and how ecosystems can contribute to the provision of ecosystem services. Special consideration is given to wildlife management.</b>	
<b>Examination form</b>	<b>Project presentation (60%), Written exam 90 min (40%)</b>	
<b>ECTS-Credits</b>	<b>6</b>	
<b>SWH</b>	<b>5</b>	
<b>Module component</b>	Forest ecology & wildlife management	K.01.0024.V.PL
<b>Coordinator</b>	Prof. Dr. Andreas Linde	
<b>Lecturer</b>	Prof. Dr. Andreas Linde, Prof. Dr. Harald Schill, Prof. Dr. Barbara Wolff, Prof. Dr. Siegfried Rieger	
<b>ECTS-Credits</b>	6	
<b>SWH</b>	5	Workload: 180 h / Semester
<b>Max. study places</b>		
<b>Teaching form</b>	Lecture (30h), Practical exercise (5h), Seminar (5h), Project (75h), Self-study (65h)	Module type
<b>Language</b>	German, English	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
<b>Examination form</b>	Project presentation (60%), Written exam 90 min (40%)	
<b>Entry requirements</b>		
<b>Goal</b>	The students understand the fundamental processes in ecosystems and know basic methods to analyse them. They are familiar with the relevant field methods, so they can combine their theoretical knowledge with practical application. Moreover, they are enabled to evaluate the consequences of ecosystem manipulation. The students can use the basic knowledge in ecology, zoology and wildlife biology to establish management plans.	
<b>Content</b>	<p>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.). 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, singletree 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).</p> <p>Furthermore, varying topics and case studies in the field of game management will be presented. The significance of ungulates for the ecosystem forest will be highlighted.</p>	
<b>Recommended related elective modules</b>	Hunting & wildlife biology	
<b>Competences</b>	Technical competence (40%) Methodological competence (40%) Social competence (15%) Personnel competence (5%)	
<b>Literature</b>	Anderson, S.H. 1991. Managing our Wildlife Resources. Prentice Hall. Begon, Harper, Townsend 2009. Ökologie, Springer Verlag. Sinclair, A.R.E., Fryxell, J.M., Caughley, G. 2006. Wildlife Ecology, Conservation and Management. Blackwell Verlag.	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Forest mensuration	M.01.0014			
<b>Semester</b>	<b>2 &amp; 3</b>				
<b>Module coordinator</b>	<b>Prof. Dr. Barbara Wolff</b>	<b>Barbara.Wolff@hnee.de</b>			
<b>Status</b>	<b>Mandatory module</b>				
<b>Goal</b>	<b>The students are capable to establish a forest management plan according to different enterprise goals. Moreover, they are capable to conduct complex ecological analyses in forests.</b>				
<b>Examination form</b>	<b>Written exam 180 min</b>				
<b>ECTS-Credits</b>	<b>4</b>				
<b>SWH</b>	<b>4</b>				
<b>Module component</b>	Forest mensuration I	K.01.0029.V.PL			
Semester	2				
Coordinator	Prof. Dr. Barbara Wolff				
Lecturer	Prof. Dr. Barbara Wolff, Prof. Dr. Martin Guericke				
ECTS-Credits	2				
SWH	2	Workload: 60 h / Semester			
Max. study places					
Teaching form	Lecture (18h), Practical exercise (12h), Self-study (60h)	Module type			
Language	German	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">x continuous</td> <td style="padding: 2px;">partly blocked</td> <td style="padding: 2px;">blocked</td> </tr> </table>	x continuous	partly blocked	blocked
x continuous	partly blocked	blocked			
Examination form	Written exam 180 min (50%)				
Entry requirements					
Goal	Students are skilled for the efficient and independent investigation, processing and analysis of simple mainly single tree-focused space-oriented forest data.				
Content	<ul style="list-style-type: none"> <li>introduction to scientific/technical principles of cartography and applied geodesy for forestry- relevant applications</li> <li>parameters of forest mensuration for single trees</li> <li>handling relevant measuring instruments of measurement and dendrometry</li> <li>planning and realization of simple investigations in forests</li> <li>analysis of forest data</li> </ul>				
Recommended related elective modules					
Competences	Technical competence (50%) Methodological competence (30%) Personnel competence (20%)				
Literature	<p>Gärtner, M. &amp; Hagebusch, A. 1998. Fachkunde für Vermessungstechniker. 9. Auflage. Rheinland-Verlag. Pulheim. 351 S.</p> <p>Hake, G., Grünreich, D. &amp; Meng, L. 2002. Kartografie (8. Auflage). De Gruyter Lehrbuch. 8. Auflage. 603 S.</p> <p>Kramer, H. &amp; Akca, A. 1995. Leitfaden zur Waldmesslehre; 3. Auflage. J.D. Sauerländer's Verlag, Frankfurt/M. 266S.</p> <p>Werner, H., Kurth, H. et al. 1991. Forstvermessung und -Karten. Verl. F. Bauwesen. 148 S.</p> <p>Further current literature will be presented during the lecture.</p>				

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Forest mensuration II	K.01.0044.V.PL		
Semester	3			
Coordinator	Prof. Dr. Barbara Wolff			
Lecturer	Prof. Dr. Barbara Wolff, Prof. Dr. Martin Guericke			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (12h), Practical exercise (8h), Self-study (40h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 180 min (50%)			
Entry requirements				
Goal	The students are capable to establish a forest management plan according to different enterprise goals.			
Content	<ul style="list-style-type: none"> <li>• measurement of single trees and stand</li> <li>• forest yield assessment with yield tables</li> <li>• area/mass/increment calculation</li> <li>• methods of stand inventory</li> <li>• area calculations</li> <li>• target-orientated conception of complex forest mensuration.</li> </ul>			
Recommended related elective modules				
Competences	Technical competence (60%) Methodological competence (30%) Personnel competence (10%)			
Literature	<p>Avery, T. E. &amp; Burkhart, H. 1994. Forest Measurements. 4th edition. McGraw-Hill. 408p.</p> <p>Gärtner, M. &amp; Hagebusch, A. 1998. Fachkunde für Vermessungstechniker. 9. Auflage, Rheinland-Verlag, Pulheim, 351 S.</p> <p>Hake, G., Grünreich, D. &amp; Meng, L. 2002. Kartografie (8. Auflage). De Gruyter Lehrbuch. 8. Auflage 603 S.</p> <p>Kramer, H. &amp; Akca, A. 1995. Leitfaden zur Waldmesslehre; 3. Auflage. J.D.Sauerländer's Verlag, Frankfurt/M. 266S.</p> <p>VAn Laar, A. &amp; Akca, A. 1997. Forest Mensuration, Cuvillier Verlag, Göttingen. 418 S.</p> <p>Werner, H., Kurth, H. et al. 1991. Forstvermessung und -Karten. Verl. F. Bauwesen. 148 S.</p> <p>Further current literature will be presented during the lecture.</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Introduction into scientific work</b>	<b>M.01.0156</b>		
<b>Semester</b>	<b>2 &amp; 6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Martin Guericke</b>			
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>The students are enabled to work on a scientific question / hypothesis. They are capable to apply methods of self-management and project management and they are familiar with scientific writing and presentation. The students are furthermore trained to critically discuss scientific results and have insight into principles of good scientific practice.</b>			
<b>Examination form</b>	<b>Term paper (50%), Technical discussion 20 min (50%)</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>			
Module component	Introduction into scientific work I	K.01.0073		
Semester	2			
Coordinator	Prof. Dr. Martin Guericke			
Lecturer	Prof. Dr. Martin Guericke et al.			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (22h), Practical exercise (8h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Term paper (50%)			
Entry requirements				
Goal	The students know how to write a scientific work/paper. They are enabled to search for relevant literature in the most important databases, catalogues, wikis and open access platforms and they know how to cite correctly a reference and to establish a bibliography. The students are enabled to write protocols, project reports and and design a scientific poster. Moreover, students are able to present themselves and have good rhetorical skills. .			
Content	Content of the module are the theoretical fundamentals of scientific work (good scientific practice, establishing hypotheses, basic approaches in empirical (quantitative) studies and literature reviews). Building on this a variety of important techniques and tools such as presenting, information management, and citation are introduced and explained with practical examples.			
Recommended related elective modules				
Competences	Technical competence (35%) Media competence (15%) Methodological competence (25%) Social competence (15%) Personnel competence (10%)			
Literature	Bea, F.X., Scheurer S. und Hesselmann S. 2008. Projektmanagement. UTB, 732 S. ISBN: 978-3-8282-0234-4  Schilling, A. 2005. Hinweise für das Anfertigen einer Bachelor-Arbeit/ Master-Arbeit am Fachbereich für Wald und Umwelt, Hochschule Eberswalde. Unveröffentlicht.  Will, H. 2000. Mini-Handbuch Vortrag und Präsentation, Beltz-Taschenbuch, 102 S. ISBN: 978-3-407-22615-0			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Introduction into scientific work II			K.01.0073
Semester	6			
Coordinator	All lecturers of the faculty			
Lecturer	All lecturers of the faculty			
ECTS-Credits	2			
SWH	2			Workload: 60 h / Semester
Max. study places				
Teaching form	Seminar (30h), Self-study (30h)		Module type	
Language	German, English	x continuous	partly blocked	blocked
Examination form	Technical discussion 20 min (50%)			
Entry requirements	Introduction into scientific working I			
Goal	The students are enabled to plan and carry out a scientific work (Bachelor thesis). They can present and discuss scientific results.			
Content	The students work on and discuss scientific questions and contents under the guidance of their supervisors. In a seminar they present their concepts, approaches and results to the audience for further discussion. Special emphasis is laid on clear presentation skills and critical discussion.			
Recommended related elective modules	Environmental Impact Assessment, Certification of forests			
Competences	Technical competence (20%) Media competence (15%) Methodological competence (15%) Social competence (25%) Personnel competence (25%)			
Literature	<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>Schilling, A. 2005. Hinweise für das Anfertigen einer Bachelor-Arbeit/ Master-Arbeit am Fachbereich für Wald und Umwelt, Hochschule Eberswalde. Unveröffentlicht.</p> <p>and occasionally:</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 catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Data assessment &amp; analysis II</b>	<b>M.01.0072</b>		
<b>Semester</b>	<b>3</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Jan-Peter Mund</b>	<b>Jan-Peter.Mund@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>Students have the skills and capacity to collect, manage, analyse and present complex spatial and environmental data.</b>			
<b>Examination form</b>	<b>Project presentation (50%), Project presentation (50%)</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>			
Module component	Geographic information systems & remote sensing	K.01.0095.V.PL		
Coordinator	Prof. Dr. Jan-Peter Mund			
Lecturer	Prof. Dr. Jan-Peter Mund et al.			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Seminar (15h), Practical exercise (15h), Self-study (30h)	Module type		
Language	English	x continuous	partly blocked	blocked
Examination form	Project presentation (50%)			
Entry requirements				
Goal	Students are enabled to use open source and proprietary geographic information systems, spatial data management and remote sensing techniques for natural resources management.			
Content	Students learn the theoretical and practical use of spatial data, spatial analysis methods and remote sensing techniques using typical ecosystem and forest GIS and remote sensing issues. The seminar discusses the function and importance of GIS and remote sensing techniques in spatial information systems. Theoretical and Mathematical Foundations of GIS methods such as Map projection and spatial reference systems, spatial analysis and spatial queries using SQL, spatial data types, topologies and attribute data structures are presented. Students learn such methods through practical exercises. In addition, students will learn modern digital methods of data collection, monitoring, analysis and presentation of states and processes in forest ecosystems and the systematic recording of additional spatial environmental parameters and indicators.			
Recommended related elective modules	Geographic Information Systems Forest landscape restoration			
Competences	Technical competence (50%) Methodological competence (20%) Social competence (20%) Personnel competence (10%)			
Literature	<p>Bartelme, N. (2005): Geoinformatik – Modelle, Strukturen, Funktionen.</p> <p>Bill, R. (1999): Grundlagen der Geoinformationssysteme. Band 1 &amp; 2. Heidelberg, Wichman.</p> <p>Campbell, J.B. (2007): Introduction to Remote Sensing. Guilford Press, New York.</p> <p>de Smith, M., Goodchild, M., Longley D.(2008): Geospatial Analysis. <a href="http://www.spatialanalysisonline.com">www.spatialanalysisonline.com</a>.</p> <p>Jones, H. G. &amp; Vaughan, R. A. 2010: Remote Sensing of Vegetation: Principles, Techniques, and Applications</p> <p>Lillesand, T.M., R.W. Kiefer (2007: Remote Sensing and Image Interpretation. John Wiley</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	<p>&amp; Sons, Inc.</p> <p>Longley, P.A., M.F. Goodchild, D.J. Maguire &amp; D.W. Rhind (2010): Geographic Information Systems and Science. John Wiley &amp; Sons.</p> <p>Robinson A.H., J.L. Morrison, P.C. Muehrcke, A.J. Kimerling &amp; S.C. Guptill (1995): Elements of Cartography. John Wiley &amp; Sons.</p> <p>Streit, U. et al. (2006): Einführung in die Geoinformatik. online-script. Institut für Geoinformatik, Münster.</p> <p><a href="http://ifgivor.uni-muenster.de/vorlesungen/Geoinformatik/index.html">http://ifgivor.uni-muenster.de/vorlesungen/Geoinformatik/index.html</a>.</p> <p>Additional relevant literature and current scientific resources will be presented during the lecture.</p>		
<b>Module component</b>	<b>Social survey methods</b>	<b>K.01.0098.V.PL</b>	
Coordinator	Prof. Dr. Martin Welp		
Lecturer	Prof. Dr. Martin Welp		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (30h)	Module type	
Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
		<input type="checkbox"/> blocked	
Examination form	Project presentation (50%)		
Entry requirements			
Goal	The students are capable to apply quantitative and qualitative methods in social sciences; moreover, they know how to interpret the results from such analyses.		
Content	<p>The students are introduced to both quantitative and qualitative approaches in social research. Students will learn about survey design and methodology and the challenges related to obtaining unbiased 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. Students will explore the range of areas in which surveys are used: surveys as a research method are widely used among others in public opinion polls and market research. The students will also be introduced to qualitative social science research methods, such as semi-structured interviews or focus groups and how such data is analyzed and interpreted.</p> <p>The students will design a social science research project of appropriate scope, conduct it as well as analyze and present the results. Students will critically discuss the applied method, possible biases and other conceptual aspects of their project.</p>		
Recommended related elective modules			
Competences	Technical competence (20%) Media competence (20%) Methodological competence (20%) Social competence (20%) Personnel competence (20%)		
Literature	<p>Dillman, D.A. et al. 2009 Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method. John Wiley &amp; Sons.</p> <p>Groves, R.M. et al. Survey Methodology, Wiley</p> <p>Keith F. Punch. 2005. Introduction to Social Research. Quantitative and Qualitative Approaches. Sage Publications, London. 336 p.</p> <p>Mayring, P. 2002. Einführung in die Qualitative Sozialforschung: Eine Anleitung zu qualitativen Denken. Beltz Verlag.</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Forest ecology II	M.01.0070
<b>Semester</b>	<b>3</b>	
<b>Module coordinator</b>	<b>Prof. Dr. Andreas Linde</b>	<b>Andreas.Linde@hnee.de</b>
<b>Status</b>	<b>Mandatory module</b>	
<b>Goal</b>	<b>The students are enabled to analyse forest ecosystems (fauna and flora) as a basis for silviculture.</b>	
<b>Examination form</b>	<b>Project report (60%), Written exam 90 min (40%)</b>	
<b>ECTS-Credits</b>	<b>4</b>	
<b>SWH</b>	<b>4</b>	
Module component	Applied ecology	K.01.0091.Pj.PL
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Barbara Wolff, Prof. Dr. Winfried Riek, Prof. Dr. Harald Schill	
ECTS-Credits	2	
SWH	2	Workload: 60 h / Semester
Max. study places		
Teaching form	Lecture (15h), Practical exercise (5h), Project (20h), Self-study (20h)	Module type
Language	English, German	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Project report (60%)	
Entry requirements		
Goal	Students are enabled 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 I, 2nd semester). They apply different methods in field ecology and study 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. In the lecture part, the concepts of intra- and interspecific interactions are introduced as example of the cross-linking in ecosystems. Regulation mechanisms of population ecology and its application (biological control) will be studied. Recurrent topic is the endangerment of the functionality of ecosystems which is explained on various examples (climate change, element input, invasive species).	
Recommended related elective modules		
Competences	Technical competence (30%) Methodological competence (35%) Social competence (25%) Personnel competence (10%)	
Literature	Begon, Harper, Townsend: Ökologie (Springer 2009). Mühlenberg: Freilandökologie (UTB). Southwood, Henderson: Ecological Methods (Wiley-Blackwell 2000).	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Silvicultural basics	K.01.0084.V.PL		
Coordinator	Prof. Dr. Dieter Murach			
Lecturer	Prof. Dr. Dieter Murach			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (30h), Self-study (30h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 90 min (40%)			
Entry requirements				
Goal	Students will gain an understanding of the interrelationship between forest ecosystems and their environment under the influence of different management systems. Students are enabled to transform the information of forest based disciplines into knowledge that enables them to sustainably manage forest ecosystems.			
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 consequences of the silvicultural management on forest ecosystems and the environment will be explained with examples.			
Recommended related elective modules				
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	<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> <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>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Forest utilization	M.01.0073		
<b>Semester</b>	<b>3</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Dr. h.c. Michael Mussong</b>	<b>Michael.Mussong@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>The students are enabled to use their basic socio-economic, organizational and technical knowledge for application in the field of forest utilization in an international context.</b>			
<b>Examination form</b>	<b>Written exam 120 min</b>			
<b>ECTS-Credits</b>	<b>8</b>			
<b>SWH</b>	<b>8</b>			
<b>Module component</b>	<b>Raw material wood</b>	<b>K.01.0345</b>		
Coordinator	Prof. Dr. Tobias Cremer			
Lecturer	Prof. Dr. Tobias Cremer			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (23h), Practical exercise (7h), Self-study (30h)	Module type		
Language	English	x continuous	partly blocked	blocked
Examination form	Written exam 120 min (25%)			
Entry requirements				
Goal	Students know the structure and composition of wood, as well as relevant wood attributes. Based on that, students are enabled, to sort wood according to customer needs.			
Content	The modul is dealing with the following contents: - Macroscopic structure of wood - Wood attributes, relevant for its' utilization - Measuring and sorting of wood in national and international context - Industrial utilization of wood - Energetic utilization of wood			
Recommended related elective modules	Certification of forests			
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	Grammel, R. (1989): Forstbenutzung. Pareys Studientexte 67, Verlag Paul Parey, Hamburg und Berlin, 193 S.  Kaltschmitt, M., Hartmann, H. und Hofbauer, H. (2009): Energie aus Biomasse: Grundlagen, Techniken und Verfahren. Springer, 1030 S.  Knigge, W. und Schulz, H. (1966): Grundriß der Forstbenutzung. Verlag Paul Parey, Hamburg und Berlin, 584 S.  Rahmenvereinbarung für den Rohholzhandel in Deutschland: <a href="http://www.rvr-deutschland.de/">http://www.rvr-deutschland.de/</a>  Wagenführ, R. (1999): Anatomie des Holzes; 5. Auflage; DRW, Leinfelden-Echterdingen, 188 S.			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Timber markets and logistics	K.01.0346
Coordinator	Prof. Dr. Tobias Cremer	
Lecturer	Prof. Dr. Tobias Cremer	
ECTS-Credits	1	
SWH	1	Workload: 30 h / Semester
Max. study places		
Teaching form	Lecture (10h), Practical exercise (5h), Self-study (15h)	Module type
Language	English	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Written exam 120 min (12,5%)	
Entry requirements		
Goal	The students gain special knowledge regarding timber markets and timber logistics. Using that background, they are enabled to apply and critically evaluate their knowledge in an international context.	
Content	The modul is dealing with the following contents: - Different means of transport and actors in (international) timber logistics - Possibilities to optimize (global) timber logistics - Timber trade and timber market statistics - Wood prices and wood balances - Certification of forests in Europe and worldwide - Volumes and markets for relevant non timber forest products (NTFP)	
Recommended related elective modules	Certification of forests	
Competences	Technical competence (70%) Methodological competence (30%)	
Literature	FAO (2013): FAO Yearbook of Forest Products 2012. 358 S.  Junginger, M., et al. (2013); International Bioenergy Trade. Springer Verlag, 239 S.  Krampe, H. und Lucke, H.-J. (2012); Grundlagen der Logistik: Theorie und Praxis logistischer Systeme. Huss-Verlag, 560 S.  Statz, J. (2001): Nutzung von Nicht-Holz-Waldprodukten als Handlungsfeld der Entwicklungszusammenarbeit. Schriftenreihe Freiburger forstliche Forschung ; 11, 235 S.	
Module component	Forest, humans & work	K.01.0103
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong	
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong	
ECTS-Credits	2	
SWH	2	Workload: 60 h / Semester
Max. study places		
Teaching form	Lecture (25h), Practical exercise (5h), Self-study (30h)	Module type
Language	German	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Written exam 120 min (25%)	
Entry requirements		
Goal	Students are enabled to plan and supervise manual forest operations according to current standards.	
Content	The module component focuses on the working person and is dealing mainly with human	

