

Module Directory

Faculty 09 - Agricultural Sciences, Nutritional Sciences and Environmental Management

"Sustainable Transition" Master Degree Course Modules

Please consult the timetable or current university calendar for information regarding dates and room numbers of the modules taught in the course:

<http://www.uni-giessen.de/cms/fbz/fb09/studium/msc/stpl>

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Core Modules

MK-067-EN-DI	MK-067-EN-DI Theory and Practice of Economic Development		6 CP
	Theory and Practice of Economic Development		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1. Sem.;
	Offered for the first time: WS 2021/22		
	Intake capacity: not limited		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Transition Management, Master (1.); Sustainable Transition, Master (1.);			
Prerequisites for Participation: None			
Learning Outcomes: Students <ul style="list-style-type: none"> • are familiar with key concepts for analysing economic development. • are able to apply them to a range of current development topics. • are aware of the role of natural resources and institutions in the process of development. • consider economic development as a multidisciplinary topic and are enabled to integrate viewpoints from neighbouring social sciences into a problem-centred approach 			
Module Content: <ul style="list-style-type: none"> • Models of growth & development • Trade & globalisation • Development strategy & industrial policy • Resource curse • Land tenure • Environment & the commons • Institutions & development 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	60	120	
Seminar			
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Written examination and assignments (5-10) or assignments (5-10) • Components of final grade: Written examination (40 %), assignment (60 %) or assignment (100 %) • Form of module retake examination: Written examination and assignments (5-10) or assignments (5-10) 			
Language: English			

MK-080-EN-DI	MK-080-EN-DI Resource Economics and Sustainable Development		6 CP
	Resource Economics and Sustainable Development		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1./2. Sem.; 2. Sem.;
	Offered for the first time: SS 2022		
	Intake capacity: not limited		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Agrar- und Ressourcenökonomie, Master (1./2.); Sustainable Transition, Master (2.);			
Prerequisites for Participation: None			
Learning Outcomes: The Students <ul style="list-style-type: none"> • know basic management/decision rules of optimal resource use; • understand the concepts of static and dynamic efficiency of resource use; • understand the concept and the meaning of externalities; • understand the theoretical concepts of sustainability and optimal use of (non-) renewable resources; • know the characteristics of energy/electricity markets with fossil and renewable energies; • are familiar with the current climate and energy policy. 			
Module Content: <ul style="list-style-type: none"> • Natural resources • Renewable and non-renewable resources • The sustainability problem • Sustainable economic development • Static and dynamic efficiency • Overview of energy markets with renewable energies • Electricity and its technical and economic characteristics • Climate change and climate policy (emissions trading) 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	60	120	
Seminar			
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments (4-8) or written exam or written exam and assignments (4-6) • Components of final grade: Assignments (100 %) or written exam (100 %) or written exam (50 %), assignments (50 %) • Form of module retake examination: Assignments (4-6) or oral examination 			
Language: English			

MK-102-EN-DI	MK-102-EN-DI Global Food Markets	6 CP
	Global Food Markets	
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research	1. Sem.; 1.-4. Sem.;
	Offered for the first time: WS 2021/22	
	Intake capacity: 45	
Frequency and Duration: WS, 1 Semester		
Module Coordinator: Chair of Agricultural and Food Market Analysis		
Applies to the Study Programmes: Sustainable Transition, Master (1.); Profil GT, WW, Master (1.-4.); Transition Management, Master (1.);		
Prerequisites for Participation: None		
Learning Outcomes: The students <ul style="list-style-type: none"> • are familiar with the global trends shaping the world food economy, can identify the key drivers of change in agri-food markets and understand the relationships within complex food systems; • understand the effects of past and current events on supply and demand in global food markets in general and on food prices, food security, and food safety in particular; • can describe the causes and consequences of international trade for sustainable development by drawing on economic principles and models of international trade; • know potential impact pathways how agriculture, trade and global food systems can contribute to achieving the Sustainable Development Goals (SDGs) and can identify potential trade-offs; • can analyze the effects and welfare implications of agricultural trade policy (e.g., tariffs and quotas) and domestic food policy schemes (e.g., subsidies, taxes) using partial equilibrium models; • can outline traditional and modern organizational structures of agricultural and food markets and critically reflect on risks and opportunities of global value chains; • know about the role of consumers and multinational organizations in shaping food markets and value chains; • strengthen their communication and cooperation skills through group work and can critically reflect on their own results and points of view and those of others. 		
Module Content: <ul style="list-style-type: none"> • The globalization of the agri-food sector and changing diets • Conceptual and empirical analysis of agricultural trade and global food markets • Food security, food prices, and SDG 2: Zero hunger • Food safety and food quality issues • The role of private and public food standards in global food markets • The role of consumers in shaping food markets • Selected agricultural trade and food policy interventions 		

