
Modulhandbuch

Water and Coastal Management - Master's Programme

im Sommersemester 2023

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wcm110 - Case Study	4
wcm290 - Planning Theory	5
wcm300 - Environmental and Infrastructure Planning (EIP)	
Interactive Workshop	6
wcm140 - Planning and Management of Coastal Zones and Sea Basins	7
wcm150 - River Development, Water Management and Conservation	8
wcm310 - GIS for WCM	9
lök320 - Sustainable Spatial Development in Europe	10
wir880 - Marine & Maritime Law	12
wcm190 - Selected Topics in Environmental Sciences	14
wcm350 - Bioenergy	15
lök210 - Practice of Nature Conservation	16
wir905 - Environmental Sciences	18
lök290 - Perspectives of Bioenergy	20
wir876 - Topics in Economic Research	21
wir878 - Public Economics and Market Design	22
wir902 - Perspectives and Instruments of Corporate Sustainability	24
wir919 - Topics in Sustainability Economics and Management I	26
wir939 - Topics in Sustainability Economics and Management II	27
wir924 - Ecological Economics	28
wcm230 - Dilemmas in Infrastructure Planning	30

wcm240 - Planning Methods and Evaluation	
.....	31
wcm250 - Transitions in Water Management	
.....	33
wcm260 - Comparative Research and Planning Practice	
.....	35
wcm280 - Reinventing Environmental Planning	
.....	37
wcm360 - Fieldwork Water Quality	
.....	39

General foundations

wcm110 - Case Study

Module label	Case Study	
Modulkürzel	wcm110	
Credit points	12.0 KP	
Workload	360 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > General foundations	
Zuständige Personen	- Mose, Ingo (Prüfungsberechtigt) - Siebenhüner, Bernd (module responsibility) - Mose, Ingo (module responsibility)	
Prerequisites	None	
Skills to be acquired in this module	The students shall carry out a Case Study independently, dealing with scientific questions regarding Coastal Zone Management.	
Module contents	Selected Topics of the development of the coastal area and coastal zone management in form of a Case Study near Oldenburg (for example the East Frisian Islands, Bremerhaven).	
Literatureempfehlungen	A list of relevant literature will be provided at the beginning of the course.	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	halbjährlich	
Module capacity	unlimited	
Reference text	Literature and information from public media, interviews with stakeholders etc.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		
Lehrveranstaltungsform	Seminar	
Frequency		

Master thesis period

wcm290 - Planning Theory

Module label	Planning Theory	
Modulkürzel	wcm290	
Credit points	5.0 KP	
Workload	150 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Master thesis period	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	The aim of the planning theory course is to gain more in-depth knowledge of the theoretical background of planning in such a way that the student can identify suitable existing planning and decision-making models for issues at hand. The student will also be able to picture a planning issue within a theoretical frame, through which an approach and its consequences can be deducted.	
Module contents	This course starts with current and on-going planning theoretical discussions, seen in the light of philosophical critique and general scientific abstractions. These abstractions are amongst others obtained from theories such as systems theory, complexity theory, critical theory, social constructivism and discourse theory. This confrontation will bring us the basic arguments upon which planning is built. It will help us understand and critically reflect on current decision-making models, such as the classic technical rational approaches, contingency approaches, scenario approaches, the late modern communicative approaches in planning, the so-called models for complex decision-making and transition management. This will give us substantial depth in understanding how planning and decision-making works. As such, we want to support decision-making processes in planning through object-oriented and inter-subjective analysis in complex and very complex situations. The result is an advanced tool box to cope with simple, complex and very complex planning issues, both linear and non-linear, to tackle these issues in a thorough way, and to help us to make use of and design planning and decision-making models for particular situations.	
Literatureempfehlungen		
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMPLANTH for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Examination with multiple choice questions, Examination with open questions
Lehrveranstaltungsform	Seminar	
Frequency		

wcm300 - Environmental and Infrastructure Planning (EIP) Interactive Workshop

Module label	Environmental and Infrastructure Planning (EIP) Interactive Workshop	
Modulkürzel	wcm300	
Credit points	5.0 KP	
Workload	150 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Master thesis period	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	The course engages students interactively with seminal texts within environmental and infrastructure planning and enhances critical thinking on contemporary planning debates in theory and practice.	
Module contents	Originalfassung On completion of the course learners will be able to: (1) critically compare and cross reference central arguments and relevant examples from seminal theoretical texts within environmental and infrastructure planning; and (2) read, distil and write summaries of key journal articles, present ideas effectively using presentation software and develop their critical perspectives on contemporary planning debates for planning practice. Following mini-lectures by the instructor learners present their ideas, with feedback from the instructor and fellow learners, stimulating a depth and critical engagement with the central ideas with reference to relevant examples. Topics include: collaborative planning and governance (e.g. Patsy Healey), rationality and power (e.g. Bent Flyvbjerg), complexity theory and planning (e.g. Juval Portugali), institutions and institutional change (e.g. Alexander).	
Literatureempfehlungen		
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMEIPWSH5 for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Assignments, Presentation (Pre-class assignments, participation in-class, presentation, final assignment)
Lehrveranstaltungsform	Seminar	
Frequency		

Planning

wcm140 - Planning and Management of Coastal Zones and Sea Basins

Module label	Planning and Management of Coastal Zones and Sea Basins	
Modulkürzel	wcm140	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Planning	
Zuständige Personen	• Mose, Ingo (Prüfungsberechtigt) • Karrasch, Leena (Prüfungsberechtigt) • Karrasch, Leena (Module counselling) • Siebenhüner, Bernd (module responsibility) • Mose, Ingo (module responsibility)	
Prerequisites	None	
Skills to be acquired in this module	The students gain a differentiated understanding of the challenges of Coastal Zone Management in a national and European context; the questions implied therein, the stakeholders and substantial political and legal implications. At the same time they will get a first insight of selected national and international project examples while getting to know a part of their possible future field of action.	
Module contents	Coastal Zone Management Basic demands and questions of Coastal Zone Management in a spatial planning perspective. International Approaches to Coastal Zone Management Field trip to a selected (inter)national place at the coast (Germany, The Netherlands) to show selected problem fields of Coastal Zone Management.	
Literatureempfehlungen		
Links		
Language of instruction	English	
Duration (semesters)	2 Semester	
Module frequency	halbjährlich	
Module capacity	unlimited	
Reference text	Lecture room presentations and discussions based on slides and black/white boards. Visit of European sites representative for good practice in Coastal Zone Management; interaction and discussion with local researchers and practitioners	
Examination	Prüfungszeiten	Type of examination
Final exam of module		
Lehrveranstaltungsform	Seminar	
Frequency		