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	and social aspects of the (forest) work (work physiology, work psychology, work sociology, working environment, safety and health, payment, work design).		
Recommended related elective modules	Exercises in forestry work		
Competences	Technical competence (70%) Methodological competence (10%) Social competence (10%) Personnel competence (10%)		
Literature	<p>GUV-I-8556, 2006: Sichere Waldarbeit und Baumpflege. Bundesverband der Unfallkassen, München.</p> <p>GUV-V C51: 1997: Unfallverhütungsvorschrift Forsten. Bundesverband der Unfallkassen, München.</p> <p>Hardenacke, H., Peetz, P. und Wichardt, G.,1985: Arbeitswissenschaft. Hanser, München, Wien.</p> <p>KWF, 2011: Der Forstwirt. Ulmer, Stuttgart.</p> <p>Kuratorium für Waldarbeit und Forsttechnik: <a href="http://www.kwf-online">www.kwf-online</a>.</p>		
Module component	Harvest planning in forestry	K.01.0096	
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong		
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Lecture (25h), Practical exercise (5h), Self-study (30h)	Module type	
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
			<input type="checkbox"/> blocked
Examination form	Written exam 120 min (25%)		
Entry requirements			
Goal	Students are enabled 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		
Competences	Technical competence (70%) Methodological competence (30%)		
Literature	<p>Forstausrösterkataloge: div. Firmen</p> <p>KWF: Tagungsführer</p> <p>KWF, 2011: Der Forstwirt. Ulmer, Stuttgart.</p> <p>Ministry of Fisheries and Forests, 2013: Fiji Forest Harvesting Code of Practice. 2nd edition.</p> <p>Morat, J., Forbrig, A. und Graupner, J., 1998:Holzernteverfahren. KWF, Groß-Umstadt.</p> <p>REFA (1998):Arbeitsstudien, Arbeitsorganisation und Qualitätsmanagement in der Forstwirtschaft. IFAO, Stuttgart.</p>		

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*effective from winter term 2016/17*

Module component	Forest opening and rural road planning	K.01.0349
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong	
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong	
ECTS-Credits	1	
SWH	1	Workload: 30 h / Semester
Max. study places		
Teaching form	Lecture (15h), Self-study (15h)	Module type
Language	German	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Written exam 120 min (12,5%)	
Entry requirements		
Goal	The students have basic knowledge in designing rural roads for forest management and recreation purposes in an international context.	
Content	Soil as foundation and construction material; planning parameters of forest roads; general development planning; project planning; construction; maintenance; development for recreational purposes.	
Recommended related elective modules	Forest road development	
Competences	Technical competence (70%) Methodological competence (30%)	
Literature	Dietz, P., Knigge, W., Löffler, H., 1984: Walderschließung. Kessel-Verlag, Remagen. DWA, 2005: Richtlinien für den ländlichen Wegebau. DWA-A904. Klassen A., 2006: Planning, Location, Survey, Construction Maintenance for Low-Impact Forest Roads. TFF, Jakarta.	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Forest growth &amp; inventory</b>	<b>M.01.0032</b>		
<b>Semester</b>	<b>3 &amp; 4</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Martin Guericke</b>	<b>Martin.Guericke@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>The students are enabled to assess quantitatively and qualitatively the growth of single trees and stands. They have knowledge how natural and anthropogenic factors influence the volume and value performance as well as the stability of forest stands. The students have insight into different inventory methods and are able to apply them. The students are able to analyse forest stands from a silvicultural standpoint and set up stand development goals and management approaches.</b>			
<b>Examination form</b>	<b>Written exam 180 min</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>			
Module component	Forest growth	K.01.0045.V.PL		
Semester	3			
Coordinator	Prof. Dr. Martin Guericke			
Lecturer	Prof. Dr. Martin Guericke, Prof. Dr. Barbara Wolff			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (20h), Practical exercise (10h), Self-study (30h)	Module type		
Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 180 min (50%)			
Entry requirements				
Goal	Students are enabled to discuss and to assess the quantitative and qualitative growth dynamics of single trees and forest stands. They know the impact of local geographical conditions, such as soil conditions and climate, on growth and yield, stand structure and stability. They have skills of different methods and types of inventories. They are enabled to perform such inventories and to analyse the current silvicultural status. On this base they are qualified to define silviculture goals and management options, to realize such strategies and to ensure sustainable forestry.			
Content	Impact of endogenous and exogenous factors on growth and yield of single trees and forest stands. Growth dynamics of light demanding and shade tolerant species relating to diameter, height, taper and volume on single trees and stand level. Difference of growth and increment, performance and derivation of suitable functions. Knowledge of the yield of the most important tree species and the impact of provenance, spacing and thinning on volume increment, quality control of single trees, stand stability. Comparison of the growth dynamics, stand structure and competition of even-aged and uneven-aged, pure and mixed stands. Theoretical background and application of different yield tables. Presentation and discussion of ongoing research projects and results.			
Recommended related elective modules				
Competences	Technical competence (60%) Methodological competence (30%) Personnel competence (10%)			
Literature	Gadow, K.v. (2003): Waldstruktur und Wachstum, Universitätsdruck Göttingen, 241 S. ISBN: 978-3-930457-32-8.			

