

Curriculum and Module Description

Master study programme Global Change Management

Semester: 1 **Mandatory**

Conditions and tools: change management		CR: 10	EF: PP, PR, TD 20				
Module components	Goal		SWH	TF	TL	EF	CR
Conditions and tools: change management	Students are able to apply their acquired knowledge about conditions and tools in change management in various organizational, societal and political settings.		7	L, PE, S	E	PP (33%) PR (33%) TD 20 (33%)	10
Objects and dynamics: global systems analysis		CR: 12	EF: PP, TP, WE 90				
Module components	Goal		SWH	TF	TL	EF	CR
Objects and dynamics: global systems analysis	Students are enabled to critically analyse and discuss global change as a result of the dynamics of nested complex systems that make up the global ecosystem comprising the anthroposystem as one of the active and driving forces. They understand the interaction of main components of biological, ecological and human systems and are able to derive corresponding conclusions for Global Change Management.		9	L, P, S	E	TP (33%) PP (33%) WE 90 (33%)	12

Teaching form (TF)					Examination form (EF)							
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Semester: 1

Elective

Ecosystem modelling		CR: 3	EF: TD 20				
Module components	Goal		SWH	TF	TL	EF	CR
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.		3	L, PE, S	E	TD 20	4
Forest growth scenarios		CR: 4	EF: WR				
Module components	Goal		SWH	TF	TL	EF	CR
Forest growth scenarios	Students are qualified to carry out and to evaluate self-selected forest growth scenarios. They are able to predict yield and growth of different types of pure or mixed, even or uneven aged stands and to estimate the impact of different management strategies as well as changing growth conditions. Finally students are able to apply computer tools (growth models) like B-Win and to use such models to optimize sustainable forest management, to provide risk assessments for forest management taking into account mid-term environmental change and to develop alternative silvicultural adaptation strategies.		2	L, PE	E	WR	4
Global change and development		CR: 4	EF: PR				
Module components	Goal		SWH	TF	TL	EF	CR
Global change and development	The students apply knowledge on the effects of global change on development cooperation to an exemplary project (GTZ). On the basis of project documents and personal interaction with development practitioners they are enabled to critically analyse project strategies in the context of mitigation of and adaptation to global change.		2	S	E	PR	4
Scientific writing and presenting		CR: 4	EF: OR, TP				
Module components	Goal		SWH	TF	TL	EF	CR
Scientific writing and presenting	Students know the fundamentals of effective scientific writing and oral presenting.		3	PE, S	E	TP (50%) OR (50%)	4
Soil degradation and water balance		CR: 4	EF: TD 20, WE 90				
Module components	Goal		SWH	TF	TL	EF	CR
Soil degradation and water balance	Students have a basic knowledge of the extent and importance of soil changes and changes in the landscape water balance under conditions of global change and the resulting potential hazards. They are able to deal with the reporting of environmental monitoring in greater depth, and to recommend and evaluate particular measures for soil conservation and improvement of the landscape water balance.		2	L, S	G	TD 20 (20%) WE 90 (80%)	4
Specialisation modul I		CR:	EF:				
Module components	Goal		SWH	TF	TL	EF	CR
Specialisation modul I	Students deepen their professional knowledge and skills in an specific area, that is of special interest for them. Students can identify their personal interests in the field of global change management and expand their horizon to approaches in related study programmes.						4

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Semester: 2 **Mandatory**

Response strategies: adaptation to global change		CR: 12	EF: PP, PR, TP				
Module components	Goal		SWH	TF	TL	EF	CR
Response strategies: adaptation to global change	Students are able to understand the need of adaptation strategies and measures. Students are capable to develop adequate adaptation strategies and apply adaptation options in natural resource management, especially forestry and nature conservation. Moreover, students are familiar with the basic approaches to integrate adaptation into mitigation strategies.		8	L, PE, P, S	E	TP (33%) PP (33%) PR (33%)	12

Response strategies: mitigation of global change		CR: 10	EF: PP, PR, TP				
Module components	Goal		SWH	TF	TL	EF	CR
Response strategies: mitigation of global change	Students acquire basic knowledge about all relevant mitigation options discussed currently in the scientific and political realm. Students specialize in a few options, where they acquire knowledge about scales, costs and risks associated with these options. Students are able to carry out mitigation projects on selected scales.		7	L, PE, P, S	E	TP (33%) PP (33%) PR (33%)	10

