

Call for Application - Erasmus + programme "Staff Training"

Modules offered for participants at the Eberswalde University for Sustainable Development (EUSD) during winter term 2019/2020*

Module	Module Component	Aim	Language of instruction	Study programme	Term	expected calendar week/ time	Mandatory or elective module	Teaching Form	Workload in credits for students
Data Analysis & Management I	Programming I	Students understand the theoretical fundamentals of computer programming and are able to create application programs of limited extent and function in a systematic way using an object-oriented programming language.	English	MA Forest Information Technology	1.	expected calendar week 43	mandatory	Lecture, Practical exercise	3
Data Analysis & Management I	Statistics I	Students know selected descriptive and analytical statistical methods and are enabled to accomplish environmental data analyses.	English	MA Forest Information Technology	1.	expected calendar week 3	mandatory	Lecture, Practical exercise	3
Geomatics I	Geographic Information Systems I (Fundamentals of Geographic Information Systems)	Students know theoretical fundamentals of Geographic Information Systems (GIS) and are enabled to use GIS for various purposes of natural resources management.	English	MA Forest Information Technology	1.	expected calendar week 45	mandatory	Lecture, Seminar, Practical exercise	3
Geomatics I	Database Management	Students know theoretical fundamentals of databases and are able to plan and to implement databases and to retrieve especially spatial data from databases in client-server environments.	English	MA Forest Information Technology	1.	expected calendar week 44	mandatory	Lecture, Seminar, Practical exercise	3
Geomatics II	Geographic Information Systems II (Digital Cartography)	Students are familiar with basic of digital cartography and are enabled to store, edit and present spatial data using standard GIS software	English	MA Forest Information Technology	1.	expected calendar week 46	mandatory	Lecture, Seminar, Practical exercise	3
Geomatics II	Remote Sensing	Students know theoretical fundamentals and are enabled to use remote sensing as one of forest and environment monitoring tools.	English	MA Forest Information Technology	1.	expected calendar week 47	mandatory	Lecture, Seminar, Practical exercise	3
Technological Fundamentals	Computer Science & Technology	Students know topical fundamentals of computer science and technology including current computer hardware and possess practical skills using different computer environments and operating systems.	English	MA Forest Information Technology	1.	expected calendar week 41	elective	Lecture, Practical exercise	3
Technological Fundamentals	Automated Data Collection	Students know principles and technological solutions of automated data collection, have an overview of devices applied in forestry and environment, and have practical experience with selected devices.	English	MA Forest Information Technology	1.	expected calendar week 42	elective	Lecture, Seminar, Practical exercise	3
Landscape Analysis & Prediction	Landscape Systems Analysis	Students are enabled to understand concepts, principles and methods of landscape systems analysis and are trained to select and to apply different quantitative methods of landscape systems analysis for varying targets.	English	MA Forest Information Technology	1.	expected calendar week 48	elective	Lecture, Practical exercise	3
Landscape Analysis & Prediction	Ecosystem Modelling	Students have a principal understanding of notion and approaches of ecosystem modelling and have basic practical skills to plan, develop and apply models of ecosystem related target areas.	English	MA Forest Information Technology	1.	expected calendar week 51	elective	Lecture, Practical exercise	3
Advanced Remote Sensing & Forest Change Detection	Advanced Remote Sensing & Forest Change Detection	Students are enabled to use remote sensing and geographic information system in different applications related to forest protection and forest change detection.	English	MA Forest Information Technology	3.	expected calendar week 43	elective	Lecture, Seminar	4
Collection and Analysis of LiDAR data	Collection & Analysis of LiDAR data	Students are familiar with the technological principles of LiDAR approaches and are able to pre-process and analyze LiDAR data and to display and communicate related results.	English	MA Forest Information Technology	3.	expected calendar week 44	elective	Lecture, Seminar, Practical exercise	4

*The list also includes a small selection of modules in German language.

You can select any other modules in German language at EUSD if your language skills are sufficient.