Forms of Instruction:	Contact hours	Preparation and follow-up work
Lecture	30	60
Seminar	30	60
Practical training		
Exercises		
Excursion		
Total:		180
Prerequisites for Examination: None		
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments and presentation or assignments or assignments and project work • Components of final grade: Assignments (50 %) and presentation (50 %) or assignments (100 %) or assignments (50 %) and project work (50 %) • Form of module retake examination: Assignments 		
Language: English		

MK-106-EN-DI	MK-106-EN-DI Sustainable Food Systems		6 CP
	Sustainable Food Systems		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agronomy and Plant Breeding II		2. Sem.;
	Offered for the first time: SS 2022		
	Intake capacity: 30		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Chair of Organic Farming			
Applies to the Study Programmes: Sustainable Transition, Master (2.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • Can apply inter- and transdisciplinary research approaches (e.g. participatory research, action research) • Can analyse their own food systems • Know about best practices of sustainable food system components • Are able to critically examine food systems and suggest improvements • Are able access and address a topic by means of scientific methodologies 			
Module Content: <ul style="list-style-type: none"> • Widening the focus from farming/agroecosystems to food systems • Methods to assess the sustainability of different food systems • Components of sustainable food systems (agricultural production, transformation, logistics, ...) • Food system innovations (e.g. Food Policy Councils, Community Supported Agriculture, Food Saving) • Discussions with local food system stakeholders • Writing and presenting own contributions to the given topics 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	30	60	
Seminar	30	60	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Project work • Components of final grade: Project work (100 %) • Form of module retake examination: Oral exam 			
Language: English			

MK-107-EN-DI	MK-107-EN-DI Natural Resources and Ecosystem Services		6 CP
	Natural Resources and Ecosystem Services		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Landscape Ecology and Resources Management		2. Sem.;
	Offered for the first time: SS 2019		
	Intake capacity: 30		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Chair of Landscape, Water and Biogeochemical Cycles			
Applies to the Study Programmes: Sustainable Transition, Master (2.);			
Prerequisites for Participation: None (Basic knowledge of environmental processes and GIS recommended)			
Learning Outcomes: The students <ul style="list-style-type: none"> • understand the concept of ecosystem services; • know how to estimate ecosystem services using InVEST; • are able to assess and evaluate natural resources with regard to multiple ecosystem services for an individual project. 			
Module Content: <ul style="list-style-type: none"> • Introduction to the concept of supporting, regulating, provisioning and cultural ecosystem services • Identification and understanding of multiple ecosystem services provided by different ecosystems • Repetition of GIS software • Learning how to use and analyse spatial datasets with InVEST • Evaluate and use results in the frame of a decision support analysis 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	20	40	
Seminar			
Practical training			
Exercises	40	80	
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Seminar paper (5 - 7 pages) and presentation (10 - 15 min) • Components of final grade: Seminar paper (70 %), presentation (30 %) • Form of module retake examination: Revision of the seminar paper or oral examination 			
Language: English			