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*effective from winter term 2016/17*

	Pretzsch, H. (2002): Grundlagen der Waldwachstumsforschung, Parey Buchverlag im Blackwell Verlag, 378 S. ISBN: 3-8263-3223-7.		
Module component	Forest planning & forest inventory	K.01.0051	
Semester	4		
Coordinator	Prof. Dr. Barbara Wolff		
Lecturer	Prof. Dr. Barbara Wolff, Prof. Dr. Martin Guericke		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Lecture (20h), Practical exercise (10h), Self-study (30h)	Module type	
Language	German, English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
Examination form	Written exam 180 min (50%)		
Entry requirements			
Goal	The students are skilled to apply basic forest inventory techniques for typical objectives and different scales.		
Content	<ul style="list-style-type: none"> <li>• fundamental statistics for forest inventories</li> <li>• sampling units</li> <li>• sampling design (e.g. simple random sampling, systematic sampling, stratified sampling)</li> <li>• forest inventory planning</li> <li>• typical forest inventory systems (e.g. national forest inventory, forest enterprise inventories, non-timber inventoier, multipurpose inventories)</li> </ul>		
Recommended related elective modules			
Competences	Technical competence (60%) Methodological competence (30%) Personnel competence (10%)		
Literature	<p>Akca, A. 2001: Waldinventur. J.D. Sauerländer's Verlag, Frankfurt am Main, 193 S.</p> <p>Zöhner, F. 1980: Forstinventur. Pareys Studentexte 26; 207 S.</p> <p>More literature will be presented in the lecture!</p> <p>Further current literature will be presented during the lecture.</p>		

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*effective from winter term 2016/17*

Module	Applied silviculture & forest economics	M.01.0080
<b>Semester</b>	<b>4</b>	
<b>Module coordinator</b>	<b>Prof. Dr. Peter Spathelf</b>	<b>Peter.Spathelf@hnee.de</b>
<b>Status</b>	<b>Mandatory module</b>	
<b>Goal</b>	<b>The students are capable to develop silvicultural strategies, evaluate them economically and put them into practice.</b>	
<b>Examination form</b>	<b>Written exam 180 min</b>	
<b>ECTS-Credits</b>	<b>6</b>	
<b>SWH</b>	<b>5</b>	
Module component	Silviculture	K.01.0112.V.PL
Coordinator	Prof. Dr. Peter Spathelf	
Lecturer	Prof. Dr. Peter Spathelf	
ECTS-Credits	4	
SWH	3	Workload: 120 h / Semester
Max. study places		
Teaching form	Lecture (39h), Practical exercise (6h), Self-study (75h)	Module type
Language	English	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Written exam 180 min (60%)	
Entry requirements		
Goal	Students are enabled 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	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. 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. In international forestry selected topics of plantation forestry and natural forest management are provided.	
Recommended related elective modules		
Competences	Technical competence (70%) Methodological competence (30%)	
Literature	FAO (2005): State of the world's forests. FAO, Rome. <a href="http://www.fao.org">www.fao.org</a> Fritz, P. (Hrsg.) 2006. Ökologischer Waldumbau in Deutschland. Fragen, Antworten, Perspektiven. Oekom-Verlag. 351 S. Nambiar, E.K.S. 1999. Pursuit of Sustainable Plantation Forestry. Southern African Forestry Journal, No 184. p. 45-62. 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. 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.	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	<p>Röhrig, E., Bartsch, N. &amp; Von Lüpke, B. 2006. Waldbau auf ökologischer Grundlage. 7. Auflage. Verlag Eugen Ulmer Stuttgart. 479. S.</p> <p>Smith, D.M. 1962. The practice of silviculture. John Wiley &amp; Sons, New York. 578 p.</p> <p>Spathelf, P., Schneider, P.R., Finger, C.A., 2001. Zur nachhaltigen Bewirtschaftung von Araukarien-Mischwäldern in Südbrasilien. Forstarchiv 72, 92-100.</p>		
Module component	Forest economics	K.01.0094.Ü.PL	
Coordinator	Prof. Dr. Wolf-Henning von der Wense		
Lecturer	Prof. Dr. Wolf-Henning von der Wense		
ECTS-Credits	2		
SWH	2	Workload: 60 h / Semester	
Max. study places			
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (30h)	Module type	
Language	German	x continuous	partly blocked
			blocked
Examination form	Written exam 180 min (40%)		
Entry requirements			
Goal	The students are capable to analyse and assess forest enterprises according to their economic performance. Moreover, they are enabled to apply models to optimize economic processes.		
Content	The most important operational processes of forest enterprises, such as aquisition, production, planning, investment and marketing will be discussed, under special consideration of optimization aspects. The students will get familiar with important cost accounting methods and learn to apply economic coefficients. Moreover, fundamental knowledge of forest valuation will be given, with special emphasis on wild deer damages.		
Recommended related elective modules			
Competences	Technical competence (50%) Methodological competence (50%)		
Literature	<p>Jung, H. 2010. Allg. Betriebswirtschaftslehre, Oldenbourg. München</p> <p>Oesten, G. und Roeder, A. 2012. Management von Forstbetrieben, Bd. 1 – Grundlagen, Betriebspolitik. 3. Aufl., ife.uni-freiburg.de</p> <p>Oesten, G. und Roeder, A. 2012. Management von Forstbetrieben, Bd. 2 – Management- und Informationssystem. 1. Aufl., ife.uni-freiburg.de</p> <p>Oesten, G. und Roeder, A. 2012. Management von Forstbetrieben, Bd. 3 - Leistungssystem, Zusammenfassung und Ausblick. 1. Aufl., ife.uni-freiburg.de</p> <p>Sagl, W. 1995. Bewertung in Forstbetrieben. Parey. Berlin, Oxford, Blackwell Schmitthüsen, F. et al. 2009. Unternehmerisches Handeln in der Wald- und Holzwirtschaft. 2. Aufl. dbv Gernsbach</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Forest protection	M.01.0046		
<b>Semester</b>	<b>4</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Curt Majunke</b>	<b>Curt.Majunke@hnee.de</b>		
<b>Status</b>	<b>Pflicht</b>			
<b>Goal</b>	<b>Students are enabled to plan and practically implement forest protection measures.</b>			
<b>Examination form</b>	<b>Written exam 120 min</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>6</b>			
<b>Module component</b>	Forest protection	K.01.0062.V.PL		
Coordinator	Prof. Dr. Curt Majunke			
Lecturer	Prof. Dr. Curt Majunke			
ECTS-Credits	4			
SWH	4	Workload: 120 h / Semester		
Max. study places				
Teaching form	Lecture (34h), Practical exercise (11h), Self-study (75h)	Module type		
Language	German	x continuous	partly blocked	blocked
Examination form	Written exam 120 min (60%)			
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 n (including knowledge in plant protection). 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				
Competences	Technical competence (70%) Media competence (5%) Methodological competence (10%) Social competence (10%) Personnel competence (5%)			
Literature	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.  König, H.-C.: Waldbrandschutz - Kompendium für Forst und Feuerwehr. 2007.			
<b>Module component</b>	Forest entomology	K.01.0019.V.PL		
Coordinator	Prof. Dr. Curt Majunke			
Lecturer	Prof. Dr. Curt Majunke			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (19h), Practical exercise (20h), Self-study (30h)	Module type		

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Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam 120 min (40%)			
Entry requirements				
Goal	The participants are enabled to identify the most important Central European forest damage relevant insect groups.			
Content	Biological and ecological features as well as economic relevance of the most important forest related Central European damaging insects and their host plants.			
Recommended related elective modules				
Competences	Technical competence (70%) Methodological competence (30%)			
Literature	<p>Amann, G.: Kerfe des Waldes. 11. durchges. Aufl. , Augsburg, Naturbuch- Verlag, 1995.</p> <p>Carter, D.J.: Raupen und Schmetterlinge Europas. Berlin und Hamburg: Verlag Paul Parey, 1987.</p> <p>Chinery, M.: Insekten Mitteleuropas. Berlin und Hamburg: Verlag Paul Parey, 1984.</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>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Adaptive ecosystem management</b>	<b>M.01.0079</b>			
<b>Semester</b>	<b>4</b>				
<b>Module coordinator</b>	<b>Prof. Dr. Pierre Ibisch</b>	<b>Pierre.Ibisch@hnee.de</b>			
<b>Status</b>	<b>Mandatory module</b>				
<b>Goal</b>	<b>Based on the principles and instruments of adaptive management as well as ecosystem based strategies, the students will gain the knowledge to propose ecosystem-based strategies for selected areas.</b>				
<b>Examination form</b>	<b>Project report</b>				
<b>ECTS-Credits</b>	<b>8</b>				
<b>SWH</b>	<b>6</b>				
Module component	Adaptive ecosystem management	K.01.0105.Ü.PL			
Coordinator	Prof. Dr. Pierre Ibisch				
Lecturer	Prof. Dr. Pierre Ibisch, Prof. Dr. Martin Welp, Christoph Nowicki				
ECTS-Credits	8				
SWH	6	Workload: 240 h / Semester			
Max. study places	25				
Teaching form	Lecture (30h), Practical exercise (40h), Self-study (170h)	Module type			
Language	English	continuous	partly blocked	x	blocked
Examination form	Project report (100%)				
Entry requirements					
Goal	Based on the principles and instruments of adaptive management as well as ecosystem-based strategies, the students will be enabled to propose ecosystem-based strategies for sustainable development in selected areas.				
Content	The students will work in groups and establish a simplified management plan for a given area on the basis of a methodological approach developed by the Conservation Measures Partnership (CMP): <i>Open Standards for the Practice of Conservation</i> . CMP is a group of several conservation NGO (e.g. the Nature Conservancy, WWF, Conservation International). This planning method represents a step-by-step approach in order to seize and evaluate relevant management challenges in a systemic manner and to derive the corresponding strategies. In this course the method will be presented on the basis of an overview of adaptive management and ecosystem-based sustainable development. The course is taught in a combination of lectures and ongoing tutorials. The practical exercises will be carried out in small groups of 3-5 students. Thereby the software Miradi will be applied/used.				
Recommended related elective modules					
Competences	Technical competence (30%) Media competence (10%) Methodological competence (10%) Social competence (10%) Personnel competence (10%)				
Literature	<p>CMP (2014): Improving How Conservation Impact Is Measured. (online: <a href="http://www.conservationmeasures.org">www.conservationmeasures.org</a>).</p> <p>Conservation Measures Partnership &amp; BENETECH (2014) Miradi. Adaptive management software for conservation projects. <a href="https://miradi.org/">https://miradi.org/</a></p> <p>Margoluis, R. &amp; 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 &amp; K. Redford (2001) Adaptive Management: A tool for conservation practitioners. Biodiversity Support Program (BSP), WWF.</p> <p><a href="http://www.fosonline.org/resources/Publications/AdapManHTML/Adman_1.html">http://www.fosonline.org/resources/Publications/AdapManHTML/Adman_1.html</a></p> <p>Web page of IUCN protected areas: <a href="http://www.iucn.org/about/work/programmes/gpap_home/">http://www.iucn.org/about/work/programmes/gpap_home/</a></p> <p>Additional literature will be presented during the lecture.</p>				

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Practical study semester abroad	M.01.0160
<b>Semester</b>	<b>5</b>	
<b>Module coordinator</b>	<b>Prof. Dr. Dr. h.c. Michael Mussong</b>	
<b>Status</b>	<b>Mandatory module</b>	
<b>Goal</b>	<b>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.</b>	
<b>Examination form</b>	<b>Project report (50%), Project presentation (50%)</b>	
<b>ECTS-Credits</b>	<b>30</b>	
<b>SWH</b>	<b>30</b>	
<b>Module component</b>	Practical study semester abroad	K.01.0115
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong	
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong	
ECTS-Credits	30	
SWH	30	Workload: 900 h / Semester
Max. study places		
Teaching form	Project (900h)	Module type
Language	English, tbd	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Project report (50%), Project presentation (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		
Competences	Technical competence (25%) Methodological competence (25%) Social competence (25%) Personnel competence (25%)	
Literature	Will be announced at the beginning of the module.	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Bachelor thesis</b>	<b>AM.01.0008</b>		
<b>Semester</b>	<b>6</b>			
<b>Module coordinator</b>	<b>Lecturers of the faculty</b>			
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>Students are enabled 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 enabled to write scientifically and has knowledge about the basics of good scientific practice.</b>			
<b>Examination form</b>	<b>Project report</b>			
<b>ECTS-Credits</b>	<b>12</b>			
<b>SWH</b>	<b>12</b>			
Module component	Bachelor thesis	K.01.0400		
Semester	6			
Coordinator	Lecturers of the faculty			
Lecturer	Lecturers of the faculty			
ECTS-Credits	12			
SWH	12	Workload: 360 h / Semester		
Max. study places				
Teaching form	Project (360h)	Module type		
Language	English / German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Project report (100%)			
Entry requirements				
Goal	Students are enabled 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 enabled 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				
Competences	Technical competence (30%), Methodological competence (30%), Personale Kompetenz (20%), Media competence (20%)			
Literature	Depending on the topic.			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Environmental policy &amp; economics</b>	<b>M.01.0086</b>		
<b>Semester</b>	<b>6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Klaus Günther-Dieng</b>	<b>Klaus.Guenther-Dieng@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>Students know of the basic elements of the two sectoral policy fields concerning Development and Environment and the essential legal documents and common methods in environmental evaluation and decision-making, e.g. cost-benefit analysis. They are enabled 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.</b>			
<b>Examination form</b>	<b>Technical discussion 20 min</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>			
Module component	Environmental economics	K.01.0101.Pj.PL		
Coordinator	Prof. Dr. Wolf-Henning von der Wense			
Lecturer	Prof. Dr. Wolf-Henning von der Wense & NN			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (15h), Practical exercise (6h), Project (9h), Self-study (30h)	Module type		
Language	English	x continuous	partly blocked	blocked
Prüfungsleistung	Technical discussion 20 min (50%)			
Entry requirements				
Goal	Students know the fundamentals of environmental economics and are enabled 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				
Competences	Technical competence (40%) Methodological competence (40%) Social competence (20%)			
Literature	Bergen, V., Löwenstein, W., Olschewski, R. 2002. Forstökonomie, Vahlen. München Cansier, D. Umweltökonomie. Lucius & Lucius. Stuttgart			
Module component	Development & environmental policy	K.01.0111.V.PL		
Coordinator	Prof. Dr. Klaus Günther-Dieng			
Lecturer	Prof. Dr. Klaus Günther-Dieng			
ECTS-Credits	2			
SWH	2	Workload: 60 h / Semester		
Max. study places				
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (30h)	Module type		

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*effective from winter term 2016/17*

Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	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 enabled 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 case studies. As an important part of international policy the globalized trade system will be discussed by introducing basic regulations, such as 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. As a specific field of action international forest policy will be discussed. Students are encouraged to work out "work-sheets" for their critical self-assessment.			
Recommended related elective modules	Environmental law and certification			
Competences	Technical competence (70%) Methodological competence (10%) Social competence (10%) Personnel competence (10%)			
Literature	<p>FAO (2011, 2013): State of the World Forests. Handbook. UNCTAD (2012): Trade and Development Report.</p> <p>Koivurova T., Introduction to International Environmental Law, 2013</p> <p>Krott M., Forest Policy Analysis, 2005</p> <p>Kruck, A.; Rittberger, V.; Zangl, B, International Organisationen, 4. Aufl. 2012</p> <p>Seeliger A., Eberhard Feess Umweltökonomie und Umweltpolitik, 2013</p> <p>UNEP - IISD (2008): Environment and Trade</p> <p>UNEP, Yearly reports</p> <p>Vranes E., Trade and the Environment, 2009</p> <p>Wilhelm &amp; Ihne, Einführung in die Entwicklungspolitik, 3. Aufl. 2013</p> <p>Wold, Ch.; Gaines, S.; Block, G. (2005): Trade and the Environment, Carolina acad. Press.</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Forest management strategies &amp; evaluation</b>	<b>M.01.0048</b>		
<b>Semester</b>	<b>6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Wolf-Henning von der Wense</b>	<b>vdwense@hnee.de</b>		
<b>Status</b>	<b>Mandatory module</b>			
<b>Goal</b>	<b>The students are capable to inventory forests or forest compartments and establish sustainable forest management plans, considering all necessary forest related disciplines. They understand interdisciplinary connections of forest management.</b>			
<b>Examination form</b>	<b>Project report (50%), Technical discussion 20 min (50%)</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>6</b>			
Module component	Forest growth modelling	K.01.0300		
Coordinator	Prof. Dr. Martin Guericke			
Lecturer	Prof. Dr. Martin Guericke			
ECTS-Credits	1			
SWH	1	Workload: 30 h/ Semester		
Max. study places				
Teaching form	Lecture (9h), Practical exercise (6h), Self-study (15h)	Module type		
Language	German	continuous	partly blocked	x blocked
Prüfungsleistung				
Entry requirements	Forest growth & inventory			
Goal	Students are acquainted with the background and motivation of growth modelling. They are aware of the theory and functionality of single tree growth models. They are enabled to compile case studies, to analyse the results from different scientific and silviculture points of view and to derivate recommendations for silviculture management. Students are enabled to apply the single tree growth modell „BwinPro Brandenburg“.			
Content	Presentation of different single tree growth models and theoretical approaches. Data sampling and initialization of pure and mixed forest stands to start growth modelling. Definition of managment and growth scenarios, modelling and analysis from economic and ecological points of view. Discussion of results and derived silviculture recommendations.			
Recommended related elective modules	GIS consolidation			
Competences	Technical competence (50%), Methodological competence (40%), Personale Kompetenz (10%)			
Literature	Duda, H., (2006): Vergleich forstlicher Managementstrategien. Umsetzung verschiedener Waldbaukonzepte in einem Waldwachstumssimulator. Dissertation Universität Göttingen, ISBN: 3-8334-6618-9. Internet: <a href="http://resolver.sub.uni-goettingen.de/purl/?webdoc-1300">http://resolver.sub.uni-goettingen.de/purl/?webdoc-1300</a>  Pretzsch , H., (2001): Modellierung des Waldwachstums. Erschienen im Parey Buchverlag Berlin. ISBN: 3 8263 3377 2.			

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*effective from winter term 2016/17*

Module component	Forest management strategies & evaluation	K.01.0065.Pj.PL		
Coordinator	Prof. Dr. Peter Spathelf			
Lecturer	Prof. Dr. Peter Spathelf et al.			
ECTS-Credits	5			
SWH	5	Workload: 150 h / Semester		
Max. study places				
Teaching form	Lecture (4h), Project (46h), Self-study (100h)	Module type		
Language	German	<input type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input checked="" type="checkbox"/> blocked
Prüfungsleistung	Project report (50%), Technical discussion 20 min (50%)			
Entry requirements				
Goal	The students are enabled to – at least partly – establish a sustainable forest management plan, considering all relevant forest related disciplines. They understand fundamental relationships concerning forest ecology and sustainable forest management and are capable to transfer knowledge and scientific approaches into practice.			
Content	Inventory and analysis of forest structures; controlling; ecological and economic modelling; short and long-term planning; forest evaluation (soil, stands, forest enterprises) as a basis for selling decisions; auditing and the establishment of management plans.			
Recommended related elective modules				
Competences	Technical competence (20%) Methodological competence (40%) Social competence (40%)			
Literature	<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>Oesten, G. und Roeder, A. 2012. Management von Forstbetrieben, Bd. -3 ife.uni-freiburg.de.</p> <p>Rittershofer, F. (1999). Waldpflege und Waldbau für Studium und Praxis. Gisela Rittershofer Verlag, Freising. 492 S.</p> <p>Röhrig, E., Bartsch, N. &amp; 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. dbv Gernsbach.</p> <p>Setzer, F., Spinner, K. 2007. Waldbesitzerhandbuch. Neumann-Neudamm.</p> <p>Sieder, P. (Hrsg.). Waldbau zur Jahrtausendwende. Rückblicke, Nachdenklichkeiten, Ausblicke. Band 1-5. Shaker Verlag.</p> <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.</p>			

## Elective Modules

<b>Module</b>	<b>Hunting &amp; Wildlife biology</b>	<b>M.01.0005</b>		
<b>Semester</b>	<b>1, 2, 3 &amp; 4</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Siegfried Rieger</b>	<b>Siegfried.Rieger@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students are enabled to understand and put into practice fundamentals of wildlife biology and hunting, with special consideration of the ecosystem approach.</b>			
<b>Examination form</b>	<b>Written exam, Project presentation, Work report, Technical discussion, Project report</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
<b>Module component</b>	<b>Hunting I</b>	<b>K.01.0009.V.PL</b>		
<b>Semester</b>	<b>1</b>			
<b>Coordinator</b>	<b>Prof. Dr. Siegfried Rieger</b>			
<b>Lecturer</b>	<b>Prof. Dr. Siegfried Rieger et al.</b>			
<b>ECTS-Credits</b>	<b>4</b>			
<b>SWH</b>	<b>4</b>	<b>Workload: 120 h / Semester</b>		
<b>Max. study places</b>	<b>10</b>			
<b>Teaching form</b>	<b>Lecture (30h), Practical exercise (15h), Seminar (15h), Self-study (60h)</b>	<b>Module type</b>		
<b>Language</b>	<b>German</b>	<input type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input checked="" type="checkbox"/> blocked
<b>Examination form</b>	<b>Written exam 90 min (50%)</b>			
<b>Entry requirements</b>				
<b>Goal</b>	The student is enabled to apply fundamentals of game biology, hygiene, hunting legislation and practice in the context of ecosystem-oriented hunting. In this context, students can demonstrate expertly handling, use and technology of hunting and hunting relevant guns. 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.			
<b>Content</b>	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.			
<b>Recommended related elective modules</b>	<b>Modern hunting strategies Hunting practice</b>			
<b>Competences</b>	<b>Technical competence (90%) Methodological competence (10%)</b>			

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*effective from winter term 2016/17*

Literature	<p>Aktuelle Gesetzestexte BJagdG und LJagdG</p> <p>Blase, Richard (2015): Die Jägerprüfung. 29. Auflage; Verlag Quelle und Meyer.</p> <p>Hespeler, Bruno (2004): Jagdwissen auf einen Blick. 2. Auflage; BLV Verlag</p> <p>Krebs, Herbert (2014): Vor und nach der Jägerprüfung; BLV Verlag.</p> <p>Kromschröder/Becker (1998): Vorbereitung auf die Jägerprüfung in Wort und Bild. 2000 Fragen und Antworten. Wild und Hund Leservice</p> <p>Lipps W. (2004): Jagdrecht in Brandenburg, Verlag Neudamm-Neudamm Mark</p> <p>Lipps, W. (2004): Jagdrecht in Brandenburg; Textausgabe mit Kommentar; Neumann-Neudamm Melsungen Pückler (2002): Der Jäger und sein Recht, Band 5, Verlag: Kosmos (Franckh-Kosmos), Parey Zeitschriftenverlag</p> <p>Seibt Siegfried (2014): Grundwissen Jägerprüfung. 2. Auflage; Kosmos Verlag.</p>		
Module component	Wildlife biology	K.01.0031.S.PL	
Semester	2		
Coordinator	Prof. Dr. Siegfried Rieger		
Lecturer	Prof. Dr. Siegfried Rieger		
ECTS-Credits	3		
SWH	3	Workload: 90 h / Semester	
Max. study places	25		
Teaching form	Seminar (45h), Self-study (45h)	Module type	
Language	German	x continuous	partly blocked
Examination form	Oral report (50%)		
Entry requirements			
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			
Competences	Technical competence (40%) Media competence (20%) Methodological competence (20%) Social competence (10%) Personnel competence (10%)		
Literature	Literature research is an important component of the project presentation.		
Module component	Excercises in wildlife management & zoology	K.01.0026.V.PL	
Semester	2		
Coordinator	Prof. Dr. Siegfried Rieger		
Lecturer	Prof. Dr. Siegfried Rieger, Prof. Dr. Andreas Linde		
ECTS-Credits	3		
SWH	3	Workload: 90 h / Semester	
Max. study places	10		
Teaching form	Practical exercise (10h), Seminar (35h), Self-study (45h)	Module type	

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Language	German	<input type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input checked="" type="checkbox"/> blocked
Examination form	Work report (50%)			
Entry requirements				
Goal	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. 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.			
Content	Based on the module "Fundamentals of wildlife biology and zoology", here the knowledge of the regionally occurring species is taught and the fundamentals of wildlife management are deepened. Particular emphasis is on groups of vertebrates (e.g. amphibians, reptiles, birds) and invertebrates (ground dwelling 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 the organism's biology, ecological requirements and their protection is covered in the context of lectures, exercises and seminars. In addition, building on the theoretical fundamentals mediated in the sub-module "forest 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			
Recommended related elective modules				
Competences	Technical competence (40%) Media competence (20%) Methodological competence (20%) Social competence (15%) Personnel competence (5%)			
Literature	Anderson, S.,H. 1991. Managing our Wildlife Resources. Prentice Hall. Bährmann / Müller: Bestimmung wirbelloser Tiere. Sinclair, A.,R.E., Fryxell, J., M., Caughley, G. 2006. Wildlife Ecology, Conservation and Management. Blackwell Verlag.  Current literature – adapted to the respective case studies - will be announced at the beginning of the module.			
Module component	Hunting II	K.01.0009.V.PL		
Semester	2			
Coordinator	Prof. Dr. Siegfried Rieger			
Lecturer	Prof. Dr. Siegfried Rieger			
ECTS-Credits	2			
SWH	2			
Max. study places	Workload: 60 h / Semester			
Teaching form	Lecture (10h), Practical exercise (20h), Seminar (10h), Self-study (30h)	Module type		
Language	German	<input type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input checked="" type="checkbox"/> blocked
Examination form	Written exam (50%)			
Entry requirements	Hunting I			
Goal	The student is enabled to apply fundamentals of game biology, hygiene, hunting legislation and practice in the context of ecosystem-oriented hunting. In this context, students can demonstrate expertly handling, use and technology of hunting and hunting relevant guns. 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			

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	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			
Competences	Technical competence (80%) Methodological competence (20%)		
Literature	Aktuelle Gesetzestexte BJagdG und LJagdG Blase, Richard (2015): Die Jägerprüfung. 29. Auflage; Verlag Quelle und Meyer. Hespeler, Bruno (2004): Jagdwissen auf einen Blick. 2. Auflage; BLV Verlag Krebs, Herbert (2014): Vor und nach der Jägerprüfung; BLV Verlag. Kromschröder/Becker (1998): Vorbereitung auf die Jägerprüfung in Wort und Bild. 2000 Fragen und Antworten. Wild und Hund Leserseite Lipps W. (2004) : Jagdrecht in Brandenburg, Verlag Neudamm-Neudamm Mark Lipps, W. (2004): Jagdrecht in Brandenburg; Textausgabe mit Kommentar; Neumann-Neudamm Melsungen. Pückler (2002): Der Jäger und sein Recht, Band 5, Verlag:Kosmos (Franckh-Kosmos) , Parey Zeitschriftenverlag Seibt Siegfried (2014): Grundwissen Jägerprüfung. 2. Auflage; Kosmos Verlag		
Module component	Modern hunting strategies	K.01.0011.Pj.PL	
Semester	3		
Coordinator	Prof. Dr. Siegfried Rieger		
Lecturer	Prof. Dr. Siegfried Rieger		
ECTS-Credits	3		
SWH	3	Workload: 90 h / Semester	
Max. study places	8		
Teaching form	Seminar (20h), Project (20h), Practical exercise (5h), Self-study (45h)	Module type	
Language	German	x	continuous
		partly blocked	blocked
Examination form	Project report (50%)		
Entry requirements			
Goal	Students are enabled 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		

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	and execution of a movement hunt. This is done by regular practical hunting in the didactic-hunting grounds of the University of Applied Sciences Eberswalde. 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			
Competences	Technical competence (60%), Methodological competence (20%), Social competence (20%)		
Literature	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 (1999): Turbo-Reh und Öko-Hirsch. Leopold Stocker Verlag.		
Module component	Hunting practice	K.01.0022.Ü.PL	
Semester	4		
Coordinator	Prof. Dr. Siegfried Rieger		
Lecturer	Prof. Dr. Siegfried Rieger		
ECTS-Credits	3		
SWH	3	Workload: 90 h / Semester	
Max. study places	8		
Teaching form	Practical exercise (27h), Project (3h), Self-study (30h)	Module type	
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
Examination form	Project report (50%)		
Entry requirements	Shooting licence		
Goal	Students have sound hunting-theoretical and -practical skills and are enabled to hunt ecosystem adapted according to the technical requirements.		
Content	Making use of the Universities hunting ground. Additional teaching of ecosystem adapted hunting strategies and practical hunting skills, game hygiene and proper handling. Written analysis of hunting activities.		
Recommended related elective modules	Modern hunting strategies		
Competences	Technical competence (40%) Methodological competence (30%) Social competence (10%) Personnel competence (20%)		
Literature	Hespeler, Bruno (2000): Jagd 2000 plus; nimrod Verlag.  Kujaweski, Olgierd (2007): Wildbrethygiene.  Wölfel, Helmuth (Hg.) (2003): Bewegungsjagden; Leopold Stocker Verlag.  Wölfel, Helmuth (1999): Turbo-Reh und Öko-Hirsch. Leopold Stocker Verlag.		