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Scientific Research & Organization	Scientific writing and presenting	Students know the fundamentals of effective scientific writing and oral presenting.	English	MA Global Change Management & MA Forest Information Technology	1.	expected calendar week 49	elective	Lecture, Seminar, Practical exercise	3
Human wellbeing and development as result of ecological and social processes and services	Students are enabled to understand and analyse dimensions of and factors contributing to human wellbeing. They elaborate a framework for the analysis of development goals and challenges going beyond a strict dichotomy between factual and value judgements.		English	MA Global Change Management	1.	expected calendar week 42-43	mandatory	Lecture, Seminar, Practical exercise	8
Fundamentals of systems functionality and change	Students are enabled to understand emergent properties and unpredictable dynamics of complex systems (including both natural and social systems and their interactions) and the key attributes required for sustainable functioning. They can conduct exemplary analyses of selected systems' components and functionality and critically discuss analogies and homologies of social and ecological systems.		English	MA Global Change Management	1.	expected calendar week 44 - 46	mandatory	Lecture, Seminar, Practical exercise	8
Carbon sequestration and accounting	Students understand the carbon cycle with special reference to forests, soils and forest products. They are qualified to develop and critically reflect forest growth scenarios and have acquired basic knowledge of the purpose and the implementation of life cycle analysis (LCA), product carbon footprints (PCF) and corporate carbon footprints (CCF).		English	MA Global Change Management	1.	expected calendar week 47 and 48	elective	Lecture, Practical exercise	6
Ecosystem models and concepts under global change	Remote sensing for global monitoring	Students are able to select main fields and apply possible practical application of remote sensing techniques with a landscape ecological approach.	English	MA Global Change Management	1.	expected calendar week 50	elective	Lecture, Seminar	3
Ecosystem models and concepts under global change	Ecosystem Modelling	Students have a principal understanding of notion and approach of ecosystem modelling and have basic practical skills to plan, develop and apply models of ecosystem related target areas.	English	MA Global Change Management & MA Forest Information	1.	expected calendar week 51	elective	Lecture, Seminar, Practical exercise	3
Global change - research and scientific outreach	Scientific writing and presenting	Students are enabled to apply the fundamentals of effective scientific writing, visualisation of scientific results as well as oral presenting.	English	MA Global Change Management	1.	expected calendar week 49	mandatory	Lecture, Seminar, Practical exercise	3
Rethinking environmental economics I	Introduction to resource uses and economic concepts	Students have a solid understanding of concepts and methods of environmental, ecological and natural resource economics. They are familiar with the dynamics of economic systems, functioning of markets, reasons for market failures and potential solutions. They are able to discuss the relevancy of these concepts for sustainable forest management and to optimise the use of forest resources, being aware of their respective chances and limitations.	English	MA Forestry System Transformation	1.	expected calendar week 41	mandatory	Lecture, Seminar, Practical exercise	3
Rethinking environmental economics I	Human wellbeing, ecosystem functions, services and valuation approaches	Students are enabled to understanding the ecosystem services concept, its background and rationales, as well as the current state of scientific research and policy. They are familiar with definitions, typologies, and frameworks that link ES to wellbeing, and with recent socio-political and scientific debates for mapping, indicators & valuation. Based on case study examples, they can analyse chances and challenges of the ES concept and distinct valuation approaches for political and economic decision-making, know about the challenges to communicate to the science-policy/practice interface, and are able to develop strategies for overcoming them.	English	MA Forestry System Transformation	1.	expected calendar week 42	mandatory	Lecture, Seminar, Practical exercise	3