wcm150 - River Development, Water Management and Conservation

Module label	River Development, Water Management and Conservation	
Modulkürzel	wcm150	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's Programme Water and Coastal Management (Master) > Planning	
Zuständige Personen	• Siebenhüner, Bernd (module responsibility) • Mose, Ingo (module responsibility) • Mose, Ingo (Prüfungsberechtigt)	
Prerequisites	None	
Skills to be acquired in this module	The participants shall gain a differentiated understanding of the planning challenges of Water and River Management using selected national and international examples. While so, they will be granted insight to actual planning tasks and the implemented conflicts and get into contact with concerned stakeholders.	
Module contents	Greater London and the River Thames Selected questions of Water and River Management on the example of the River Thames in the Greater London Area, for example drinking water production, flood protection, nature conservation, water-oriented leisure activities and the revitalization of the (former) ports of London. Bremen and the River Weser Selected questions of Water and River Management on the example of the River Weser in the Bremen area, for example flood protection, nature conservation, water-oriented leisure activities and the revitalization of the former ports of Bremen.	
Literatureempfehlungen	A list of relevant literature will be provided at the beginning of the course.	
Links		
Language of instruction	English	
Duration (semesters)	2 Semester	
Module frequency	halbjährlich	
Module capacity	unlimited	
Reference text	Visit of sites representative for good practice in River and Water Management; interaction and discussion with local researchers and practitioners	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Hausarbeit
Lehrveranstaltungsform	Seminar	
Frequency		

wcm310 - GIS for WCM

Module label	GIS for WCM	
Modulkürzel	wcm310	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's Programme Water and Coastal Management (Master) > Planning	
Zuständige Personen	• Mose, Ingo (module responsibility) • Siebenhüner, Bernd (module responsibility) • Aden, Christian (Module counselling) • Lehrenden, Die im Modul (Prüfungsberechtigt)	
Prerequisites		
Skills to be acquired in this module	The module introduces the students into the use of geographic information systems for the analysis of spatially relevant issues and questions. Participants will learn how to handle vector and raster data, attribute tables (selection, manipulation, field calculations), how to create vector and raster data, how to digitize geometries and how to use essential geoprocessing tools (buffer, intersection, erase, ...) and how to perform raster calculations for analysis. The students are enabled to use the tools based on previously considered workflows. In addition, an understanding of how to deal with coordinate systems and projections will be conveyed, as well as an introduction into cartography and the layout of printable maps with QGIS using symbology tools.	
Module contents	The course begins with theoretical basics of spatial data (vector and raster) and their characteristics and fields of application. This is followed by a practical introduction into the user interfaces of the GIS software QGIS 3.x and its components and mapping tools. A variety of GIS tools are used based on theoretical questions. The content of the GIS for WCM I course is essentially based on working with vector data. The second course of the module, GIS for WCM II, focuses on the production and processing of raster data. Digital elevation models and land use data, also in combination with vector data, are calculated and reclassified using raster tools. Geostatistical and deterministic interpolation methods are used, based on point data from monitoring networks.	
Literatureempfehlungen	Bolstad, P. (2019): GIS Fundamentals: A First Text on Geographic Information Systems, XanEdu Publishing Inc; 6th edition, 770p. Campbell, J. E. & Shin, M. (2012): Geographic Information System Basics (v. 1.0). (CC by NC SA). Web: https://2012books.lardbucket.org/pdfs/geographic-information-system-basics.pdf QGIS Docs: https://docs.qgis.org/3.28/en/docs/index.html#	
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Type of module	je nach Studiengang Pflicht oder Wahlpflicht	
Module level	BC (Basiscurriculum / Base curriculum)	
Teaching/Learning method	Theoretical and practical sessions in combination in the lab.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		PF
Lehrveranstaltungsform	Seminar	
Frequency		

lök320 - Sustainable Spatial Development in Europe

Module label	Sustainable Spatial Development in Europe
Modulkürzel	lök320
Credit points	6.0 KP
Workload	180 h
Verwendbarkeit des Moduls	• Master's Programme Landscape Ecology (Master) > Wahlpflichtmodule • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Planning
Zuständige Personen	• Mose, Ingo (module responsibility) • Mose, Ingo (Module counselling) • Mose, Ingo (Prüfungsberechtigt) • Klenke, Thomas (Prüfungsberechtigt) • Kramer, Nadine (Prüfungsberechtigt) • Schaal, Peter (Prüfungsberechtigt)
Prerequisites	Good command of English
Skills to be acquired in this module	Presentation and critical reflection of crucial demands of a sustainable spatial development in selected fields of activities especially considering rural development. Comparison of suitable case studies in a European context. Knowledge into central control instruments of structural, regional, and agricultural policy on a national as well as on a European level. Considering specific demands of spatial development in the context of political and social processes of Europeanization.
Module contents	SE/EX Multifunctionality and rural development (3 CP) V Topical issues of agriculture and nutrition (1.5 CP) SE/EX Sustainable tourism (3 CP) SE/EX Renewable energy planning (3 CP) V Colloquium on sustainable spatial development (1.5 CP) SE Special subject job market: Job market and inequality in Europe (3 CP) – This course (1.07.211 / FK I) takes place in the summer semester. Multifunctionality and rural development Survey of the multifunctionality of rural areas, especially the importance of agriculture and forestry, tourism and recreational activities, habitation, and protection of nature as well as the demands on spatial planning and regional development involved under the conditions of sustainability. Illustration by means of selected examples in a European context. Agriculture and agricultural policy Survey of EU agricultural policy programmes and their strategic-instrumental implementation as well as of selected topics of current developments in agriculture presented by various guest lecturers. Sustainable tourism Presentation of various concepts of sustainable tourism and its realization from the viewpoint of offer and demand. Illustration by means of selected examples in a European context. Renewable energy planning Survey of different forms of renewable energy and related demands on spatial development seen from a mainly planning and actor-orientated point of view. Illustration by means of selected examples in a European context. Colloquium on sustainable spatial development Survey of up-to-date theoretical approaches, concepts, instruments as well as practical fields of activities in sustainable spatial development in a national and European context. Special subject job market: Job market and inequality This course (1.07.211 / FK I) takes place in the summer semester. Three one-day excursions with varying emphasis will be performed in the vicinity of Oldenburg as an integral part of the module seminars.
Literatureempfehlungen	Akademie für Raumforschung und Landesplanung (Hrsg.): Handwörterbuch der Raumordnung. Hannover 2017. Cloke, P.; Marsden, T.; Mooney, P.H. (eds.): Handbook of rural studies. London 2006. Ermann, U. et al.: Agro-Food Studies. Eine Einführung. Köln 2018 Fischer, A.: Sustainable Tourism. Bern 2014.