MK-108-EN-DI	MK-108-EN-DI Renewable Energy Transition		6 CP
	Renewable Energy Transition		
Core Module / Optional Module	Mathematics and Computer Science, Physics, Geography / Physics		2. Sem.;
	Offered for the first time: SS 2022		
	Intake capacity: 40		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Physics			
Applies to the Study Programmes: Sustainable Transition, Master (2.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> acquire basic physics knowledge about energy production, transport, storage and consumption using fossil, nuclear and renewable sources understand the options and problems of various energy systems, including their impact on global climate and the global carbon and water cycles gain in-depth knowledge of renewable energy systems and their elements know how to identify and address challenges in the transition phase of energy systems that are related to socio-economic and cultural factors 			
Module Content: <ul style="list-style-type: none"> energy usage and conversion fossil and nuclear power plants climate change and acidification of oceans potential of wind, solar, hydro and geothermal energies energy transport and storage interference of energy sectors for industrial, residential, thermal and mobility applications socio-economic and cultural aspects and challenges related to energy scarcity and energy system transitions 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	36	72	
Seminar	24	48	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> Form(s) of assessment: Presentation and assignments Components of final grade: Presentation (50%), assignments (50%) Form of module retake examination: Assignments or oral examination 			
Language: English			

MK-109-EN-DI	MK-109-EN-DI Climate Change and Economic Development		6 CP
	Climate Change and Economic Development		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1. Sem.;
	Offered for the first time: WS 2019/20		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Sustainable Transition, Master (1.);			
Prerequisites for Participation: None			
Learning Outcomes: The Students <ul style="list-style-type: none"> • are aware of the international challenges in dealing with climate change; • understand the climate change risks in different developing regions; • are able to discuss the potential of climate change mitigation and adaptation strategies and ways to implement and finance them. 			
Module Content: <ul style="list-style-type: none"> • Climate change and economic development in low-income countries • The effects of climate change on the agricultural sector • Coastal regions and islands that are endangered by flooding • Migration and conflicts as possible consequences • The potential of renewable energies in transition and developing countries 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	10	20	
Seminar	50	100	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Seminar paper (15-25 pages) or seminar paper (10-15 pages) and presentation (10-15 min.) or presentation (15-20 min.) • Components of final grade: Seminar paper (100 %) or seminar paper (50 %), presentation (50 %) or presentation (100 %) • Form of module retake examination: Revision of the seminar paper or oral examination 			
Language: English			

MK-110-EN-DI	MK-110-EN-DI Food Politics	6 CP
	Food Politics	
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Consumer Research, Communication and Food Sociology	2. Sem.;
	Offered for the first time: SS 2022	
	Intake capacity: 30	
Frequency and Duration: SS, 1 Semester		
Module Coordinator: Chair of Food Sociology		
Applies to the Study Programmes: Sustainable Transition, Master (2.);		
Prerequisites for Participation: none		
Learning Outcomes: The students <ul style="list-style-type: none"> • understand historical developments of public debates in the arena of food and politics and thereby develop the ability to question norms, practices and opinions and to take an own position in the sustainability discourse; • distinguish the political and moral meaning of food to reflect their own role in local communities and global society; • analyse problems and developments around consumption, production and regulation in food systems to identify and understand relationships; • formulate an argument about a specific food problem in order to understand and reflect on the norms and values underlying actions. A special focus lies on sustainability-related values, principles and goals, being able to negotiate them in the context of conflicts of interest and necessary compromises, of uncertain knowledge and contradictions; • critically reflect the approaches of various actors who aim to influence the food system and apply different problem-solving approaches to complex sustainability problems. 		
Module Content: This module introduces you to food as a political issue such as hunger, food security, malnutrition, sustainability, power politics, social justice or cultural identity. Food politics is about the political nature of food from fork to farm as well as from local to global levels. Topics might include: <ul style="list-style-type: none"> • food production safety, labelling, and nutrition; • environmental concerns ranging from organic farming and sustainable agriculture to consumption and waste disposal; • politics of specific foods and foodways (e.g. fast food, genetically modified foods, etc.); • ethics of animal care and vegetarianism as politics of the everyday; • politics of hunger and malnutrition food movements (e.g. slow food movement, food sovereignty movement) and other stakeholders. 		