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Module	Social systems & communication	M.01.0061
<b>Semester</b>	<b>1 &amp; 4</b>	
<b>Module coordinator</b>	<b>Prof. Dr. Martin Welp</b>	<b>Martin.Welp@hnee.de</b>
<b>Status</b>	<b>Elective module</b>	
<b>Goal</b>	<b>Students are enabled to identify key stakeholders and their main interests and to apply communication tools and extension methods in the field of social forestry.</b>	
<b>Examination form</b>	<b>Project presentation, Technical discussion, Oral report</b>	
<b>ECTS-Credits</b>		
<b>SWH</b>		
<b>Module component</b>	Group-related communication	K.01.0081.V.PL
Coordinator	Prof Dr. Martin Welp	
Lecturer	Prof Dr. Martin Welp et al.	
ECTS-Credits	3	
SWH	2	Workload: 90 h / Semester
Max. study places	20	
Teaching form	Seminar (30h), Self-study (60h)	Module type
Language	German	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Technical discussion (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	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. 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.	
Recommended related elective modules		
Competences	Technical competence (20%) Media competence (50%) Methodological competence (10%) Social competence (10) Personnel competence (10)	
Literature	<p>Franck, Norbert: Handbuch Presse- und Öffentlichkeitsarbeit. Ein Leitfaden für Verbände, Vereine und Institutionen.-VS Verlag für Sozialwissenschaften; 2., akt. Aufl. 2012 ISBN-10: 3531184237 ISBN-13: 978-3531184234</p> <p>Reiter, Markus: Öffentlichkeitsarbeit: - die wichtigsten Instrumente - die richtige Kommunikation - der beste Umgang mit den Medien.-Redline Wirtschaftsverlag; 1. Aufl. 2006 ISBN-10: 3636013424 ISBN-13: 978-3636013422.</p>	

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	von Werder, Lutz: Lehrbuch des Kreativen Schreibens.- Marixverlag; 2., Aufl. (2007) ISBN-10: 3865391486 ISBN-13: 978-3865391483  Wedekind, Julia u. Jan Wilken Harries: Der Eventmanager. Das Handbuch aus der Agenturpraxis.- Lit Verlag; Auflage: 1. Aufl. 2005 ISBN-10: 3825886999 ISBN-13: 978-3825886998		
Module component	Intercultural communication	K.01.0080.S.PL	
Semester	1		
Coordinator	Prof. Dr. Martin Welp		
Lecturer	Prof. Dr. Martin Welp		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places	32		
Teaching form	Lecture (15h), Practical exercise (15h), Seminar (15h), Self-study (45h)	Module type	
Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
Examination form	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	In a globalized and interdependent world Intercultural communication is becoming more and more important. A manager of natural resources needs to have the necessary awareness and skills to work 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.  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 share their views on professional challenges in the field of development cooperation		
Recommended related elective modules			
Competences	Methodological competence (33%) Social competence (33%) Personnel competence (33%)		
Literature	Baumer, Thomas: Handbuch Interkulturelle Kompetenz.- orell füssli Verlag AG, 2002.  Beck-Wirtschaftsberater: Lokales Denken, globales Handeln. Interkulturelle Zusammenarbeit und globales Management. (Geert Hofstede). Deutscher Taschenbuch Verlag (dtv) München, 2. Aufl. 2001.  Bolten, J. u. C. Ehrhardt (Hrsg.): Interkulturelle Kommunikation: Texte und Übungen zum interkulturellen Handeln. Verlag Wissenschaft und Praxis, 2003.  Dahl, S. : Intercultural Skills for Business, London, ECE, 2000.  Hall, E.T. u. M. R. Hall: Understanding cultural differences. Yarmouth, Me., Intercultural Press, 1990.  Hofstede, G.H.: Culture's consequences, international differences in workrelated values. Beverly Hills, Sage Publications, 1980.		

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Module component	Social forestry and extension methods	K.01.0107.V.PL		
Semester	4			
Coordinator	Prof. Dr. Martin Welp			
Lecturer	Prof. Dr. Martin Welp et al.			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places	25			
Teaching form	Lecture (25h), Seminar (20h), Self-study (45h)	Module type		
Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Technical discussion (50%)			
Entry requirements				
Goal	The students have a sound knowledge of the history, forms and challenges of social forestry especially in developing countries. They train related skills such as conducting stakeholder dialogues and conflict management.			
Content	<p>This 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. Social forestry is closely linked to rural development and aims at managing forests to meet the growing demand for timber, fuel wood, fodder and other non-timber forest products. Social forestry is in this course used as an umbrella term for different types of forest management including: community forestry, farm forestry, agro-forestry, urban forestry and leasehold forestry. Practical examples of community management are analyzed during an excursion to Berlin.</p> <p>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 and thus reduce poverty.</p> <p>The course provides the scientific fundamentals and concrete tools that facilitate extension in the context of forest ecosystem management such as 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 equipment, communication of planning and evaluation techniques.</p>			
Recommended related elective modules				
Competences	Technical competence (20%) Media competence (20%) Methodological competence (20%) Social competence (20%) Personnel competence (20%)			
Literature	<p>Arnold, J. E. M. 1992. Community Forestry: Ten Years in Review, FAO, Rome. (<a href="http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/u5610e/u5610e00.htm">http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/u5610e/u5610e00.htm</a>)</p> <p>Arnold, J.E.M. 2001. Forests and People: 25 Years of Community Forestry. Rome: FAO.</p> <p>Ostrom E. 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. Science 325, 419 (2009);</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 power, participation and protected areas. FAO, Rome.</p>			

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Module component	Environmental education	K.01.0089.Pj.PL		
Semester	4			
Coordinator	Astrid Schilling			
Lecturer	Astrid Schilling			
ECTS-Credits	3			
SWH	3		Workload: 90 h / Semester	
Max. study places	25			
Teaching form	Lecture (20h), Practical exercise (10h), Self-study (60h)	Module type		
Language	German	x continuous	partly blocked	blocked
Examination form	Project presentation (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 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.			
Recommended related elective modules				
Competences	Technical competence (40%) Methodological competence (30%) Social competence (20%) Personnel competence (10%)			
Literature	<p>Bolay, Eberhard u. Berthold Reichle: Waldpädagogik 1: Teil 1: Theorie. -Schneider Verlag Hohengehren; Auflage: unveränderter Nachdruck 2007, ISBN-10: 3834003115 ISBN-13: 978-3834003119</p> <p>Bolay, Eberhard u. Berthold Reichle: Waldpädagogik Teil 2 Praxiskonzepte: Handbuch der waldbezogenen Umweltbildung.-Schneider Verlag Hohengehren; 1. Aufl. 2011, ISBN-10: 3834009229 ISBN-13: 978-3834009227</p> <p>Brämer, Rainer: Natur obskur: Wie Jugendliche heute Natur erfahren. - Oekom Verlag, 1. Aufl. 2006, ISBN-10: 3865810373 ISBN-13: 978-3865810373</p> <p>Cornell, Joseph: Mit Cornell die Natur erleben: Naturerfahrungsspiele für Kinder und Jugendliche. - Verlag an der Ruhr, 1. Aufl. 2006, ISBN-10: 3834600768 ISBN-13: 978-3834600769</p> <p>Forstliche Bildungsarbeit: Waldpädagogischer Leitfaden - nicht nur für Förster.- Bayerisches Staatsministerium für Ernährung, Landwirtschaft u. Forsten; 7. Aufl. 2009, ISBN-10: 3000012923 ISBN-13: 978-3000012921</p>			

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Gebhard, Ulrich: Kind und Natur: Die Bedeutung der Natur für die Psychische Entwicklung.- Springer VS; Auflage: 4. Aufl. 2013, ISBN-10: 3658018046 ISBN-13: 978-3658018047

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)

Laudert, Doris: Mythos Baum. Geschichte - Brauchtum - 40 Baumporträts.- Blv Buchverlag; Auflage: 6., durchges. Aufl. 2004, ISBN-10: 3405166403 ISBN-13: 978-3405166403

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, Franz u. Astrid Schwyter Hofmann: Treffpunkt Wald. Waldpädagogik für Forstleute.-Rex Verlag; 2. Aufl. 2004, ISBN-10: 3725207429 ISBN-13: 978-3725207428

Neumann, Antje u. Burkhard Neumann: Waldfühlungen: Das ganze Jahr lang den Wald erleben. Naturführungen, Aktivitäten und Geschichtenfibel. Mit Spielen, Übungen und Rezepten.-Ökotopia Verlag; 11. Aufl. 2009, ISBN-10: 3931902420 ISBN-13: 978-3931902421

Tubes, Gisela: Spiele im Wald: 100 abwechslungsreiche Erlebnis- und Bewegungsideen für Grund- und Vorschulkinder.-Quelle & Meyer; Auflage: 1., Auflage 2013 , ISBN-10: 3494015244 ISBN-13: 978-3494015248

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<b>Module</b>	<b>Actors and projects in forest ecosystem management</b>	<b>M.01.0084</b>		
<b>Semester</b>	<b>1 &amp; 2</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Peter Spathelf</b>	<b>Peter.Spathelf@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students know important global actors in forest management and conservation and their respective agenda. They are enabled to present and critically discuss latest projects in forest ecosystem management.</b>			
<b>Examination form</b>	<b>Technical discussion, Protocol</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>5</b>			
<b>Module component</b>	<b>Global actors in forest management</b>	<b>K.01.0362</b>		
Semester	1			
Coordinator	Prof. Dr. Peter Spathelf			
Lecturer	Prof. Dr. Peter Spathelf, Christoph Nowicki et al.			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places				
Teaching form	Seminar (30h), Self-study (60h)	Module type		
Language	English	x continuous	partly blocked	blocked
Examination form	Technical discussion (50%)			
Entry requirements				
Goal	The students are familiar with basic characteristics of the global forest sector and the state of the World's forest. They are enabled to critically analyse and assess the role and tasks of the relevant international organisations dealing with sustainable forest management and conservation. The students are enabled to understand the role of the respective actor in the international management discourse of ecosystems and natural resources.			
Content	The students get to know a broad variety of important international or global actors in the field of sustainable forest management, development cooperation and conservation (e.g. FAO, FSC, GIZ, ITTO, IUCN, OroVerde, UNFF, WWF etc. They are familiar with their main goals and fields of activity.			
Recommended related elective modules				
Competences	Technical competence (70%) Social competence (20%) Personnel competence (10%)			
Literature	FAO (2014): State of the World's Forests. Rome.  Homepages of the respective organisations			
<b>Module component</b>	<b>Student Research Colloquium</b>	<b>K.01.0109</b>		
Semester	2			
Coordinator	Christoph Nowicki			
Lecturer	Christoph Nowicki			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		

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Max. study places		
Teaching form	Seminar (45h), Self-study (45h)	Module type
Language	English	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Protocol (50%)	
Entry requirements		
Goal	<p>Students are enabled to analyse and critically discuss recent projects in (forest) ecosystem management in different regions of the world, considering relevant stakeholders. They have deepened their political, socioeconomic, geographical and ecological understanding in the context of ecosystem management, obtaining a broad and integral vision of the existing challenges, approaches and actors.</p>	
Content	<p>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.</p>	
Recommended related elective modules		
Competences	Technical competence (50%) Media competence (20%) Social competence (20%) Personnel competence (10%)	
Literature	<p>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.</p>	

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<b>Module</b>	<b>Alternative utilization of forests and timber</b>	<b>M.01.0029</b>		
<b>Semester</b>	<b>1, 3 &amp; 4</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Tobias Cremer</b>	<b>Tobias.Cremer@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students are enabled to implement different concepts for an alternative utilization of forests and timber, in dependency of the respective local situation. They are able to evaluate these alternative forms of utilization in the light of the current political and socioeconomic framework.</b>			
<b>Examination form</b>	<b>Technical discussion 20 min, Oral report</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
<b>Module component</b>	Biomass as bio raw material and energy carrier	K.01.0038.V.PL		
<b>Semester</b>	1			
<b>Coordinator</b>	Prof. Dr. Tobias Cremer			
<b>Lecturer</b>	Prof. Dr. Tobias Cremer, Prof. Dr. Dieter Murach, Prof. Dr. Martin Guericke			
<b>ECTS-Credits</b>	3			
<b>SWH</b>	3	Workload: 90 h / Semester		
<b>Max. study places</b>				
<b>Teaching form</b>	Lecture (36h), Practical exercise (9h), Self-study (45h)	Module type		
<b>Language</b>	German	x continuous	partly blocked	blocked
<b>Examination form</b>	Technical discussion (50%)			
<b>Entry requirements</b>				
<b>Goal</b>	The students have basic knowledge of the political importance of biomass as bio raw material and energy carrier. They are enabled to critically discuss the production and energetic utilization of (woody) biomass in the light of current political and economic developments as well as the long term goals for the composition of the national energy supply. The students know area- and mass-potentials of woody biomass as well as systems for the production and utilization of biomass as bio raw material and energy carrier and their (economic) importance especially for forest companies.			
<b>Content</b>	Knowledge on the competition between industrial and energetic utilization of woody biomass is worked out and discussed. Backgrounds on the determination of and inventory results for area and mass potentials are presented. Strategies and techniques for the production and harvest of woody biomass in agriculture and forestry are presented in theory and practice. Special focus will be laid on the management of fast growing tree species on agricultural land. Demonstrations will take place on own test plantations. Special aspects of establishment and management (site, tree species and origin) are studied. The influence of management and harvest (harvesting technique, product) on quality and economic yield of energy crops is discussed, as well as ecological aspects in connection with the management of energy crop plantations. Economic and ecological aspects of energy crops and biomass production with special focus on forest companies will be studied and respective concepts and strategies will be presented.			
<b>Recommended related elective modules</b>				
<b>Competences</b>	Technical competence (60%) Methodological competence (30%) Personnel competence (10%)			
<b>Literature</b>	Reeg, T., Bemman, A., Konold, W., Murach, D., Spiecker, H. , (2009): Anbau und Nutzung			