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Future management systems I	Forest management systems for ecosystem services	Students gain knowledge about a wide spectrum of forest management systems for ecosystem service provision. They are familiar with existing and potential future societal demands concerning forestry systems and understand how these change over time. They have a good understanding of forest management approaches and their influences on different kinds of ecosystem services. They are enabled to suggest and debate organisational, procedural, and institutional adjustment needs and potentials, to provide a holistic view on forestry system transformation demands and options.	English	MA Forestry System Transformation	1.	expected calendar week 43	mandatory	Lecture, Practical exercise, Project	3
Future management systems I	Silvicultural management based on growth modelling for decision support	Students are enabled to guide structured goal-setting processes and to define operational realizable and measurable goals. By means of selected case studies (forestry enterprises of different types of ownership) and self-defined target hierarchies the influence of different silvicultural strategies and management decisions can be quantified on the basis of forest growth model calculations. The students are able to apply growth models and software with integrated GIS components and to evaluate and map the results of different mid-term scenario simulations. Students are enabled to weight the results of different target and management strategies by applying decision support systems. They are able to identify potentials and processes for the optimization of target hierarchies and to implement silvicultural control processes in the sense of adaptive management.	English	MA Forestry System Transformation	1.	expected calendar week 44	mandatory	Lecture, Practical exercise, Project	3
Forest governance and policy I	Concepts, institutions and actors	Students understand, can explain and analyse environmental governance systems. Rooted in a new institutional economics and political sciences understanding, students can distinguish between governance structures, institutions, actors and organisations. In particular they are familiar with key policy and governance concepts relevant for sustainable natural resources management and use. Besides the deepening of dedicated governance systems, students are able to explain and handle multiple realities for collaboration, integrated and adaptive approaches, and conflict management.	English	MA Forestry System Transformation	1.	expected calendar week 45	mandatory	Lecture, Seminar, Project	3
Forest governance and policy I	Environmental policy and nature conservation	Students are familiar with the general objectives, tools and current debates of environmental-, nature- and biodiversity conservation policy on different levels. They know the basic environmental governance structures, and the different policy instruments at stake to manage environmental problems. They are able to discuss the chances and limitations of these policy approaches in a nuanced way. For dedicated environmental policy arenas, students can analyse central actors, inherent problem perceptions and ideas for policy solutions. They are able to analyze participatory governance in different policy fields.	English	MA Forestry System Transformation	1.	expected calendar week 46	mandatory	Lecture, Seminar, Project	3
Resource competition	Spatial dimension, assessment and solutions	Students have knowledge about recent spatial competitions on forest resources based on conceptual and methodical approaches. They are aware about potential political solution and feasible counter management strategies such as land management measures and forest policy decisions. They are able to apply monitoring tools and develop monitoring strategies integrating spatial data products and global monitoring services. A primary objective is that the students are eventually in the position to carry out their own monitoring projects, and that they have the criteria to judge the quality of monitoring projects in general.	English	MA Forestry System Transformation	1.	expected calendar week 50	mandatory	Lecture, Seminar, Practical exercise, Project	3
Resource competition	Ecosystem modelling	Students gain knowledge and acquire the methodological skills for the development of simulation models of ecological and technical systems. They are enabled to describe, analyse and evaluate dependencies and interrelations between observations and processes in the field of the environment and economics on the basis of empirical data.	English	MA Forestry System Transformation	1.	expected calendar week 51	mandatory	Lecture, Seminar, Practical exercise, Project	3

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Waldnutzung	Raw Material Wood	Students have knowledge about the structure and composition of wood as well as relevant wood characteristics. They are enabled to sort and supply wood in a customer-oriented way.	English	BA International Forest Ecosystem Management	3.	not blocked, every week 2 SWS	mandatory	Lecture, Practical exercise	2
Alternative Wald- und Holznutzungsformen	Nachhaltige Produktion von holzartiger Biomasse	Die Studierenden sind befähigt, wichtige Kenngrößen des Stoffhaushalts von Wäldern zu quantifizieren und die Nachhaltigkeit der Produktion von holzartiger Biomasse in der Land- und Forstwirtschaft zu beurteilen. Verwertungsmöglichkeiten für Biomasse unter Berücksichtigung der politischen Rahmenbedingungen sind bekannt und können beispielhaft auf Betriebe angewendet werden. Ertragsschätzungen können ebenso wie ökonomische Gesamtschätzungen von Managementkonzepten entwickelt werden.	Deutsch	BA International Forest Ecosystem Management und BA Forstwirtschaft	3.	expected calendar week 49	elective	Lecture, Exercise	3
Master Class Course Conference Renewable Energies (MCCC)	see programme: http://www.hnee.de/de/Forschung/Wissenschaftliche-Tagungen/MCCC-Renewable-Energies/13.-Master-Class-Course-Conference-Renewable-Energies-2020-Neue-Ziele-braucht-das-Klima-E9424.htm		Deutsch	for nearly all study programmes (MA and BA)	1./3.	expected calendar week 49	elective	Lectures	2-6 (depending on study programme)
Globale Umweltsituation und Ressourcenschutz	Überblick zur Grundstruktur globaler MenschUmwelt-Beziehungen, Klassifikation globaler Umweltveränderungen, Haupttrends des globalen Wandels, Syndrom-Ansatz des WBGU; Umwelt und Entwicklung: Überblick zu internationalen Umweltkonventionen (CCD, CBD, CITES, Bonner Konvention etc.), Beispiele aus der Entwicklungszusammenarbeit (Erfahrungsberichte); Planspiel zu globalen Umweltabkommen		Deutsch	BA Landschaftsnutzung und Naturschutz (LaNu); BA International Forest Ecosystem Management (IFEM) and BA Forstwirtschaft (FoWi)	5. LaNu; 3. FoWi and IFEM	expected calendar week 49	elective	Seminar	4-6 (depending on study programme)