Grabski-Kieron, U.; Mose, I.; Reichert-Schick, A.; Steinführer, A. (eds.): European rural peripheries revalued. Governance, actors, impacts. Münster 2016.
 Küster, H.: Die Entdeckung der Landschaft. Einführung in eine neue Wissenschaft. München 2012.
 Lossau, J.; Freytag, T.; Lippuner, R. (Hrsg.): Schlüsselbegriffe der Kultur- und Sozialgeographie. Stuttgart 2014
 Schmied, D. (ed.): Winning and losing. The changing geography of Europe's rural areas.

Additional literature will be announced in the seminars.

Links		https://www.uni-oldenburg.de/en/geo/		
Languages of instruction		German, English		
Duration (semesters)		1 Semester		
Module frequency		jährlich		
Module capacity		unlimited		
Examination		Prüfungszeiten	Type of examination	
Final exam of module		Before the end of the module	6 CP = Report or assignment	
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		2	--	28
Seminar		3	--	42
Study trip		1	--	14
Präsenzzeit Modul insgesamt				84 h

wir880 - Marine & Maritime Law

Module label	Marine & Maritime Law	
Modulkürzel	wir880	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's programme Business Administration: Management and Law (Master) > Kernmodule CHI • Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule NM-Recht • Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule RdW - Recht • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Planning	
Zuständige Personen	• Godt, Christine (module responsibility) • Lehrenden, Die im Modul (Prüfungsberechtigt)	
Prerequisites		
Skills to be acquired in this module	Die Studierenden • erwerben Kenntnisse des maritimen (zivilistischen) und des marinen (öffentlichen) Seerechts und deren Verschränkung in den Rechtsebenen und mit dem kontinentalen Wasserrecht. • sind in der Lage, seerechtliche Fragestellungen zu analysieren und lösungsorientiert zu bearbeiten. • können Forschungsfragen interdisziplinär entwickeln und bearbeiten.	
Module contents	Das Modul "Marine & Maritime law in Europe" beinhaltet zwei Veranstaltungen mit jeweils 28 SWS. Die Veranstaltung "Marine Law" behandelt das öffentlich-rechtliche Seerecht, das die Zuordnung und Nutzung der Seeressourcen regelt (Fisch, Seewege, Energie [Wind, Öl, Gas], Verklappung, Schutzgebiete, deep sea mining und Bioprospektion, Küstenschutz). Die Veranstaltung "Maritime Law" behandelt den internationalen Seeverkehr. Themen sind die Beförderung von Gütern auf dem Seeweg (u.a. Haag-Visby Regeln), die Haftung für Güterverluste, Unfälle, Kollisionen, Bergung und Sanierung, sowie Hafenrecht und Schiffsbau.	
Literaturempfehlungen	Rothwell, D. (Hrsg.) (2015), <i>The Oxford Handbook of the Law of the Sea</i>, Oxford Univ. Press, Oxford. Jessen, H./Werner, M.J. (Hrsg) (2016), <i>EU Maritime Transport Law</i>, Nomos [u.a.], Baden-Baden. Rogers, A./Chuah, J./Dockray, M. (2016), <i>Cases and Materials on the Carriage of Goods by Sea</i>, Routledge, London [u.a.]. Zacharias, M. (2014), <i>Marine Policy. An Introduction to Governance and International Law of the Oceans</i>, Routledge, London [u.a.].	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	jährlich	
Module capacity	unlimited	
Examination	Prüfungszeiten	Type of examination
Final exam of module	Während der Vorlesungszeit	Referat oder Hausarbeit oder mündliche Prüfung
Lehrveranstaltungsform	Seminar	

(
2 SE
)

SWS	4
Frequency	SoSe und WiSe

Science

wcm190 - Selected Topics in Environmental Sciences

Module label	Selected Topics in Environmental Sciences	
Modulkürzel	wcm190	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Science	
Zuständige Personen	- Siebenhüner, Bernd (module responsibility) - Klenke, Thomas (module responsibility) - Freund, Holger (Module counselling) - Giani, Luise (Module counselling) - Buchwald, Rainer (Module counselling) - Peinke, Joachim (Module counselling) - Massmann, Gudrun (Module counselling) - Giani, Luise (Prüfungsberechtigt) - Klenke, Thomas (Prüfungsberechtigt) - Buchwald, Rainer (Prüfungsberechtigt) - Freund, Holger (Prüfungsberechtigt) - Massmann, Gudrun (Prüfungsberechtigt) - Peinke, Joachim (Prüfungsberechtigt)	
Prerequisites	None	
Skills to be acquired in this module	In-depth knowledge about processes and systems relevant for sustainable management using knowledge and methodologies from all science disciplines in an integrated way. Familiarity with approaches to problem-driven, transdisciplinary research and management. Ability to present and evaluate different concepts of environmental science for sustainable management. Skills in elaborating on complex tasks of environmental management using an interdisciplinary science based approach and to present related findings to non-expert audiences.	
Module contents	Problem-driven learning about environmental science in different scientific contexts of water management and regional development. Studies to understanding the complexity of sustainability and science in management. Use of relevant methods in the field or lab. Discussing topics of environmental sciences with researchers, students and practitioners from different scientific disciplines or sectors.	
Literaturempfehlungen	A 'foundation material pool' will be made available online for students and lecturers providing paper books, reports and media covering the topics of the lecture and the cases	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	halbjährlich	
Module capacity	unlimited	
Reference text	Lecture room presentations and discussions based on slides and black/white board usage. Short films will be presented. Practical work.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		
Lehrveranstaltungsform	Seminar	
Frequency		

wcm350 - Bioenergy

Module label	Bioenergy	
Modulkürzel	wcm350	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Science	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	The module is intended to enable students to deal with different forms of bioenergy and their current perspectives. In doing so, they gain competences in the basic natural sciences of physics, chemistry and biology as well as in terms of energetic, technical, ecological and economic aspects, which must be taken into account for the synoptic evaluation of different forms of bioenergy.	
Module contents	The module gives an insight into the historical origin and development, the scientific, procedural, energetic, ecological (including nature conservation) and economic fundamentals of bioenergy. Special attention is given to the perspectives of different forms of bioenergy, thus equally to their possibilities and limitations. a) Lecture "Perspectives of Bioenergy" (compulsory part) b) Seminar "Forms and Examples of Bioenergy" (optional to c) c) Exercise "Practical Bioenergy" (optional to b)	
Literatureempfehlungen		
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	halbjährlich	
Module capacity	unlimited	
Examination	Prüfungszeiten	Type of examination
Final exam of module		PS
Lehrveranstaltungsform	Lecture	
SWS	2	
Frequency		