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	<p>von Bäumen auf landwirtschaftlichen Flächen, Wiley-VCH, 355 S., ISBN: 978-3-527-32417-0.</p> <p>Rosillo-Calle, F., de Groot, P., Hemstock, S. a. Woods, J., (2008): The Biomass Assessment Handbook, Bioenergy for a Sustainable Environment, Earthscan- UK, 269 P., ISBN: 978-1-84407-526-3.</p>		
Module component	Sustainable production of woody biomass	K.01.0319	
Semester	3		
Coordinator	Prof. Dr. Dieter Murach		
Lecturer	Prof. Dr. Dieter Murach, Prof. Dr. Martin Guericke , Prof. Dr. Tobias Cremer		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places			
Teaching form	Lecture (20h), Practical exercise (20h), Self-study (60h)	Module type	
Language	German	x continuous	partly blocked
Examination form	Technical discussion (50%)		
Entry requirements	Basic knowldege in soil science and chemistry		
Goal	Students are enabled to quantify relevant variables of the element budget of forest ecosystems and to assess the sustainable production of wooden biomass in agiculture and forestry. The utilization of wooden biomass within the political framework is known and can be applied to forest undertakings. Yield estimations as well as economic evaluations of management concepts can be developed.		
Content	<p>Methods for quantifying the most important element fluxes and compartments in forest ecosystems and tree plantations on agricultural land (agrowood) are demonstrated in theory and practice. Theoretical basics are applied into practice and exercised by field investiagtions. Element outputs from forest ecosystems via wood harvest and leaching are compared with element inputs by deposition, silicate weathering and fertilization. The sustainability of wood production and maximum harvest volumens with regard to element budget are quantified. Particular emphasis is given to the carbon budget of different forest management sytems and their influence on CO2 sequestration and mitigation. In this context especially the different options for CO2 mitigation via material and energetic use of wooden biomass is considered. The different energy uses of biomass with its legislative framework are presented with special consideration of the "EEG". The economic, ecological and social pros and cons are elaborated and discussed.</p> <p>By means of case studies the data acquisition, volume of data and other details for gaining biomass functions are demonstrated. The implementation of project ideas is examined in the frame of feasibility studies. Alternative fuel wood plantations (dual purpose afforestation systems) are introduced and discussed.</p>		
Recommended related elective modules			
Competences	Technical competence (30%) Methodological competence (60%) Personnel competence (10%)		
Literature	<p>Manderscheid, B., Matzner, E., Meiwes, K.-J. and Xu, J. 1995: Long-term development of element budgets in a Norway spruce (<i>Picea abies</i> (L.) Karst.) forest of the German solling area. <i>Water, Air, and Soil Pollution</i>, 79, 3-18.</p> <p>(online: <a href="http://link.springer.com/article/10.1007%2FBF01100427">http://link.springer.com/article/10.1007%2FBF01100427</a>)</p> <p>Brumme, R., Khanna P.K. 2009: Functioning and management of European Beech Ecosystems. <i>Ecological Studies</i> 208, Springer-Verlag.</p> <p>Matschullat,J et al. 1994: Gefahr für Ökosysteme und Wasserqualität Springerverlag Berlin</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

	<p>Heidelberg. ISBN: 978-3-642-78708-9 (Print) 978-3-642-78707-2 (Online)</p> <p>Ulrich, B. 1990/91: Stoffhaushalt von Wald-Ökosystemen. Bioelementhaushalt. Vorlesungsskript Inst. f. Bodenkunde und Waldernährung, Uni Göttingen.</p> <p>Wilpert, K. v. (2006): Waldbauliche Steuerung des Stoffhaushalts von Waldökosystemen. FVA-Einblick 2/2006.</p>		
<b>Module component</b>	<b>Agro forestry</b>	<b>K.01.0372</b>	
Semester	4		
Coordinator	Astrid Schilling		
Lecturer	Astrid Schilling		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places			
Teaching form	Lecture (14h), Practical exercise (14h), Seminar (18h), Self-study (44h)	Module type	
Language	German, English	x	continuous
		partly blocked	blocked
Examination form	Technical discussion (50%)		
Entry requirements			
Goal	<p>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>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			
Competences	<p>Technical competence (60%), Methodological competence (20%), Social competence (20%)</p>		
Literature	<p>Franke, W.: Nutzpflanzenkunde. Nutzbare Gewächse der gemäßigten Breiten, Subtropen und Tropen.- Thieme Verlag, Stuttgart, New York.-6. Aufl., 1997. –509 S.</p> <p>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.</p> <p>Schroth, G. et al: Agroforestry and Biodiversity Conservation in Tropical Landscapes.-Island Press Washington, Covelo, Londin, 2004.- 523 pp.</p> <p>Wojtkowski, P. A.: The Theory and Practice of Agroforestry Design. Science Publishers, Inc. USA, 1998.- 261 pp.</p>		

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module component	Non timber forest products (NTFP) using the example of bee keeping	K.01.0320		
Semester	4			
Coordinator	Prof. Dr. Tobias Cremer			
Lecturer	Prof. Dr. Tobias Cremer			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places				
Teaching form	Lecture (14h), Practical exercise (16h), Self-study (60h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Oral report (50%)			
Entry requirements				
Goal	Students are enabled to keep bees in theory and practice.			
Content	The following topics will be dealt with in the module: biology of honey bees and colony development in the annual cycle, colony reproduction and swarm control, diseases of honey bees, honey yield plants ,wild bees and other pollinators, (forest) honey and its' production, importance of bee keeping in Germany and tropical countries, importance of bee keeping in development cooperation, cost calculations for bee keepers, legal framework of bee keeping			
Recommended related elective modules				
Competences	Technical competence (60%) Methodological competence (20%) Personnel competence (20%)			
Literature	<p>Bienefeld, K. (2005): Imkern Schritt für Schritt. Kosmos-Verlag, 96 S.</p> <p>Liebig, G. (1998): Einfach Imkern - Leitfaden zum Bienenhalten. Eigenverlag, 183 S.</p> <p>Petrausch, G. (2011): Imkern in der Stadt. Kosmos-Verlag, 95 S.</p> <p>Pohl, F. (2005): Bienenkrankheiten: Vorbeugung, Diagnose und Behandlung: Vorbeugen, Diagnose und Behandlung. Kosmos-Verlag, 188 S.</p> <p>Seeley, T. (2014): Bienendemokratie. Wie Bienen kollektiv entscheiden und was wir davon lernen können S. Fischer Verlag GmbH, Frankfurt am Main, 320 S.</p>			

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

Module	Foreign languages	M.10.1001				
<b>Semester</b>	<b>1, 2, 3, 4 &amp; 6</b>					
<b>Module coordinator</b>	<b>Dr. Nicole Brunnhuber</b>	<b>Nicole.Brunnhuber@hnee.de</b>				
<b>Status</b>	<b>Elective module</b>					
<b>Goal</b>	<b>According to the related level of the Gemeinsamen Europäischen Referenzrahmens (GER) all language skills (conversation, listening, reading, writing) in one of the languages Chinese, French, Italian, Polish, Portuguese, Russian, Swedish, Spanish or technical English as well as intercultural skills are stimulated. Students are able to communicate spoken and written in the target language, to understand authentic contents and to prepare themselves through intercultural and social understanding for working life or further education at home or abroad.</b>					
<b>Examination form</b>	<b>A1 – A2 (WE90 + OR) (80 % + 20%) B1 – B2 (WE120 + OR) (70 % + 30 %) C1 – C2 (WE180 + TD20) (60 % + 40 %)</b>					
<b>ECTS-Credits</b>	<b>6</b>					
<b>SWH</b>	<b>4</b>					
<b>Module component</b>	Foreign language	K.10.1001.S				
Semester	1, 2, 3, 4 & 6					
Coordinator	N.N.					
Lecturer	N.N.					
ECTS-Credits	6					
SWH	4	Workload: 120 h / Semester				
Max. study places						
Teaching form	Seminar (60h), Self-study (60h)	Module type				
Language		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">x</td> <td style="text-align: center;">continuous</td> <td style="text-align: center;">partly blocked</td> <td style="text-align: center;">blocked</td> </tr> </table>	x	continuous	partly blocked	blocked
x	continuous	partly blocked	blocked			
Examination form	Depends on course level					
Entry requirements	Every language course is adapted to the specific level. Depending on the entry qualification homogeneous courses are offered on the levels A1 to C2. Entry requirements for all language modules are the successful completion of a preceding level in the same language at the HNEE. Alternatively a certificate according to the GER for languages with an issue date of up to three years before the enrolment date of the language course at the HNEE.					
Goal	Students are able to communicate in foreign languages about topics related to forest ecosystem management.					
Content	Depending on the respective language and the GER-level. Will be determined in the respective module description.					
Recommended related elective modules						
Competences	Technical competence (75%) Social competence (25%)					
Literature	Depending on the respective language and the GER-level. Will be determined in the respective module description.					

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Botanic exercises</b>	<b>M.01.0226</b>		
<b>Semester</b>	<b>2</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Harald Schill</b>	<b>Harald.Schill@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students are enabled to connect physiological and genetic mechanisms in plant life and to apply plant identification keys.</b>			
<b>Examination form</b>	<b>Written exam 180 min</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>4</b>			
<b>Module component</b>	<b>Dendroecology</b>	<b>K.01.0018</b>		
Semester	2			
Coordinator	Prof. Dr. Harald Schill			
Lecturer	Prof. Dr. Harald Schill			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places	10			
Teaching form	Lecture (30h), Self-study (60h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Written exam (50%)			
Entry requirements				
Goal	The students are enabled to understand the basic plant physiological functions including genetic mechanisms.			
Content	Plant physiology at the example of carbon and water balance; applied genetics of trees.			
Recommended related elective modules				
Competences	Technical competence (90%) Methodological competence (10%)			
Literature	<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> <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>			
<b>Module component</b>	<b>Plant identification</b>	<b>K.01.0016.Ü.PL</b>		
Semester	2			
Coordinator	Prof. Dr. Harald Schill			
Lecturer	Prof. Dr. Harald Schill			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places	40			
Teaching form	Lecture (15h), Practical exercise (15h), Self-study (60h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked

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Examination form                      Written exam (50%)

Entry requirements	
Goal	The students acquire the competence to understand the principles of plant systematics and vegetation science as well as to use plant identification literature.
Content	The module covers the following issues: vegetation science, systematics and taxonomy of higher plants, morphology of selected herbal plant families with special emphasis on flower-morphology, applied plant identification of herbal plants.
Recommended related elective modules	
Competences	Technical competence (50%) Methodological competence (50%)
Literature	Rose, F. (2010) : The Wildflower Key. Pinguin Books Ltd.  Schmeil, O.; Fitschen, J. (2013): Flora von Deutschland. Q& M., Wiebelsheim  Fischer, A. (1995): Forstliche Vegetationskunde. Blackwell, Berlin, Wien  Ellenberg, H. (1996): Vegetation Mitteleuropas mit den Alpen in ökologischer, dynamischer und historischer Sicht. 5. Aufl. UTB Ulmer, Stuttgart

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

*effective from winter term 2016/17*

<b>Module</b>	<b>Forest ecosystem management &amp; analysis</b>	<b>M.01.0015</b>		
<b>Semester</b>	<b>2</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Pierre Ibisch</b>	<b>Pierre.Ibisch@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students will learn to analyze the situation of exemplary ecosystems and interpret and apply this knowledge to management.</b>			
<b>Examination form</b>	<b>Project report, Oral report</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
Module component	Ecosystem Diagnostics Analysis and Nature Conservation	K.01.0018		
Coordinator	Prof. Dr. Pierre Ibisch			
Lecturer	Prof. Dr. Pierre Ibisch			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		
Max. study places				
Teaching form	Practical exercise (45h), Self-study (45h)	Module type		
Language	German	x	continuous	partly blocked
Examination form	Project report (50%)			
Entry requirements				
Goal	The students are enabled to analyze the situation of exemplary ecosystems and interpret and apply this knowledge to management.			
Content	<p>Ecosystem Diagnostics Analysis will be presented as a process, which allows for interpreting past and current changes in ecosystems as well as understanding cause-effect relationships. It is about the comprehension of systemically functioning mechanisms that cause specific changes, which can not be analyzed without a basic interdisciplinary understanding of diverse processes (e.g. scientific, historical, socioeconomical and political).</p> <p>A methodological concern is the exercise of an almost criminalistic inquiry for gathering signs and indicators needed for hypotheses regarding origin and impacts of observable ecosystemic changes. Specifically, the course deals with local ecosystems in in Northeastern Brandenburg, which are located within and outside of protected areas. The analysis of the ecosystems also comprises the identification and implementation of ecosystemic and socioeconomic indicators for the evaluation of potential changes in the system.</p>			
Recommended related elective modules				
Competences				
Literature				

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*effective from winter term 2016/17*

Module component	Ecosystem management in transformation countries	K.01.0366
Coordinator	Prof. Dr. Pierre Ibisch	
Lecturer	Prof. Dr. Pierre Ibisch	
ECTS-Credits	3	
SWH	3	Workload: 90 h / Semester
Max. study places		
Teaching form	Practical exercise (30h), Seminar (15h), Self-study (45h)	Module type
Language	English	<input type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input checked="" type="checkbox"/> blocked
Examination form	Project report (50%)	
Entry requirements		
Goal	The students learn on an exemplary basis of a region in a chosen transformation country to what extent socioeconomical and political transformation processes induce changes in the ecosystem and how corresponding knowledge is relevant to ecosystem management. The students are enabled to identify and implement ecosystemic and socioeconomic indicators for the evaluation of potential changes in the system.	
Content	After the theoretical preparation and general introduction in the field, the students will form small groups and document and interpret the situation of the ecosystems (including the land use systems) in the context of acquirable knowledge about transformation processes.	
Recommended related elective modules		
Competences		
Literature	Literature will be recommended or provided during the lecture.	
Module component	Field exercises in zoology & wildlife biology	K.01.0090.Ü.PL
Coordinator	Prof. Dr. Andreas Linde	
Lecturer	Prof. Dr. Andreas Linde, Prof. Dr. Siegfried Rieger	
ECTS-Credits	3	
SWH	3	Workload: 90 h / Semester
Max. study places	25	
Teaching form	Practical exercise (35h), Seminar (10h), Self-study (45h)	Module type
Language	German, English	<input type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input checked="" type="checkbox"/> blocked
Examination form	Oral report (50%)	
Entry requirements		
Goal	The students are enabled to recognize and assess correlations between habitat and species, their biology and the environment. The theoretical fundamentals of the sub-module in wildlife biology and zoology will be strengthened through practical exercises. The students acquire applicable knowledge of species (wildlife, birds, invertebrates, and plants).	
Content	Based on the module "Fundamentals of wildlife biology and zoology", knowledge of species in regions outside of Germany is mediated in this exercise as part of a weeklong excursion. Groups of vertebrates (e.g. amphibians, reptiles, birds, mammals), as well as invertebrates (mainly arthropods) are covered. Besides practical exercises on the identification of species (in the field) ion, knowledge of the biology and ecology, environmental claims, threats to	

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

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	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		
Competences	Technical competence (50%) Methodological competence (30%) Social competence (20%)	
Literature	Bährmann / Müller: Bestimmung wirbelloser Tiere.  Current literature – adapted to the respective case studies - will be announced at the beginning of the module.	