Forms of Instruction:	Contact hours	Preparation and follow-up work
Lecture		
Seminar	30	80
Practical training		
Exercises	30	40
Excursion		
Total:		180
Prerequisites for Examination: None		
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Written report (12 to 15 pages) or oral examination • Components of final grade: Written report (100 %) or oral examination (100%) • Form of module retake examination: Revision of the written report or oral examination 		
Language: English		

MK-111-EN-DI	MK-111-EN-DI Scientific Working and Writing		6 CP
	Scientific Working and Writing		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		4. Sem.;
	Offered for the first time: SS 2023		
	Intake capacity: 30		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Chair of Agricultural and Food Market Analysis			
Applies to the Study Programmes: Sustainable Transition, Master (4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • are able to formulate and write a well-defined and feasible research proposal • are able to compare the strengths and limitations of various study designs/research methodologies • are familiar with the scientific environment with an emphasis on the reflection of strengths as well as challenges of interdisciplinary research (e.g. link of natural with social/economic sciences) 			
Module Content: <ul style="list-style-type: none"> • Review of different types of research methodologies (e.g. structured literature reviews, meta-analyses, mixed-methods approaches) • From an idea to formulating research questions/hypotheses • Writing a coherent scientific research proposal/report/paper • Presenting/Defending a research proposal • Dos and Don'ts in scientific writing • The importance of visually illustrating research results • Intellectual property rights / Predatory Journals / Authorship rules 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture			
Seminar	30	60	
Practical training			
Exercises	30	60	
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Project Work and presentation • Components of final grade: Project Work (60 %), presentation (40 %) • Form of module retake examination: Revision of the project work within 4 weeks and presentation 			
Language: English			

MK-112-EN-DI	MK-112-EN-DI International Economics		6 CP
	International Economics		
Core Module / Optional Module	Economics and Business Studies / Economics and Business Studies		1. Sem.;
	Offered for the first time: WS 2021/22		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Economics (International Economics)			
Applies to the Study Programmes: Sustainable Transition, Master (1.);			
Prerequisites for Participation: None			
Learning Outcomes:			
<ul style="list-style-type: none"> • Basic knowledge of theories of international trade and trade policies including their methodological, decision-theoretic and mathematical foundations and historic development • Ability to interpret and critically discuss simple models from this field • Computational skills necessary for handling such models and to apply them to analyse real-world problems 			
Module Content:			
<ul style="list-style-type: none"> • Trade in the global economy • Patterns of international trade • Effects of globalization on efficiency and distribution • Instruments and impact of trade policy • Controversies in trade policy 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	30	60	
Seminar			
Practical training			
Exercises	30	60	
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination:			
<ul style="list-style-type: none"> • Form(s) of assessment: Assignments • Components of final grade: Assignments (100 %) • Form of module retake examination: Assignments 			
Language: English			