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Semester: 2 Elective

Applied animal and plant ecology		CR: 4	EF: PR, WR				
Module components	Goal		SWH	TF	TL	EF	CR
Applied animal and plant ecology	Students are able to select and apply scientific methods to analyze animal and plant physiological reactions to changes in climatic conditions.		2	L, PE, P	G, E	WR (50%) PR (50%)	4
Damage to forests and forest protection		CR: 4	EF: WE 150				
Module components	Goal		SWH	TF	TL	EF	CR
Damage to forests and forest protection	Students are enabled to respond to serious damage to forests by means of technical planning and forest protection measures.		3	S	G	WE 90 WE 60	4
Entrepreneurship		CR: 4	EF: WR				
Module components	Goal		SWH	TF	TL	EF	CR
Entrepreneurship	Students are able to develop a bankable business plan for a company's founding in the light of sustainability aspects, which meets all requirements concerning funding, organization and marketing as well as fiscal aspects. In team work with students from other departments, students learn to gain insights into the interaction of economics, ecology and social responsibility.		2	L, PE, P	G	WR	4
Geographic information systems and remote sensing		CR: 4	EF: PP, PR				
Module components	Goal		SWH	TF	TL	EF	CR
Geographic information systems and remote sensing	Students are enabled to use geographic information systems (GIS) and remote sensing techniques (RS) for various purposes of natural resources management.		3	L, PE, P	E	PP (50%) PR (50%)	4
Global change - concepts, modelling, and impacts		CR: 4	EF: P, WE 90				
Module components	Goal		SWH	TF	TL	EF	CR
Global change - concepts, modelling, and impacts	Students are able to apply interdisciplinary approaches and methods in climate change impact research and acquire skills essential for global change modelling and its interpretation.		3	L, PE, S	E	P (50%) WE 90 (50%)	4
Management of conservation organisations and lobbying		CR: 4	EF: TP				
Module components	Goal		SWH	TF	TL	EF	CR
Management of conservation organisations and lobbying	Students practice the elaboration of a successful lobbying concept and are able to support the funding and project-based operation of non-governmental organizations (NGO).		2	L, PE, S	G, E	TP	4

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Semester: 2 Elective

Natural resource management in transformation countries		CR: 4	EF: PR				
Module components	Goal	SWH	TF	TL	EF	CR	
Natural resource management in transformation countries	On the basis of dealing with a concrete example of a region, students acquire a critical understanding of the challenges for conservation policy and development strategies in transformation countries and are able to propose strategic elements for addressing these challenges.	3	PE, P, S, T	E	PR	4	
Nature conservation and global change		CR: 4	EF: OR				
Module components	Goal	SWH	TF	TL	EF	CR	
Nature conservation and global change	The students are qualified to competently present and discuss selected nature conservation issues in the context of global change.	2	S	G, E	OR	4	
Remote sensing for global monitoring		CR: 4	EF: PR				
Module components	Goal	SWH	TF	TL	EF	CR	
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.	4	L, S	E	PR	6	
Specialisation modul II		CR:	EF:				
Module components	Goal	SWH	TF	TL	EF	CR	
Specialisation modul II	Students deepen their professional knowledge and skills in an specific area, that is of special interest for them. Students can identify their personal interests in the field of global change management and expand their horizon to approaches in related study programmes.	3		G, E		4	

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Semester: 3 Mandatory

Research project		CR: 24	EF: PR				
Module components	Goal		SWH	TF	TL	EF	CR
Research project	The students are enabled to plan and accomplish a research project of moderate size related to the study programme's content.		16	P		PR	24

Scientific internet colloquium		CR: 6	EF: TP				
Module components	Goal		SWH	TF	TL	EF	CR
Scientific internet colloquium	Students are able to discuss and present current research topics, accompanying the research projects of the third semester students.		4	S	E	TP	6

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Semester: 4 Mandatory

Master thesis and defence		CR: 26	EF: PP, PR, TD 20				
Module components	Goal		SWH	TF	TL	EF	CR
Defence	Students present the research results of their master thesis and are able to defend its underlying assumptions, methodologies, and robustness of the key findings.				G, E	PP (25%) TD 20 (25%)	
Master thesis	Students obtain own research results while solving and discussing a scientific problem.			P	G, E	PR (50%)	
Research colloquium		CR: 4	EF: PP				
Module components	Goal		SWH	TF	TL	EF	CR
Research colloquium	Students acquire further skills in interdisciplinary scientific work. They are able to evaluate research projects and to communicate results to expert and lay audience.		3	S	E	PP	4

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