lök210 - Practice of Nature Conservation

Module label	Practice of Nature Conservation
Modulkürzel	lök210
Credit points	6.0 KP
Workload	180 h
Verwendbarkeit des Moduls	• Master's Programme Landscape Ecology (Master) > Wahlpflichtmodule • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Science
Zuständige Personen	• Mose, Ingo (module responsibility) • Mose, Ingo (Module counselling) • Buchwald, Rainer (Prüfungsberechtigt) • Dörfler, Inken (Prüfungsberechtigt) • Mose, Ingo (Prüfungsberechtigt) • Fartmann, Thomas (Prüfungsberechtigt) • Janßen, Hans-Joachim, Dipl.-Ing. (Prüfungsberechtigt)
Prerequisites	Completed ecology-oriented Bachelor course
Skills to be acquired in this module	With the successful completion of the module the students will gain a general and advanced knowledge of crucial approaches and instruments of nature conservation in Germany and Europe, especially of the implementation of large protected areas (NSG, biosphere reserve, national park etc.), of maintenance/management projects and measures as well as of approaches to their integration into nature conservation and regional development strategies (via agriculture, tourism etc.) in co-operation with national park administrative authorities and other relevant actors. Additionally, the module gives basic skills in developing ecological connectivity systems (example dragonflies) as well as in developing and implementing approaches to ecological planning inside and outside the nature reserves. Ranking/position of the module within the course of studies: The module focuses on problems, methods, results, and analyses relevant to nature conservation and refers to corresponding issues of modules in Bachelor courses as well as of basic modules in Master courses of Landscape Ecology.
Module contents	a) Seminar "Protected areas and regional development": Survey of the most important types of large protected areas in Europe as well as current concepts of integrating the purposes of conservation with the tasks of regional development especially in peripheral rural areas b) Seminar "Introduction to the German Nature Conservation Law": This course deals with some parts of the Nature Conservation Law of Germany and Lower Saxony and discusses their relevance to the actual Nature Conservation policy in Northwest-Germany. this seminar takes place in the winter term c) Field course "Habitat connectivity": Theory of ecological connectivity including causes and impacts of fragmentation and isolation in nature-near biotopes; investigation of migration and dispersal behaviour in selected dragonfly species of ditch systems d) Excursion "Protected areas": Presentation of a selected large protected area in Germany or Europe especially considering geographical, floristic, faunistic, historical, agricultural, and nature conservation aspects as well as aspects of landscape and economics
Literaturempfehlungen	Amler, K. et al. (1999): Populationsbiologie in der Praxis. Stuttgart. Corbet, Ph. S. (1999): Dragonflies: Behaviour and ecology of Odonata. Chichester. Hammer, T. (ed., 2003): Großschutzgebiete - Instrumente nachhaltiger Entwicklung. München. Jedicke, E. (1990): Biotopverbund. Stuttgart. Jessel, B. & K. Tobias (2002): Ökologisch orientierte Planung. Stuttgart. Köppel, J. et al. (1998): Praxis der Eingriffsregelung. Stuttgart. Mose, I. (ed., 2007): Protected areas and regional development in Europe. Aldershot. Sternberg, K. & R. Buchwald (1999/2000): Die Libellen Baden-Württembergs; 2 volumes. Stuttgart.
Links	https://www.uni-oldenburg.de/vegetationskunde/
Languages of instruction	German, English
Duration (semesters)	1 Semester
Module frequency	jährlich
Module capacity	35

Examination		Prüfungszeiten	Type of examination	
Final exam of module		Before the end of the module	6 CP = Paper (in the course of a seminar) or excursion report or assignment	
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		1		14
Exercises		1		14
Seminar		2		28
Study trip		3		42
Präsenzzeit Modul insgesamt				98 h

wir905 - Environmental Sciences

Module label	Environmental Sciences		
Modulkürzel	wir905		
Credit points	6.0 KP		
Workload	180 h		
Verwendbarkeit des Moduls	• Master's Programme Computing Science (Master) > Module aus anderen Studiengängen • Master's Programme Sustainability Economics and Management (Master) > Basic Modules • Master's Programme Water and Coastal Management (Master) > Science		
Zuständige Personen	• Freund, Holger (Module counselling) • Köster, Jürgen (Module counselling) • Dozent, Gast (Module counselling) • Klenke, Thomas (Prüfungsberechtigt) • Freund, Holger (Prüfungsberechtigt) • Köster, Jürgen (Prüfungsberechtigt) • Klenke, Thomas (module responsibility)		
Prerequisites			
Skills to be acquired in this module	The Introduction to processes and systems of the dynamic Earth constituting the foundation for sustainable management is presented to produce: • Knowledge about processes and systems relevant for sustainable management using knowledge and methodologies from all science disciplines in an integrated way. • Skills in elaborating on complex tasks of environmental management using an interdisciplinary science based approach and to present related findings to non-expert audiences. • Lecture room presentations and discussions based on slides and black/white board usage. Short films will be presented to endorse the intended achievements.		
Module contents	Lecture: Understanding the Bioplanet Earth (2 contact hours/week) (Vorlesung, 2 LVS: Aufbau und Entwicklungsgeschichte der Erde; Dynamik der Erde: Kreisläufe und Evolutionsprozesse; Lebensraum Boden; Wasser; Klima; Biodiversität; Lagerstätten und Ressourcenerschließung; Ökosysteme der Erde.) Seminar: Cases in Understanding the Bioplanet Earth (2 contact hours/week) Introduction to key processes and to systems dynamics of the Earth representing a planet being alive driven by external and internal forces interacting with biological activities. Topics of the lecture comprise introductions to the evolution of the universe and solar systems, the differentiation and sub-systems of the Earth's interior, minerals and rock cycle, soils, ocean and climate, evolution and biodiversity, organisms and physiology, water and element cycling plus insights into ecosystems under different climate conditions. The cases are selected in order to (i) highlight certain principles and theories in geo- and biosciences and (ii) exemplify critical objects and phenomena in modern practice of resource and environmental management. This module consists of topical programmes of the Master Cluster Environment and Sustainability.		
Literatureempfehlungen	A 'foundation material pool' will be made available online for students and lecturers providing paper books, reports and media covering the topics of the lecture and the cases		
Links			
Language of instruction	English		
Duration (semesters)	1 Semester		
Module frequency	jährlich		
Module capacity	unlimited		
Examination	Prüfungszeiten	Type of examination	
Final exam of module	By the end of the lecture period.	Presentation/discussion and written report on a case; Scientific quality of presentation (40 %) Clarity of presentation and discussion (20 %) Scientific quality of report (40 %)	
Lehrveranstaltungsform	Comment	SWS	Frequency
			Workload of compulsory attendance

Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		2		28
Seminar		2		28
Präsenzzeit Modul insgesamt				56 h

lök290 - Perspectives of Bioenergy

Module label	Perspectives of Bioenergy			
Modulkürzel	lök290			
Credit points	6.0 KP			
Workload	180 h			
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Science			
Zuständige Personen	- Buchwald, Rainer (module responsibility) - Buchwald, Rainer (Prüfungsberechtigt) - Klenke, Thomas (Prüfungsberechtigt) - Pehlken, Alexandra (Prüfungsberechtigt) - Wark, Michael (Prüfungsberechtigt) - Buchwald, Rainer (Module counselling) - Klenke, Thomas (Module counselling) - Wark, Michael (Module counselling)			
Prerequisites	Bachelor studies of Natural Science, Environmental Science or Economics			
Skills to be acquired in this module	The module qualifies students to deal with the different forms of bioenergy and their current perspectives. Hereby, they acquire competences in the scientific basal subjects of physics, chemistry, and biology as well as with respect to the energetic, technical, ecological, and economic aspects that have to be considered for a synoptic assessment of different forms of bioenergy.			
Module contents	Das Wahlpflichtmodul gibt einen Einblick in die historische Entstehung und Entwicklung, die naturwissenschaftlichen, verfahrenstechnischen, energetischen, ökologischen (incl. naturschutzfachlichen) und ökonomischen Grundlagen der Bioenergie. Besonderes Augenmerk wird auf die Perspektiven verschiedener Formen der Bioenergie, gelegt, damit gleichermaßen auf ihre Möglichkeiten und Grenzen. a) Vorlesung "Perspektiven der Bioenergie" (Pflichtteil) b) Seminar "Formen und Beispiele der Bioenergie" (wahlweise zu c) c) Übung "Praktische Bioenergie" (wahlweise zu b)			
Literaturempfehlungen				
Links	https://www.uni-oldenburg.de/vegetationskunde/			
Languages of instruction	German, English			
Duration (semesters)	1 Semester			
Module frequency	jährlich			
Module capacity	unlimited			
Examination	Prüfungszeiten	Type of examination		
Final exam of module	Before the end of the module	Assignment (for the seminar or for the exercise, alternatively) and presentation of 30 min. for a) not marked		
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		2		28
Exercises		2		28
Seminar		2		28
Präsenzzeit Modul insgesamt				84 h

Socioeconomics

wir876 - Topics in Economic Research

Module label	Topics in Economic Research			
Modulkürzel	wir876			
Credit points	6.0 KP			
Workload	180 h			
Verwendbarkeit des Moduls	• Master Applied Economics and Data Science (Master) > Economics • Master's Programme Water and Coastal Management (Master) > Socioeconomics			
Zuständige Personen	• Bitzer, Jürgen (module responsibility) • Böhringer, Christoph (module responsibility) • Helm, Carsten (module responsibility) • Trautwein, Hans-Michael (module responsibility) • Huse, Cristian (module responsibility) • Gören, Erkan (module responsibility) • Asane-Otoo, Emmanuel (module responsibility) • Lehrenden, Die im Modul (Prüfungsberechtigt) • Lehrenden, Die im Modul (Module counselling)			
Prerequisites				
Skills to be acquired in this module	Students have the opportunity to take an economics module of their choice (worth 6 CP) at the master's level. This can also take place at another university or during studies abroad. Students are required to: • independently engage with a topic using scientific methods, • independently research and make use of current academic literature, • integrate their topic into an academic discussion.			
Module contents	This is dependent upon the module chosen.			
Literatureempfehlungen				
Links				
Languages of instruction				
Duration (semesters)	1 Semester			
Module frequency	halbjährlich			
Module capacity	unlimited			
Examination	Prüfungszeiten	Type of examination		
Final exam of module	will be announced in the first session	term paper or presentation or written exam or oral exam or portfolio.		
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Course or seminar (oder Kolloquium)		4	SoSe	56
Colloquium			SoSe	0
Exercises			SoSe und WiSe	0
Präsenzzeit Modul insgesamt				56 h

wir878 - Public Economics and Market Design

Module label	Public Economics and Market Design			
Modulkürzel	wir878			
Credit points	6.0 KP			
Workload	180 h			
Verwendbarkeit des Moduls	• Master Applied Economics and Data Science (Master) > Economics • Master's programme Social Sciences (Master) > Wahlpflichtmodule anderer Institute und Departments • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Socioeconomics			
Zuständige Personen	• Lehrenden, Die im Modul (Module counselling) • Helm, Carsten (Module counselling) • Helm, Carsten (module responsibility) • Lehrenden, Die im Modul (Prüfungsberechtigt)			
Prerequisites	none			
Skills to be acquired in this module	The students are able • to understand sources of market failures and government failures • understand taxing and spending activities of governments • understand the distinction between normative and positive perspectives in the evaluation of government policy • to apply economic methods to current issues in public economics • present their research result in the form of written papers and oral presentations			
Module contents	• The course covers key concepts of public economics, which studies how government taxing and spending activities affect the economy – economic efficiency and the distribution of income and wealth. Lecture: After introducing the theory and methodology of public economics, we discuss a historical and theoretical overview of the public sector. We then focus on departures from efficiency (especially asymmetric information), taxation issues (including tax evasion, fiscal federalism and tax competition among independent jurisdictions), and the intertemporal issue of social security (especially pension system). Seminar: covers current issues in public economics, e.g. reform of health care or pension system.			
Literatureempfehlungen	• Hindriks, J. and G. D. Myles (2013): Intermediate Public Economics, MIT Press, Cambridge. • Rosen, H.S. and T. Gayer (2010): Public Finance, Mcgraw-Hill Higher Education. • Blankart, C. B. (2011): Öffentliche Finanzen in der Demokratie, Vahlen, München. • Corneo, G. (2009): Öffentliche Finanzen: Ausgabenpolitik, Mohr Siebeck, Tübingen.			
Links	http://www.fwi.uni-oldenburg.de/			
Languages of instruction	German, English			
Duration (semesters)	1 Semester			
Module frequency	jährlich			
Module capacity	30			
Reference text	The seminar will be conducted as a block seminar			
Examination	Prüfungszeiten		Type of examination	
Final exam of module	end of semester		seminar paper end presentation	
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance

Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Vorlesung und Seminar		2	SoSe	28
Seminar		2		28
Präsenzzeit Modul insgesamt				56 h

wir902 - Perspectives and Instruments of Corporate Sustainability

Module label	Perspectives and Instruments of Corporate Sustainability
Modulkürzel	wir902
Credit points	6.0 KP
Workload	180 h
Verwendbarkeit des Moduls	• Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule NM-BWL • Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule RdW - BWL • Master's Programme Business Informatics (Master) > Module der Wirtschafts- und Rechtswissenschaften (Master) • Master's programme Social Sciences (Master) > Wahlpflichtmodule anderer Institute und Departments • Master's Programme Sustainability Economics and Management (Master) > Basic Modules • Master's Programme Water and Coastal Management (Master) > Socioeconomics
Zuständige Personen	• Siebenhüner, Bernd (module responsibility) • Lehrenden, Die im Modul (Prüfungsberechtigt)
Prerequisites	No
Skills to be acquired in this module	- Knowledge on the basic concepts and strategies of sustainability management related to corporate practice: * Sustainability: Basic concepts, strategies, * Domestic and international challenges for business, * Business case for sustainable development, * Integrative concepts of sustainable corporations, * Sustainable strategies, * Management instruments - Discussing topics of international sustainability management with students from different scientific disciplines. - Ability to present and evaluate different concepts and instruments of international sustainability management
Module contents	This module consists of a one lecture and one seminar (2 weekly contact hours per lecture/seminar) dealing with basic concepts and strategies of sustainability management within corporations. Both, lecture and seminar give an overview of current sustainability strategies for companies and present a variety of instruments to integrate and initiate sustainable development within corporations. While the lecture focuses more on theoretical approaches and introduces basic concepts of corporate sustainability management, the seminar provides a variety of case studies and business cases to demonstrate different concepts and instruments of sustainability management. The seminar provides the possibilities for inter- and transdisciplinary exchange and discussions.
Literatureempfehlungen	BMU/BDI (Eds.) 2002: Sustainability Management in Business Enterprises. CSM, University of Lueneburg (Schaltegger, Herzig, Kleiber, Müller), http://www.w2.leuphana.de/umanagement/csm/content/nama/downloads/pdf-dateien/nmu_fs_engl_final.pdf Charter, Martin/Tischner, Ursula (Eds.) (2001): Sustainable Solutions, Developing Products and Services for the Future, Sheffield: Greenleaf; Board on Sustainable Development of the National Research Council, 1999 Our Common Journey: A Transition Toward Sustainability. Washington D.C.: National Academy Press; Dyllick, Thomas, and Kay Hockerts, 2002 "Beyond the Business Case for Corporate Sustainability." Business Strategy and the Environment, 2002: 130-141; Gladwin, T., et al., 1995 "Shifting paradigms for sustainable development: Implications for management theory and research." Academy of Management Review, 20: 874 - 907; Hart, Stuart, 1997 "Strategies for a sustainable world." Harvard Business Review, January-February 1997: 67-76; Holliday, Charles O., et al., 2002 Walking the Talk. The Business Case for Sustainable Development. Sheffield: Greenleaf; Hutchinson, Andrew, and Frances Hutchinson, 1997 Environmental Business Management: Sustainable Development in the New Millennium. London u.a.: McGraw-Hill. Shrivastava, Paul, and Stuart L. Hart, 1995 "Creating sustainable corporations." Business

Links				
Language of instruction		English		
Duration (semesters)		1 Semester		
Module frequency		jährlich		
Module capacity		unlimited		
Examination	Prüfungszeiten		Type of examination	
Final exam of module				
		to be announced at the beginning of the course	to be announced at the beginning of the course	
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		2		28
Seminar		2		28
Präsenzzeit Modul insgesamt				56 h

wir919 - Topics in Sustainability Economics and Management I

Module label	Topics in Sustainability Economics and Management I	
Modulkürzel	wir919	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule NM-BWL • Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule RdW - BWL • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Socioeconomics	
Zuständige Personen	• Siebenhüner, Bernd (Prüfungsberechtigt) • Sievers-Glotzbach, Stefanie (Prüfungsberechtigt) • Wolter, Hendrik (Prüfungsberechtigt) • Siebenhüner, Bernd (module responsibility)	
Prerequisites		
Skills to be acquired in this module	Learning about sustainability, economics and management in different scientific contexts. Understanding the complexity of sustainability, economics and management. Discussing topics of sustainability, economics and management with students from different scientific disciplines. Ability to present and evaluate different concepts of sustainability, economics and management	
Module contents	This module consists of two seminars (2 weekly contact hours per seminar) dealing with selected topics from the broad field of sustainability, economics and management. Out of a variety of several seminars the student can choose two most suitable seminars depending on individual choices. The seminars and the seminar contents vary each semester to provide topics relevant for current discussions within the broad field of sustainability, economics and management. Intentionally seminars from several research fields and faculties are offered to also combine different point of views and to bring students from different scientific backgrounds together. The seminars provide the possibilities for inter- and transdisciplinary exchange and discussions.	
Literatureempfehlungen	Depending on the topic and content of each seminar	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	yearly	
Module capacity	unlimited	
Examination	Prüfungszeiten	Type of examination
Final exam of module	to be announced during the seminar	Term paper, presentation or oral exam
Lehrveranstaltungsform	Seminar	
SWS	4	
Frequency		

wir939 - Topics in Sustainability Economics and Management II

Module label	Topics in Sustainability Economics and Management II	
Modulkürzel	wir939	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule NM-BWL • Master's programme Business Administration: Management and Law (Master) > Schwerpunktmodule RdW - BWL • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Socioeconomics	
Zuständige Personen	• Siebenhüner, Bernd (Prüfungsberechtigt) • Sievers-Glotzbach, Stefanie (Prüfungsberechtigt) • Wolter, Hendrik (Prüfungsberechtigt) • Siebenhüner, Bernd (module responsibility)	
Prerequisites	No	
Skills to be acquired in this module	Learning about sustainability, economics and management in different scientific contexts. Understanding the complexity of sustainability, economics and management. Discussing advanced topics of sustainability, economics and management with students from different scientific disciplines. Ability to present and evaluate different concepts of sustainability, economics and management.	
Module contents	This module consists of two seminars (2 weekly contact hours per seminar) dealing with selected topics from the broad field of sustainability, economics and management. Out of a variety of several seminars the student can choose two most suitable seminars depending on individual choices. The seminars and the seminar contents vary each semester to provide topics relevant for current discussions within the broad field of sustainability, economics and management. Intentionally seminars from several research fields and faculties are offered to also combine different point of views and to bring students from different scientific backgrounds together. The seminars provide the possibilities for inter- and transdisciplinary exchange and discussions.	
Literatureempfehlungen	Depending on the topic and content of each seminar	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	jährlich	
Module capacity	unlimited	
Examination	Prüfungszeiten	Type of examination
Final exam of module	To be announced during the seminar	Term paper, presentation or oral exam
Lehrveranstaltungsform	Seminar	
SWS	4	
Frequency		