MK-123-EN-DI	MK-123-EN-DI Transdisciplinary Sustainability Research	6 CP
	Transdisciplinary Sustainability Research	
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Consumer Research, Communication and Food Sociology	1. Sem.;
	Offered for the first time: WS 2022/23	
	Intake capacity: 30	
Frequency and Duration: WS, 1 Semester		
Module Coordinator: Chair of Communication and Engagement in Agricultural, Nutritional and Environmental Sciences		
Applies to the Study Programmes: Sustainable Transition, Master (1.);		
Prerequisites for Participation: None		
Learning Outcomes: The students <ul style="list-style-type: none"> • gain a comprehensive, interdisciplinary perspective on sustainability science: its theory, research horizons, and practical applications, • understand how multiple disciplines contribute to the understanding of interactive social-environmental systems and to the capacity for guiding such systems in a transformation toward sustainability, • gain insight into the possibilities and limitations of research and its role in society, • are able to critically assess and approach current challenges for sustainable development from various perspectives, • are able to demonstrate the ability to integrate knowledge and gain specialised methodological knowledge for transdisciplinary research • develop communication skills required for participation in inter- and transdisciplinary teams. 		
Module Content: <ul style="list-style-type: none"> • Origins of the concept of sustainable development and its challenges, • Applications across regions will be woven into discussions, • Core ideas of sustainability science, • Social-environmental systems as complex systems, • Understanding of inter- and transdisciplinary research and collaboration, • Qualitative research methods for transformative sustainability research, • Challenges of knowledge integration and linking knowledge with action for sustainable development, • Role of communication in transdisciplinary research and transformation processes. 		

Forms of Instruction:	Contact hours	Preparation and follow-up work
Lecture		
Seminar	18	36
Practical training		
Exercises	42	84
Excursion		
Total:		180
Prerequisites for Examination: None		
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: • Components of final grade: • Form of module retake examination: 		
Language: English		

Profile Modules

MK-002-EN	MK-002-EN Applied Statistics		6 CP
	Applied Statistics		
Core Module / Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agronomy and Plant Breeding II		1./2. Sem.;
	Offered for the first time: WS 2015/16		
	Intake capacity: not limited		
Frequency and Duration: WS, 1 semester			
Module Coordinator: Chair of Biometry and Population Genetics			
Applies to the Study Programmes: Agrobiotechnology, Master (1./2.); Insect Biotechnology and Bioresources, Master (1./2.);			
Prerequisites for Participation: None			
Learning Outcomes: The Students <ul style="list-style-type: none"> • have knowledge of statistical methods; • have knowledge of experimental designs; • are able to analyse experiments and studies. 			
Module Content: <ul style="list-style-type: none"> • Analysis of variance • Comparison of treatments • Mixed linear models • Experimental designs • Data analysis using statistical software 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	30	60	
Seminar			
Practical training	30	60	
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments (4) or written examination • Components of final grade: Assignments (100 %) or written examination (100 %) • Form of module retake examination: Written examination 			
Language: English			

MP-163-EN-DI	MP-163-EN-DI Python for Environmental Scientists		6 CP
	Python for Environmental Scientists		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Landscape Ecology and Resources Management		1.-4. Sem.;
	Offered for the first time: WS 2018/19		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Landscape, Water and Biogeochemical Cycles			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • understand the basic concepts of Python; • can work with data from different sources and formats; • know common scientific Python packages and what they are used for; • can perform basic time series analysis; • can create graphics for environmental data; • can perform basic statistics in Python. 			
Module Content: <ul style="list-style-type: none"> • Basic concepts of Python • Scientific Python packages like numpy, matplotlib, pandas • Using data form different formats • Plotting in Python • Time series analysis in Python • Statistics in Python 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	15	30	
Seminar			
Practical training			
Exercises	45	90	
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Seminar paper (5-7 pages) and presentation (10 - 15 min) • Components of final grade: Seminar paper (50 %), presentation (50 %) • Form of module retake examination: Revision of the seminar paper 			
Language: English			

MP-181-EN	MP-181-EN Gender and Development		6 CP
	Gender and Development		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: SS 2019		
	Intake capacity: 30		
Frequency and Duration: SS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • have basic understanding of gender terms, get acquainted with the gender glossary; • are able to take part in scientific discussions on the subject; • are able to independently prepare a selected topic, take a reflective, critical review as well as applying gender lenses and perspectives. 			
Module Content: <ul style="list-style-type: none"> • Introduction to gender and development • Gender roles, changing relationships • Decision making and empowerment • Gender and natural resource management • Gender, assets and inputs • Gender and agricultural labour • Time allocation and the economic role of women in agriculture • Nutrition and Gender • Knowledge, methods and access to information, technology • Gender sensitive academic research and development projects 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture			
Seminar	60	120	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Presentation (20 min.) and seminar paper (3-5 pages) • Components of final grade: Presentation (40 %) and seminar paper (60 %) • Form of module retake examination: Revision of the seminar paper 			
Language: English			