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<b>Module</b>	<b>Exercises in soil science &amp; site ecology</b>	<b>M.01.0040</b>		
<b>Semester</b>	<b>2 &amp; 3</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Winfried Riek</b>	<b>Winfried.Riek@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<p>Students are enabled to classify forest soils and to derive site ecological parameters to assess the water and nutrient balance. They know the basics of soil sampling and are able to carry out laboratory analyses and to interpret the results critically. In addition, they are able to assess forest site conditions with the help of vegetation surveys.</p>			
<b>Examination form</b>	<b>Work report</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>5</b>			
Module component	Field exercises in site & vegetation ecology	K.01.0056.Ü.PL		
Semester	2			
Coordinator	Prof. Dr. Winfried Riek			
Lecturer	Prof. Dr. Winfried Riek et al.			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		
Max. study places	20			
Teaching form	Practical exercise (45h), Self-study (45h)	Module type		
Language	German	x	continuous	partly blocked
Examination form	Work report (50%)			
Entry requirements				
Goal	<p>Students are enabled to classify soils in the field and to derive their site ecological properties with the help of field methods. In addition, they are able to assess forest site conditions with the help of vegetation surveys. On the basis of these site ecological properties recommendations for the selection of tree species are derived.</p>			
Content	<p>As part of this course forest sites of various parent materials of the glacial series around Eberswalde are visited. The students assess soil physical properties and derive integrating parameters of the site specific water and nutrient balance. Both quantitative characteristics such as plant available water capacity and plant available base cation stock and qualitative properties such as the moisture and nutrient class in accordance with the nomenclature of the North German site investigation system (SEA95) are determined. Moreover, the process of vegetation survey and its site ecological evaluation (average indicator values, vegetation types) is learned. The course is complemented by a full-day excursion to the biosphere reserve Schorfheide-Chorin, where the relationships between forest structure, species diversity and site characteristics are taught in depth on the basis of about 15 various forest ecosystem types.</p>			
Recommended related elective modules				
Competences	<p>Technical competence (30%) Methodological competence (40%) Social competence (15%) Personnel competence (15%)</p>			
Literature	<p>Anders, S.; Beck, W.; Bolte, A.; Hofmann, G.; Jenssen, M.; Krakau, U.-K. &amp; Müller, J. (2002): Ökologie und Vegetation der Wälder Nordostdeutschlands. Verlag Norbert Kessel,</p>			

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	<p>Remagen.</p> <p>Arbeitskreis Standortkartierung in der Arbeitsgemeinschaft Forsteinrichtung 2003: Forstliche Standortaufnahme. IHW-Verlag Eching bei München.</p> <p>Dierschke, H. (1994): Pflanzensoziologie. UTB. Stuttgart.</p> <p>Gauer, J., Aldinger, E. 2005: Waldökologische Naturräume Deutschlands – Forstliche Wuchsgebiete und Wuchsbezirke. Mitt. des Vereins für Forstliche Standortkunde und Forstpflanzenzüchtung. Nr.43. Stuttgart.</p> <p>Hofmann, G. (2001): Mitteleuropäische Wald- und Forst-Ökosystemtypen in Wort und Bild. CD-ROM, BLV, München.</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>SEA 95: Anleitung für die forstliche Standortserkundung im nordostdeutschen Tiefland (Standortserkundungsanleitung). Bände 1-4. Eberswalde. (unveröffentlicht)</p>		
<b>Module component</b>	<b>Field &amp; laboratory training in soil science</b>	<b>K.01.0015</b>	
Semester	3		
Coordinator	Prof. Dr. Winfried Riek		
Lecturer	Prof. Dr. Winfried Riek, Andrea Bruszies		
ECTS-Credits	3		
SWH	2	Workload: 90h / Semester	
Max. study places	20		
Teaching form	Practical exercise (30h), Seminar (30h), Self-study (30h)	Module type	
Language	German	x	continuous
		partly blocked	blocked
Examination form	Work report (50%)		
Entry requirements			
Goal	<p>Students know the basics of practical sampling and laboratory analysis in soil science. They are enabled 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.</p>		
Content	<p>Methods for the investigation of soils are presented and applied together in the field. The use of drilling and sampling equipment will be practically explained and questions of the representativeness will be discussed. Basic soil characteristics are assessed with field techniques and soil samples are taken for laboratory analysis. 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 distribution, total pore volume, bulk density, pH-value, loss on ignition, cation exchange capacity, acid- / base buffer capacity and carbonate content. In 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 distribution and will be critically discussed.</p>		
Recommended related elective modules			
Competences	<p>Technical competence (30%) Methodological competence (30%) Social competence (20%) Personnel competence (20%)</p>		
Literature	<p>Arbeitskreis Standortkartierung in der Arbeitsgemeinschaft Forsteinrichtung 2003: Forstliche Standortaufnahme. IHW-Verlag Eching bei München.</p> <p>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.</p> <p>Schlichting, E., Blume, H.-P., Stahr, K. (1995): Bodenkundliches Praktikum. Pareys Studentexte 81. Berlin, Wien.</p>		

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*effective from winter term 2016/17*

Module	Specialization module I	M.01.0039
<b>Semester</b>	<b>3</b>	
<b>Module coordinator</b>	<b>Course director</b>	
<b>Status</b>	<b>Elective module</b>	
<b>Goal</b>	<b>Students deepen their professional knowledge and skills in an area, that is of special interest for them. Students can identify their personal interests in the field of studies and expand their horizon to approaches in related study programmes.</b>	
<b>Examination form</b>		
<b>ECTS-Credits</b>	<b>6</b>	
<b>SWH</b>	<b>6</b>	
Module component	Specialization module I	K.01.0055
Coordinator	Course director	
Lecturer	NN	
ECTS-Credits	6	
SWH	6	Workload: 180 h / Semester
Max. study places		
Teaching form		Module type
Language		<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form		
Entry requirements		
Goal	The qualification is individual and depends on the job-related interest and on the self chosen free selectable module of the student. The individual choice shapes the personnel profile in the context of the education goal and job qualification of the study individual programme.	
Content	The content of the module differs and depends on the individual choice. Chosen can be case by case between: > Modules, which are offered additionally once or repeated from tutors of the faculty of forest and environment after a separate announcement from the head of the study programme > Modules, which are offered in other faculty of the university of applied science Eberswalde and accessible for students from the faculty of forest and environment > Modules, which are offered from other universities and accessible for students from the faculty of forest and environment. It is possible to choose modules in the language of German as well as other languages.	
Recommended related elective modules		
Competences		
Literature	Depending on the content	

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<b>Module</b>	<b>Phytopathology, forest damage &amp; ecology</b>	<b>M.01.0024</b>		
<b>Semester</b>	<b>3 &amp; 4</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Curt Majunke</b>	<b>Curt.Majunke@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The participants are capable to identify and describe forest damages. They are enabled to recognize basic biotic and abiotic cause-effect relationships about plant diseases and apply techniques of environmental monitoring.</b>			
<b>Examination form</b>	<b>Written exam 90 min</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
<b>Module component</b>	<b>Forest damage diagnostics</b>	<b>K.01.0317</b>		
Semester	3			
Coordinator	Prof. Dr. Curt Majunke			
Lecturer	Prof. Dr. Curt Majunke			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		
Max. study places				
Teaching form	Practical exercise (30h), Seminar (30h), Self-study (30h)	Module type		
Language	German	x	continuous	partly blocked
Examination form	Written exam (50%)			
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 module 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				
Competences	Technical competence (70%), Methodological competence (30%)			
Literature	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.			

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*effective from winter term 2016/17*

Module component	Fundamentals of phytopathology and environmental monitoring		K.01.0032.V.PL		
Semester	3				
Coordinator	Prof. Dr. Harald Schill				
Lecturer	Prof. Dr. Harald Schill, Prof. Dr. Barbara Wolff				
ECTS-Credits	3				
SWH	3		Workload: 90 h / Semester		
Max. study places	10				
Teaching form	Lecture (36h), Practical exercise (9h), Self-study (45h)		Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked	
Examination form	Written exam (50%)				
Entry requirements					
Goal	Students are enabled 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					
Competences	Technical competence (70%) Methodological competence (30%)				
Literature	Gäumann, E. (1951): Pflanzliche Infektionslehre. Verlag Birkhäuser, Basel. Hoffmann, G. et al. (1976): Lehrbuch der Phytomedizin. Verlag P. Parey, Hamburg und Berlin. Schwerdtfeger, F. (1981): Waldkrankheiten. Verlag P. Parey, Hamburg und Berlin.				
Module component	Applied forest phytopathology		K.01.0047.V.PL		
Semester	4				
Coordinator	Prof. Dr. Curt Majunke				
Lecturer	Dr. Paul Heydeck, Prof. Dr. Curt Majunke et al.				
ECTS-Credits	3				
SWH	3		Workload: 90 h / Semester		
Max. study places	50				
Teaching form	Lecture (30h), Practical exercise (9h), Seminar (6h), Self-study (45h)		Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked	
Examination form	Written exam (50%)				
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 pathogenous substances (including differential diagnosis); presentation of the way of living of important pathogens;				

## Module catalogue - International Forest Ecosystem Management (B.Sc.)

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	counter measures.	
Recommended related elective modules		
Competences	Technical competence (70%) Methodological competence (30%)	
Literature	<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>	

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Module	Forest utilization exercises	M.01.0077		
<b>Semester</b>	<b>3, 4 &amp; 6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Dr. h.c. Michael Mussong</b>	<b>Michael.Mussong@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students are familiar with relevant technical and planning aspects in forest and landscape tending, and possess practical knowledge in forest harvesting, forest opening and recreation trail development.</b>			
<b>Examination form</b>	<b>Project report, Protocol</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
<b>Module component</b>	<b>Exercises in forestry work</b>	<b>K.01.0100.V.PL</b>		
Semester	3			
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong			
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		
Max. study places	17			
Teaching form	Seminar (30h), Practical exercise (15h), Self-study (45h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Protocol (50%)			
Entry requirements				
Goal	The students are familiar with technical and planning aspects of relevant practical work tasks in forest and landscape management.			
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			
Competences	Technical competence (50%) Methodological competence (25%) Social competence (25%)			
Literature	Will be announced at the beginning of the module.			
<b>Module component</b>	<b>Forest road development</b>	<b>K.01.0102.Ü.PL</b>		
Semester	4			
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong			
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong			
ECTS-Credits	3			
SWH	3	Workload: 90 h / Semester		
Max. study places	17			
Teaching form	Practical exercise (30h), Seminar (15h), Self-study (45h)	Module type		
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Project report (50%)			

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Entry requirements		
Goal	Students are enabled to develop a forest road.	
Content	Route development on the map; transfer of gradeline into the field; development of route center line; longitudinal profile and cross sectioning; earthwork minimization; final construction plan; cost calculation.	
Recommended related elective modules	Forest & landscape opening for recreation purposes	
Competences	Technical competence (50%) Methodological competence (30%) Personnel competence (20%)	
Literature	Will be announced at the beginning of the module.	
Module component	Exercises in forest harvest planning	K.01.0110.Ü.PL
Semester	4	
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong	
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong	
ECTS-Credits	3	
SWH	3	Workload: 90 h / Semester
Max. study places	17	
Teaching form	Practical exercise (15h), Seminar (30h), Self-study (45h)	Module type
Language	German	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form	Project report (50%)	
Entry requirements		
Goal	Students are enabled 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		
Competences	Technical competence (50%) Methodological competence (25%) Social competence (25%)	
Literature	Will be announced at the beginning of the module.	
Module component	Forest & landscape opening for recreation purposes	K.01.0060
Semester	6	
Coordinator	Prof. Dr. Dr. h.c. Michael Mussong	
Lecturer	Prof. Dr. Dr. h.c. Michael Mussong, Prof. Dr. Jan-Peter Mund	
ECTS-Credits	3	
SWH	3	Workload: 90 h / Semester
Max. study places	17	
Teaching form	Seminar (15h), Practical exercise (30h); Self-study (45h)	Module type
Language	German	<input type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input checked="" type="checkbox"/> blocked
Examination form	Project report (50%)	
Entry requirements		

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Goal	The students have practical knowledge in planning of recreation-related infrastructure.
Content	Projecting a development measure for recreational purposes based on modern information technologies (GPS, GIS).
Recommended related elective modules	Application of geographic information systems GIS consolidation
Competences	Technical competence (40%) Methodological competence (40%) Social competence (20%)
Literature	Will be announced at the beginning of the module.