wir924 - Ecological Economics

Module label	Ecological Economics	
Modulkürzel	wir924	
Credit points	6.0 KP	
Workload	180 h	
Verwendbarkeit des Moduls	• Master's Programme Environmental Modelling (Master) > Mastermodule • Master's Programme Sustainability Economics and Management (Master) > Additional Modules • Master's Programme Water and Coastal Management (Master) > Socioeconomics	
Zuständige Personen	• Sievers-Glotzbach, Stefanie (module responsibility) • Siebenhüner, Bernd (module responsibility) • Lehrenden, Die im Modul (Module counselling) • Lehrenden, Die im Modul (Prüfungsberechtigt)	
Prerequisites	None	
Skills to be acquired in this module	The students: -get an overview of the current state of research in Ecological Economics -know and understand core concepts and policy implications of Ecological Economics -deepen their knowledge on one specific topic from the field of Ecological Economics -improve skills in reading, interpreting and presenting academic journal papers	
Module contents	Ecological Economics is concerned with integrating the study and management of "nature's household" (ecology) and "humankind's household" (economics). This integration is central to many of humanity's current problems and to governing economic activity in a way that promotes human well-being, sustainability, and justice. The aim of this module is to introduce students to core concepts and policy implications from the field of Ecological Economics. The module consists of two seminars. -Lecture/seminar "Ecological Economics": This lecture/seminar is structured into three parts. First, students are being introduced to the topic by two lectures on the specific vision and paradigms of Ecological Economics as distinguished from environmental & resource economics and on the history of Ecological Economics. Second, the students work out and discuss the core analytical concepts (such as entropy, ecosystem services, social-ecological resilience, substitutability of natural capital) as well as the core normative concepts (including distributive justice, human behavior) in Ecological Economics. Third, the students discuss and reflect certain policy implications following from Ecological Economics – specifically the measurement of welfare, economics of degrowth, governance of resources as commons, and social-ecological transformation. The basis for discussion will be classical and current scientific papers. -Specialization seminar: Depending on current research foci and research projects of the Working Group of Ecological Economics, an additional seminar will give a deeper understanding of a specific research area in Ecological Economics (e.g., Social-Ecological Resilience, (De)Growth Concepts (Green Growth, Postgrowth, Degrowth), Commons).	
Literatureempfehlungen	Costanza, R. (2001). Visions, Values, Valuation, and the Need for an Ecological Economics. <i>BioScience</i>, 51(6), 459-468. Daly, H. E. (2005). Economics in a full world. <i>Scientific American</i>, 293(3), 100-107. Røpke, I. (2004). The early history of modern ecological economics. <i>Ecological Economics</i> 50: 293-314. Røpke, I. (2005). Trends in the development of ecological economics from the late 1980s to the early 2000s. <i>Ecological Economics</i> 55: 262-290.	
Links		
Language of instruction	English	
Duration (semesters)	1 Semester	
Module frequency	Yearly in the summer term	
Module capacity	unlimited	
Examination	Prüfungszeiten	Type of examination
Final exam of module	1 Hausarbeit oder	

Examination		Prüfungszeiten	Type of examination	
			1 Referat oder 1 Klausur oder 1 mündliche Prüfung oder 1 Portfolio oder 1 Projektbericht	
Lehrveranstaltungsform	Comment	SWS	Frequency	Workload of compulsory attendance
Lecture		2	SoSe oder WiSe	28
Seminar		2	SoSe oder WiSe	28
Präsenzzeit Modul insgesamt				56 h

Area of specialisation

wcm230 - Dilemmas in Infrastructure Planning

Module label	Dilemmas in Infrastructure Planning	
Modulkürzel	wcm230	
Credit points	5.0 KP	
Workload	150 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Area of specialisation	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	After following this course the students are able to: 1. Describe general debates on network and governance theory; 2. Convert these debates into two perspectives – a network perspective and a governance perspective – which can be used to gain insight into developments in infrastructure planning practice; 3. Apply these perspectives on the fields of waterway, energy and road infrastructure planning in order to gain insight into planning problems, dilemmas and potential solutions; 4. Critically reflect on these problems and dilemmas in planning practice and to develop smart institutional designs to deal with these problems and dilemmas; 5. Communicate and persuasively present relevant institutional designs to an audience that includes both peers as well as planning professionals.	
Module contents	Originalfassung This course focuses on network and governance dilemmas that arise in the planning and realization of different kinds of infrastructure networks. In three thematic blocks three waterway, energy and road infrastructure networks will be covered. In total, the course consists of four thematic blocks, as the first block focuses on the general debates on network and governance theory and translates these debates into two main perspectives – a network perspective and a governance perspective. Each of the three thematic blocks will be discussed on the basis of both perspectives. The end of each block is marked by a formative exam. At the end of the thematic blocks there are also mandatory excursions with assignments. Costs may have to be made for these excursions.	
Literatureempfehlungen		
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMDILEIP for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Assignments, Mid-term tests digital
Lehrveranstaltungsform	Seminar	
Frequency		

wcm240 - Planning Methods and Evaluation

Module label	Planning Methods and Evaluation
Modulkürzel	wcm240
Credit points	5.0 KP
Workload	150 h
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Area of specialisation
Zuständige Personen	
Prerequisites	
Skills to be acquired in this module	Planning Methods for Smart Governance After successfully completing the course unit, students are able to: (1) Explain different theoretical perspectives on the role of planning methods. (2) Apply a selection of planning methods in a specific case and translate the method's outcomes in a spatial policy advice. (3) Reflect on the value, use and performance of planning methods in smart policy design. (4) Clearly present the outcomes of the planning methods as well as the knowledge and motives behind these methods to specialist and non-specialist audiences. Project and Programme Management After following this course students will be able to: 1. describe general characteristics of project, process, multi-project and programme management strategies 2. describe and explain the differences in context the different management strategies require; 3. analyse the success and failure of each management strategy; 4. evaluate under which circumstances which of the management strategies is appropriate;
Module contents	Planning Methods for Smart Governance Complexity and uncertainties are intrinsically part of spatial design problems. By applying planning support and evaluation methods, planners try to deal with these uncertainties and, often, reduce complexity. Worldwide, a wide-ranging assortment of planning methods is applied in policy-design practice. Some generic functions of these methods include complex problem structuring ('problems first'), generating and defining scenarios, analysing and visualizing impacts, and selecting and comparing alternative solutions for these problems. The format of the methods and the way their performance is perceived strongly depends on underlying theoretical views on policy design. (e.g., goal-oriented, interactive, institutional). This course provides students with knowledge about the smart use of planning methods in governance from different theoretical perspectives. The meaning of 'smart' relates to (1) high performance of methods in governance, (2) the use of innovative methods and (3) increase in available open data and crowdsourced data. More in detail, the conditions for successful application of methods based on problem structuring, scenario development and GIS-based Multi Criteria Analysis will be discussed. Students reflect on the value, use and performance of these methods in policy design. Part of the course is a group assignment on a self-chosen spatial design question. The aim of this assignment is to write a spatial policy advice. This will be based on the findings produced by using and integrating several planning methods related to problem solving, scenario development and GIS-based MCA. The students will complete a portfolio that – stepwise – builds up to the final policy advice. Critical reflection on the contribution of planning methods in smart governance will be part of the assignment. Project and Programme Management This course focuses on the different management strategies that are used in planning practice. We use a framework which distinguishes both between output and outcome-oriented management strategies as well as between internal and external orientation. Output can be seen as specific products that are produced: for example, the number of highway miles built and repaired. Outcomes are the difference made by the output: better traffic flow, shorter travel times, and fewer accidents. An internal orientation is reflected in management strategies that are defensive towards their context, while this is the other way around with an external orientation. On the basis of this framework we discuss four management strategies: project, process, multi-project and programme management. Each of the management strategies is not only discussed in theory, but also planning practitioners are invited to reflect on how these strategies work in practice. An assignment is also part of the course. In the assignment, students are required to read a business novel – which might need to be purchased – and reflect in groups on the management strategies that can be found in these books. In this way, students are both