MP-208-EN-DI	MP-208-EN-DI Concepts of Ecological Economics		6 CP
	Concepts of Ecological Economics		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: SS 2020		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.); Profil GT, WW, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • know about ecological economics and political ecology as analytical concepts to assess challenges in the sustainable use of natural resources in the world, and especially natural resource use conflicts between different agents. • understand the difference between neo-classical economic models, environmental economics and ecological economics. • can explain the basic assumptions held in ecological economics • can identify work domain in which ecological economics is appropriate and formulation questions which can be answered by using approaches rooted in ecological economics. • know by name and by basic concept several different analytical methods used in ecological economics • know in-depth about one analytical methods and are in a position to convey their knowledge to peers 			
Module Content: <ul style="list-style-type: none"> • Introduction to ecological economics and position with regard to other neo-classical economics of natural resources • Context of use of ecological economics and history of development: conflicts in natural resource use • Main assumptions underlying ecological economics • Different methods and approaches used in ecological economics studies • Role of political aspects in the use of natural resources 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	20	40	
Seminar	40	80	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Homework, presentation (10-30 min.) with written report (between 4 and 12 pages) and seminar paper (1000 bis 2500 Wörter) • Components of final grade: Homework (30 %), presentation with written report (40 %) and seminar paper (30 %) • Form of module retake examination: Oral examination 			
Language: English			

MP-210-EN-DI	MP-210-EN-DI Land Governance for Sustainable Land Use in Africa		6 CP
	Land Governance for Sustainable Land Use in Africa		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: ((Start))		
	Intake capacity: ((kapazitaet))		
Frequency and Duration: ..., ...			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • are able to identify and explain key issues with respect to land governance for sustainable land use in the context of African countries • are able to apply knowledge to multidisciplinary and practical problems on issues of access to land • are able to apply knowledge to multidisciplinary and practical problems on issues of land management • are able to identify and address challenges of land governance in the African context. 			
Module Content: ...			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	...	...
Seminar	...	...
Practical training	...	...
Exercises	...	...
Excursion	...	...
Total:	...		
Prerequisite for Examination: ...			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: ((pruefungsformen)) • Components of final grade: ((modulnote)) • Form of module retake examination: ((wiederholungspruefung)) 			
Language: ...			

MP-211-EN-DI	MP-211-EN-DI Agriculture, Ecosystem Functioning and Climate Change		6 CP
	Agriculture, Ecosystem Functioning and Climate Change		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Landscape Ecology and Resources Management		1.-4. Sem.;
	Offered for the first time: WS 2020/21		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Landscape Ecology and Landscape Planning			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • understand the importance of climatic conditions and effects of climate change for agricultural production and ecosystem functioning; • understand the biochemical processes in agriculture resulting in greenhouse gas emissions and carbon sequestration; • know how to quantify greenhouse gas emissions from agriculture on local to regional scales; • know measures in agriculture to mitigate and adapt to climate change. 			
Module Content: <ul style="list-style-type: none"> • Abiotic controlling factors in agriculture and for ecosystem functioning • Biochemical processes of CO₂, nitrous oxide and methane release in agriculture • Calculation methods of greenhouse gas emissions from agriculture on various spatial scales • Climate as driver of biodiversity change • Climate mitigation and adaptation strategies in agriculture • CO₂ footprints of agricultural products 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	40	80	
Seminar			
Practical training			
Exercises	20	40	
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Written examination, presentation (15-20 min.) and written assignment (15-20 pages) • Components of final grade: Written examination (50 %), presentation (25 %), written assignment (25 %) • Form of module retake examination: Written examination 			
Language: English			

