

Semester	Status	Module	Module coordinator	Goal of module (component)	Lecturers	SWH	Workload	Credits	Teaching form	Teaching language	Examination form
1	M	Human wellbeing and development as result of ecological and social processes and services	Welp	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.	Welp, Ihne, Ibisch	6	8	8	L, S, PE	E	PP
1	M	Fundamentals of systems functionality and change	Ibisch	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.	Ibisch, Stock (PIK), Welp, Linde, Bolte (TI)	6	8	8	L, S, P	E	PP
1	M	Threats & risks to systems functionality and contributing factors	Ibisch	Students are enabled to systemically inventory and analyse factors that lead to threats for the functionality of ecological and social systems and therefore for human wellbeing. These embrace, among others, factors from biophysical, socioeconomic and governance domains. The students apply basic knowledge about risk management to the development of future scenarios and identification of risks and blindspots related to the dynamics of the identified threats and their causal factors. They have practiced the assessment of criticality and strategic relevance of stresses, threats and their contributing factors, which make up global change and pose relevant challenges to ecosystem functionality and human wellbeing.	Ibisch, Welp	6	8	8	L, S, PE	E	PR (50%) PP (50%)
1	E	Carbon sequestration and accounting	Guericke	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).	Guericke, Cremer, Riek	4	6	6	L, P	E	WR
1	E	Ecosystem models and concepts under global change	Mund	Students are able to select main fields and apply possible practical application of remote sensing techniques with a landscape ecological approach. 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.	Mund Schultz, Dietterle	2 2	3 3	6	L, S L, PE, S	E E	PR (50%) TD20 (50%)
1	E	Spezialisierungsmodul I	SG-Leiter	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.	NN	4	6	6	tbd	tbd	tbd
1	E	Global change - research and scientific outreach (module component: scientific writing and presenting)	Welp	Students are enabled to apply the fundamentals of effective scientific writing, visualisation of scientific results as well as oral presenting.	Welp, Schultz	2	3		L, S, PE	E	TP (25%) OR (25%) &

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2	M	Ecosystem Diagnostics Analysis	Ibisch	Students detect and document patterns and processes of anthropogenic ecosystem changes as basis for conceptual modelling, planning and management. The analysis embraces the investigation both the study of ecological as well as socioeconomic phenomena and their cause-effect relationship.	Ibisch, Welp	3	4	4	L, S, PE	E	PR
2	M	Strategies for change and transformation	Welp	Students adopt relevant principles of proactive strategic thinking for complex systems management; they understand past and present societal transitions, their underlying patterns and key actors. Furthermore the goal is to evaluate different strategies of transformation governance on different levels and to provide tools to identify high leverage points in different kinds of complex systems.	Welp, Ibisch, Ihne, Bals & Kier et al. (Germanwatch), Loster & Höppe et al. (Munich Re)	6	8	8	L, S, PE	E	OR (33%) PP (33%) TD (33%)
2	M	Implementation of change management	Welp	Students acquire skills for the initiation and implementation of transitional change. The course aims at laying a foundation for global leadership for purposes of a sustainability transition.	Welp, von Ruschkowski & Klöckner (NABU)	4	6	6	L, S, PE	E	TP
2	E	Global change - research and scientific outreach (module component: Global change - concepts, modelling, and impacts)	Welp	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	Stock	2	3	6	L, PE, S	E	& OR (50%)
2	E	Global Change and Development	Nowicki	The students apply knowledge on the effects of global change on development cooperation to an exemplary project (GIZ). 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.	Nowicki, Ibisch	4	6	6	L, S, P	E	PP
2	E	Natural Resource Management in Transformation Countries	Ibisch	Students acquire a critical understanding of the challenges for sustainable development in transformation countries and are able to propose strategic elements for addressing challenges identified in a concrete case-study region.	Ibisch, Welp	4	6	6	L, S, PE	E	PR (50%) PP (50%)
2	E	Advanced Ecosynomics & Global Leadership	Welp	To enable students to understand the theoretical and methodological fundamentals of ecosynomics and to acquire leadership skills for sustainability transitions	Welp	4	6	6	L, PE, S	E	PP
2	E	Spezialisierungsmodul II	SG-Leiter	Students deepen their professional knowledge and skills in an specific area relevant to global change management. Students identify their specific personal interests in the field of global change management and broaden their technical and scientific horizon.	NN	4	6	6	tbd	tbd	tbd

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3	M	Research project	Welp	The students are enabled to plan and accomplish a research project of moderate size related to the study programme's content.	Welp, Nowicki et al.	20	24	24	P	tbd	PR*
3	M	Internet Based Research Colloquium	Welp	Students are able to discuss and present current research topics, accompanying the research projects of the third semester students	Welp	2	6	6	S	E	TP*
4	M	Master thesis colloquium	Welp	Students acquire further skills in interdisciplinary scientific work. They are able to evaluate research projects and to communicate results to expert and lay audience.	Welp, Nowicki et al.	2	4	4	S	E	PP
4	M	Master thesis & defence	Welp	Students obtain own research results while solving and discussing a scientific problem. Students present the research results of their master thesis and are able to defend its underlying assumptions, methodologies, and robustness of the key findings.	Welp, Nowicki et al.	20	26	26	P	E/G (tbd)	PR (70%) PP (30%)

Sum SWS: 22

Sum Credits: 30

* exam not graded (evaluated as "passed" / "not passed")

Mandatory module (M)
Elective module (E)
Research semester / Thesis

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

SWH = Semester work hours; M = Mandatory module; E = Elective module