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Module	Specialization module II	M.01.0051
<b>Semester</b>	<b>4</b>	
<b>Module coordinator</b>	<b>Course director</b>	
<b>Status</b>	<b>Elective module</b>	
<b>Goal</b>	<b>Students deepen their professional knowledge and skills in an area, that is of special interest for them. Students can identify their personal interests in the field of studies and expand their horizon to approaches in related study programmes.</b>	
<b>Examination form</b>		
<b>ECTS-Credits</b>	<b>6</b>	
<b>SWH</b>	<b>6</b>	
Module component	Specialization module II	K.01.0069
Coordinator	Course director	
Lecturer	NN	
ECTS-Credits	6	
SWH	6	Workload: 180 h / Semester
Max. study places		
Teaching form		Module type
Language		<input checked="" type="checkbox"/> continuous <input type="checkbox"/> partly blocked <input type="checkbox"/> blocked
Examination form		
Entry requirements		
Goal	The qualification is individual and depends on the job-related interest and on the self chosen free selectable module of the student. The individual choice shapes the personnel profile in the context of the education goal and job qualification of the study individual programme.	
Content	The content of the module differs and depends on the individual choice. Chosen can be case by case between: > Modules, which are offered additionally once or repeated from tutors of the faculty of forest and environment after a separate announcement from the head of the study programme > Modules, which are offered in other faculty of the university of applied science Eberswalde and accessible for students from the faculty of forest and environment > Modules, which are offered from other universities and accessible for students from the faculty of forest and environment. It is possible to choose modules in the language of German as well as other languages.	
Recommended related elective modules		
Competences	Technical competence (30%) Media competence (20%) Methodological competence (20%) Social competence (20%) Personnel competence (10%)	
Literature	Depending on the content	

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Module	Geographic information systems	M.01.0081		
<b>Semester</b>	<b>4 &amp; 6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Jan-Peter Mund</b>	<b>Jan-Peter.Mund@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>The students are enabled to apply geographic information systems (GIS) in the field of natural resource management in practice using case studies.</b>			
<b>Examination form</b>	<b>Project report</b>			
<b>ECTS-Credits</b>	<b>6</b>			
<b>SWH</b>	<b>4</b>			
Module component	Application of geographic information systems	K.01.0106.Ü.PL		
Semester	4			
Coordinator	Prof. Dr. Jan-Peter Mund			
Lecturer	Prof. Dr. Jan-Peter Mund et al.			
ECTS-Credits	3			
SWH	2	Workload: 90 h / Semester		
Max. study places	25			
Teaching form	Practical exercise (15h), Seminar (10h), Self-study (65h)	Module type		
Language	English	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
Examination form	Project report (50%)			
Entry requirements				
Goal	Students are enabled to apply different spatial working methods and statistical techniques with the help of Geographical Information Systems (GIS). They are able to solve spatial and planning problems in practice-relevant case studies. Further they are enabled to implement different spatial working methods and statistical techniques in the field of natural resource management.			
Content	Students perform complex geospatial and database management question and spatial analysis tasks implementing sophisticated GIS tools and methods in particular environmental management topics. On the basis of an individual selected research question, the relevant geospatial data are collected, managed, analysed and intermediate results are integrated into simple decision support and monitoring systems.			
Recommended related elective modules				
Competences	Technical competence (60%) Media competence (10%) Methodological competence (30%)			
Literature	<p>Jones, H.G. &amp; Vaughan, R. A: 2010: Remote Sensing of Vegetation: Principles, Techniques, and Applications</p> <p>Koch, A. Bill, R. &amp; Donaubaue, A. 2013: Geoinformationssysteme 2013: Beiträge zum 18. Münchner Fortbildungsseminar</p> <p>Longley, P.A., M.F. Goodchild, D.J. Maguire &amp; D.W. Rhind (2010): Geographic Information Systems and Science. John Wiley &amp; Sons.</p> <p>Rees, H. G. 2013: Physical Principles of Remote Sensing</p> <p>Robinson A.H., J.L. Morrison, P.C. Muehrcke, A.J. Kimerling &amp; S.C. Guptill (1995): Elements of Cartography. John Wiley &amp; Sons.</p> <p>Additional relevant literature and current scientific resources will be presented during the</p>			

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	lecture.		
<b>Module component</b>	GIS consolidation	K.01.0035	
Semester	6		
Coordinator	Prof. Dr. Jan-Peter Mund		
Lecturer	Prof. Dr. Jan-Peter Mund		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places	24		
Teaching form	Practical exercise (30h), Self-study (60h)	Module type	
Language	German, English	x continuous	partly blocked
			blocked
Prüfungsleistung	Project report (50%)		
Entry requirements	Successful passed mandatory modules of GIS 1 and GIS 2		
Goal	Students have the skills and capacity to select and apply suitable and most recent spatial data and services of modern spatial data infrastructure in order to analyse complex ecological or forestry questions using any kind of spatial data.		
Content	Students treat complex forestry issues while working on projects using modern spatial data infrastructures and methods and tools of geo-informatics. According to the forestry issues students independently collect and analyse spatial data. Students use the collected spatial data for decision support systems and modern presentation methods.		
Recommended related elective modules			
Competences	Technical competence (60%) Media competence (10%) Methodological competence (30%)		
Literature	<p>Bartelme, N. (2005): Geoinformatik - Modelle, Strukturen, Funktionen. Springer.</p> <p>Bill, R. 2010: Grundlagen der Geo-Informationssysteme</p> <p>Campbell, J.B. (2007): Introduction to Remote Sensing. Guilford Press, New York.</p> <p>Ehlers, M. &amp; Schiewe, J. 2012: Geoinformatik</p> <p>Jones, H. G. &amp; Vaughan, R. A. 2010: Remote Sensing of Vegetation: Principles, Techniques, and Applications</p> <p>Kappas, M. 2012: Geographische Informationssysteme (GIS): 2. Auflage - Neubearbeitung 2012 (Das Geographische Seminar)</p> <p>Koch, A. Bill, R. &amp; Donaubaue, A. 2013: Geoinformationssysteme 2013: Beiträge zum 18. Münchner Fortbildungsseminar</p> <p>Mahboob, J. 2011: Remote sensing and gis application in forest inventory: sustainable forest management using Geo-informatics</p> <p>Rees, H. G. 2013: Physical Principles of Remote Sensing</p> <p>In addition a list of current literature and geographical data will be provided at the start or prior to the module.</p>		

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*effective from winter term 2016/17*

<b>Module</b>	<b>Environmental law and certification</b>	<b>M.01.0043</b>		
<b>Semester</b>	<b>6</b>			
<b>Module coordinator</b>	<b>Prof. Dr. Klaus Günther-Dieng</b>	<b>Klaus.Guenther-Dieng@hnee.de</b>		
<b>Status</b>	<b>Elective module</b>			
<b>Goal</b>	<b>Students know general principles of environmental law as acknowledged on the international and national level and specific parts of that sector, esp. the field of nature protection. Furthermore the assessment methods Environmental Impact Assessment (EIA) and FFH impact assessment and its meaning and application in spatial and project planning. Furthermors the processes, evaluation methods and means of compensation. Students know importance and structure of the leading forest certification schemes and its difference to public influence with legal restrictions.</b>			
<b>Examination form</b>	<b>Written exam 90 min, Project presentation, Oral report</b>			
<b>ECTS-Credits</b>				
<b>SWH</b>				
<b>Module component</b>	Environmental legislation	K.01.0053.V.PL		
<b>Coordinator</b>	Prof. Dr. Klaus Günther-Dieng			
<b>Lecturer</b>	Prof. Dr. Klaus Günther-Dieng			
<b>ECTS-Credits</b>	3			
<b>SWH</b>	2	Workload: 90 h / Semester		
<b>Max. study places</b>				
<b>Teaching form</b>	Lecture (30h), Practical exercise (30h), Self-study (30h)	Module type		
<b>Language</b>	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked	<input type="checkbox"/> blocked
<b>Examination form</b>	Written exam (50%)			
<b>Entry requirements</b>				
<b>Goal</b>	Students are enabled to apply the constitution and importance of nature conservation law and its instruments, based on the state and federal nature protection law, especially in their relation to forests.			
<b>Content</b>	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, best practice in agriculture and forestry and its legal meaning. In appropriate fields international regualtions and their meaning are explained. The theoretical content is additionally explained by appropriate case law on the basis of the current jurisdiction.			
<b>Recommended related elective modules</b>				
<b>Competences</b>	Technical competence (70%) Methodological competence (30%)			
<b>Literature</b>	<a href="http://www.buecher.de/shop/naturschutz--landschafts--tierschutz-und-seerecht/bundesnaturschutzgesetz-bnatschg-kommentar/buch-mit-leinen-einband/products_products/detail/prod_id/28953305/">http://www.buecher.de/shop/naturschutz--landschafts--tierschutz-und-seerecht/bundesnaturschutzgesetz-bnatschg-kommentar/buch-mit-leinen-einband/products_products/detail/prod_id/28953305/</a> Stand 2011, Beck Juristischer Verlag  Gassner E./Michael Heugel, <a href="http://www.buecher.de/shop/naturschutz--landschafts--tierschutz-und-seerecht/das-neue-naturschutzrecht/gassner-erich-heugel-michael/products_products/detail/prod_id/27373962">http://www.buecher.de/shop/naturschutz--landschafts--tierschutz-und-seerecht/das-neue-naturschutzrecht/gassner-erich-heugel-michael/products_products/detail/prod_id/27373962</a> ,2010			

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	Naturschutzrecht. dtv-Taschenbücher Beck Texte (5528), 12. Auflage		
<b>Module component</b>	<b>Environmental (FFH) impact assessment</b>	<b>K.01.0059.V.PL</b>	
Coordinator	Prof. Dr. Klaus Günther-Dieng		
Lecturer	Prof. Dr. Klaus Günther-Dieng		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places			
Teaching form	Seminar (30h), Self-study (60h)	Module type	
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
Examination form	Project presentation (50%)		
Entry requirements			
Goal	Students know structure, principles and methods of the European Environmental Impact Assessment (EIA) and FFH impact assessment, esp. of the transformation in Germany. They are enabled to understand assessment reports and critically discuss and evaluate those.		
Content	The methodology of an EIA and of FFH impact assessment is explained by using projects examples; the entire planning will be explained step by step and the results are critically discussed. Participants present parts of EIA and FFH impact assessment in groups.		
Recommended related elective modules			
Competences	Technical competence (70%) Methodological competence (20%) Social competence (10%)		
Literature	<p>Bernotat, D., Winkelbrandt, A., Gassner E, (2009). UVP und strategische Umweltprüfung, 5. Aufl. 2009.</p> <p>Köppel J., Peters, W., Wende, W. (2004), Eingriffsregelung, Umweltverträglichkeitsprüfung, FFH-Verträglichkeitsprüfung; Ulmer</p> <p>Stelzer, V. (2012) Bewertungen im Umweltschutz und Umweltrecht,</p> <p>UVPG, Gesetz über die Umweltverträglichkeitsprüfung, Kommentar, Hoppe, Werner; Martin Beckmann 4. Auflage 2012 .</p> <p>Ministerium für ländliche Entwicklung, Umwelt und Verbraucherschutz des Landes Brandenburg (Hg.) (2009): Hinweise zum Vollzug der Eingriffsregelung, Potsdam.</p> <p>Senatsverwaltung für stadtentwicklung Berlin (2006): Berliner Leitfaden für die Stadt- und Landschaftsplanung, Eingriffsregelung, FFH-Verträglichkeitsprüfung, Strategische UVP und UVP in der Bauleitplanung, 3. Auflage, SenStadt Berlin.</p>		
<b>Module component</b>	<b>Certification of forests</b>	<b>K.01.0336</b>	
Coordinator	Prof. Dr. Tobias Cremer		
Lecturer	Prof. Dr. Tobias Cremer, Prof. Dr. Dr. h.c. Michael Mussong		
ECTS-Credits	3		
SWH	2	Workload: 90 h / Semester	
Max. study places	25		
Teaching form	Lecture (10h), Seminar (25h), Self-study (60h)	Module type	
Language	German	<input checked="" type="checkbox"/> continuous	<input type="checkbox"/> partly blocked
Examination form	Oral report (50%)		

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Entry requirements		
Goal	The students have knowledge of relevant certification systems. Students are enabled to evaluate these systems and apply them in practice.	
Content	In this modul, important certification systems, their history and acutal implementation in Germany are presented. In group works, the differences of the systems regarding basic principles, organisation, cost etc. will be developed. A test certification will be prepared, exemplified implemented and analyzed.	
Recommended related elective modules		
Competences	Technical competence (40%) Methodological competence (60%)	
Literature	Homepages of FSC and PEFC: <a href="http://www.fsc-deutschland.de">http://www.fsc-deutschland.de</a> ; <a href="https://pefc.de/">https://pefc.de/</a>	

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*effective from winter term 2016/17*

Module	Forest landscape rectoration	M.01.0092				
<b>Semester</b>	<b>6</b>					
<b>Module coordinator</b>	<b>Prof. Dr. Peter Spathelf</b>	<b>Peter.Spathelf@hnee.de</b>				
<b>Status</b>	<b>Elective module</b>					
<b>Goal</b>	<b>Students are enabled 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.</b>					
<b>Examination form</b>	<b>Oral report</b>					
<b>ECTS-Credits</b>	<b>6</b>					
<b>SWH</b>	<b>4</b>					
Module component	Forest landscape restoration	K.01.0120.S.PL				
Coordinator	Prof. Dr. Peter Spathelf					
Lecturer	Prof. Dr. Peter Spathelf					
ECTS-Credits	6					
SWH	4	Workload: 180 h / Semester				
Max. study places	20					
Teaching form	Lecture (20h), Seminar (40h), Self-study (120h)	Module type				
Language	English	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">continuous</td> <td style="padding: 2px;">partly blocked</td> <td style="padding: 2px;">x</td> <td style="padding: 2px;">blocked</td> </tr> </table>	continuous	partly blocked	x	blocked
continuous	partly blocked	x	blocked			
Examination form	Oral report					
Entry requirements						
Goal	Students are enabled 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	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 forestrelated 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. A special focus in the module is laid on the restoration practices of open-cast mining areas in Germany.					
Recommended related elective modules						
Competences	Technical competence (50%) Methodological competence (25%) Social competence (25%)					
Literature	<p>Günter, S., Weber, M., Stimm, B., Mosandl, R. (Eds.) (2011): Silviculture in the Tropics. Series: Tropical Forestry, Vol. 8. Springer, 560 p.</p> <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. &amp; 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>					