MP-218-EN-DI	MP-218-EN-DI The Economics of Nitrate Pollution		6 CP
	The Economics of Nitrate Pollution		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: WS 2020/21		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • are able to identify, find and evaluate advanced literature on current topics, and to sum up and present the state of research; • are able to participate in scientific discussions on the subject and to develop these further; • are able to give their view on specific question critically and well-founded; are able to prepare their advanced knowledge for a transfer into practice.			
Module Content: <ul style="list-style-type: none"> • Theoretical and methodological concepts for the economic analysis of nitrate pollution Specific emphasis on the topic of nitrate pollution from the perspective of (1) environmental economics, (2) institutional economics, (3) behavioral economics, and (4) innovation economics			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture			
Seminar	30	60	
Practical training	30	60	
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Presentation (10-15 min.) and written assignment (15-25 pages) or seminar paper (15-25 pages) or oral examination and presentation (10-15 min.) • Components of final grade: Presentation and written assignment (100 %) or seminar paper (100 %) or oral examination (50), presentation (50 %) • Form of module retake examination: Revision of the written assignment or revision of the seminar paper within four weeks or oral examination 			
Language: English			

MP-220-EN-DI	MP-220-EN-DI Special Topics of the UN Sustainable Development Goals I		6 CP
	Special Topics of the UN Sustainable Development Goals I		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: WS 2022/23		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural and Food Market Analysis			
Applies to the Study Programmes: Profil englisch, Master (1.-4.); Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • have in-depth knowledge of the discussed subject; • know the theoretical basics of the field and important empirical applications; • are able to apply their knowledge of research methods to selected scientific issues; • are capable to conduct their own project work. 			
Module Content: <ul style="list-style-type: none"> • Current topics of the research field 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	30	60	
Seminar	30	60	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments and project work or oral examination and project work or oral examination • Components of final grade: Written assignments (50 %) and project work (50 %) or oral examination (50 %) and project work (50 %) or oral examination (100 %) • Form of module retake examination: Written assignments or oral examination 			
Language: English			

MP-221-EN-DI	MP-221-EN-DI Special Topics of the UN Sustainable Development Goals II		6 CP
	Special Topics of the UN Sustainable Development Goals II		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: WS 2022/23		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural and Food Market Analysis			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil englisch, Master (1.-4.); Profil, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • have in-depth knowledge of the discussed subject; • know the theoretical basics of the field and important empirical applications; • are able to apply their knowledge of research methods to selected scientific issues; • are capable to conduct their own project work. 			
Module Content: <ul style="list-style-type: none"> • Current topics of the research field 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	30	60	
Seminar	30	60	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments and project work or oral examination and project work or oral examination • Components of final grade: Written assignments (50 %) and project work (50 %) or oral examination (50 %) and project work (50 %) or oral examination (100 %) • Form of module retake examination: Written assignments or oral examination 			
Language: English			

MP-230-EN-DI	MP-230-EN-DI Sustainable Plant Protection		6 CP
	Sustainable Plant Protection		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Insect Biotechnology		1.-4. Sem.;
	Offered for the first time: WS 2022/23		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Applied Entomology			
Applies to the Study Programmes: Profil englisch digital, Master (1.-4.); Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None (recommended: basic knowledge in Organic Chemistry, Entomology, Molecular Biology, Microbiology, and Mycology)			
Learning Outcomes: <ul style="list-style-type: none"> gain a comprehensive overview of the theoretical background and practical approaches of modern, sustainable plant protection; will be able to work in the field of plant protection in agri- and horticulture, in agrochemical and biotechnological industry, for regulation authorities, and in in plant health service. 			
Module Content: <ul style="list-style-type: none"> General aspects and history of plant protection Past, present, and future of the major classes of pesticides used for chemical control of plant diseases (Fungicides, Herbicides, Insecticides, acaricides, and nematocides) Impact of agriculture on biodiversity and insect decline Screening for new plant-protective compounds Invertebrates (beneficial insects and other arthropods, entomopathogenic nematodes) Biotechnological approaches – Semiochemicals (pheromones and allelochemicals) Entomopathogenic bacteria, viruses, and fungi Precision Agriculture approaches RNAi approaches Tools for genome editing GMO's Restoring biodiversity in agricultural landscapes 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	36	72	
Seminar	24	48	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> Form(s) of assessment: Oral examination Components of final grade: Oral examination (100 %) Form of module retake examination: Oral examination 			
Language: English			

MP-247-EN-DI	MP-247-EN-DI Land Use Change Projection with Q-GIS		6 CP
	Land Use Change Projection with Q-GIS		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Landscape Ecology and Resources Management		1.-4. Sem.;
	Offered for the first time: WS 2022/23		
	Intake capacity: not limited		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Landscape, Water and Biogeochemical Cycles			
Applies to the Study Programmes: Profil, Master (1.-4.); Profil englisch, Master (1.-4.); Profil englisch digital, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • have mastered the basics of QGIS; • can work with spatial data from different sources and formats; • can perform landscape analyses with QGIS and develop land use scenarios based on these analyses; • can develop spatial algorithms with Google Earth Engine. 			
Module Content: <ul style="list-style-type: none"> • Introduction to the basics of QGIS • Use of spatial data from different formats • Introduction to landscape analysis with QGIS • Use of Google Earth Engine 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture	15	30	
Seminar			
Practical training			
Exercises	45	90	
Excursion			
Total:		180	
Prerequisites for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Assignments (8-10 pages) • Components of final grade: Assignments (100 %) • Form of module retake examination: Revision of the assignments 			
Language: English			

MP-252-EN-DI	MP-252-EN-DI Sustainable Water Management		6 CP
	Sustainable Water Management		
Optional Module	Agricultural Sciences, Nutritional Sciences, and Environmental Management / Department of Agricultural Policy and Market Research		1.-4. Sem.;
	Offered for the first time: WS 2023/24		
	Intake capacity: 30		
Frequency and Duration: WS, 1 Semester			
Module Coordinator: Chair of Agricultural, Food and Environmental Policy			
Applies to the Study Programmes: Profil, Master (1.-4.); Profil englisch, Master (1.-4.);			
Prerequisites for Participation: None			
Learning Outcomes: The students <ul style="list-style-type: none"> • are able to identify and evaluate advanced literature on current (research?) topics and summarize and present the current state of research; • are able to get involved in scientific discussions and develop them further; • are able to make a critical and well-founded statement on specific topics and can develop them further. 			
Module Content: <ul style="list-style-type: none"> • Water Resources, Water Governance and Management • Water Security: from Concept to Reality • Integrated Water Resources Management: Principles and Instruments • Socio-Technical Aspects of Water Resources Management • Water Management Under Uncertainty: Climate and Water • Transboundary Water Resources Management • Water Diplomacy • Agenda 2030 And SDG 6 (Clean Water and Sanitation) • SDG Interlinkages – Synergies & Tradeoffs 			
Forms of Instruction:	Contact hours	Preparation and follow-up work	
Lecture			
Seminar	60	120	
Practical training			
Exercises			
Excursion			
Total:		180	
Prerequisite for Examination: None			
Module Examination: <ul style="list-style-type: none"> • Form(s) of assessment: Presentation (15–20 Min.) with written assignment (5–7 pages) or seminar paper (15–20 pages) or written examination and presentation (15–20 Min.) • Components of final grade: Presentation (50 %) with written assignment (50 %) or seminar paper (100 %) or written examination (50 %) and presentation (50 %) • Form of module retake examination: Revision of the written assignment or revision of the seminar paper or oral exam 			
Language: English			