trained to understand the theoretical principals of the different approaches, as well as gain an understanding how these strategies work in practice and what are important elements to take into account.

Literaturempfehlungen		
Links		
Language of instruction		English
Duration (semesters)		1 Semester
Module frequency		
Module capacity		unlimited
Reference text		Für das Modul kann aus den beiden Veranstaltungen „Planning Methods for Smart Governance“ und „Project and Programme Management“ gewählt werden.
Examination	Prüfungszeiten	Type of examination
Final exam of module		G
Lehrveranstaltungsform	Seminar	
Frequency		

wcm250 - Transitions in Water Management

Module label	Transitions in Water Management
Modulkürzel	wcm250
Credit points	5.0 KP
Workload	150 h
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Area of specialisation
Zuständige Personen	
Prerequisites	
Skills to be acquired in this module	The aim of this course is to provide students with theories and concepts to describe and explain current transitions in water management, which are aimed at a more integrated and adaptive management of water issues. The course focuses in particular on the flood risk management of open water bodies or surface water in delta areas where rivers and coastal areas come together – on creating flood resilient delta areas. After completion of the course, students must be able to (6A): 1. Describe the characteristics and challenges of surface water systems, with a particular focus on delta areas where rivers and coastal zones come together. (1E) (4B) 2. Describe and explain various concepts of transition, transition management, adaptive capacity and resilience. (1B) (1C) (1G) (3E) 3. Drawing on these theoretical explorations, identify and analyse current transitions in water management in delta areas, which are aimed at a more integrated and adaptive management of water issues. (1G) (2C) (2F) (6A) (5E) 4. Comment on issues and dilemmas in current practices of water transition management. (1C) (2H) (2J) (3C) 5. Suggest and develop possible water management strategies and measures to manage water transitions. (1A) (2A) After completing the assignment, students are able to: Provide an overview of and explain current problems and dilemmas regarding a specific water management transition (3G) Use insights from transition theory to conceptualize and provide a historical overview of the transition under study and explain why it is useful to frame issues as a transition (1G) (5E) Develop an innovative strategic policy plan which is aimed to solve the current problems and dilemmas, and which builds on insights from transition management theory (2K) (4A) (4B) (5D)
Module contents	Due to urbanisation and the potential impacts of climate change, flood risks in delta areas are increasing, and, as a consequence, water management is high on the international political and societal agenda. Worldwide, the need is recognized to develop strategies and measures to adapt land use to the already occurring effects of climate change, and to develop integrated and adaptive approaches for dealing with water issues in low-lying urban deltas. The development and implementation of these integrated and adaptive approaches is however not an easy task, as they often involve a substantive and/or governance transition in water management. Drawing on a theoretical exploration of the nature of transitions (including the notions of resilience and adaptive capacity) and the way in which transitions can be managed, the course focuses on identifying current transitions in water management in relation to climate change, and on discussing issues and dilemmas in the attempts to manage these water transitions in establishing resilient delta areas. Through assignments, students will develop the capacity to suggest practical strategies and possibilities for water transition management for specific planning situations.
Literatureempfehlungen	

Links**Languages of instruction**

Duration (semesters)	1 Semester
Module frequency	halbjährlich
Module capacity	unlimited
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMTRWATM for more information about this course.

Examination	Prüfungszeiten	Type of examination
Final exam of module		Examination with open questions, Group assignments (and peer-review reports)

Lehrveranstaltungsform	Seminar
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Frequency

wcm260 - Comparative Research and Planning Practice

Module label	Comparative Research and Planning Practice
Modulkürzel	wcm260
Credit points	5.0 KP
Workload	150 h
Verwendbarkeit des Moduls	• Master's Programme Water and Coastal Management (Master) > Area of specialisation
Zuständige Personen	
Prerequisites	
Skills to be acquired in this module	The aim of this course is to compare planning systems, practices and cultures in different countries (with a focus on Europe and Asia) and to draw lessons from such comparisons. A supplementary aim of the course is to provide students with the methodological tools (e.g. lesson drawing; policy transfer) to do international comparative research. Comparative analysis allows students to determine the possibilities of transferring planning (best) practices from one specific national/planning context to another, to critique different systems as well as to draw other generic lessons from the comparisons. After completion of the course students will be able to (6A) (6B): 1. Compare the historic, cultural and political contexts that shape different planning systems (2I) (5C) 2. Describe how specific planning tools and techniques operate within a particular context (3A) (3C) (3D) 3. Apply concepts, tools and techniques from 'lesson drawing', 'policy transfer' and 'comparative research' (1B) (2K) (2L) (5C) (6C) 4. Evaluate the opportunities and challenges for cross cultural learning with regard to particular themes/tools/techniques (1B) (3D) (3F) 5. Collaborate in a systematic way in planning and presenting results of a comparative research project and evaluate comparative analysis produced by peers on their completeness, accuracy and relevance and critically reflect on own research process and outcomes (3E) (6C) (D). Assignment: After completing this assignment, the student is able to (2D) (2E) (2F) (2G) (2I) (2L) (4A) (4C) (4D) (5A) (5B) (6B): • Develop a sound problem definition that expresses the relevance and urgency of analyzing a specific spatial planning problem in an international context (1A) (2A) (3G) (4B) • Assess to what extent a comparison of planning system, policies and practices between two countries is feasible and reliable (1D) (2B) (3A) (5C) • Compare the historic, cultural and political contexts that shape different planning systems (1F) (5C) • Describe how specific planning tools and techniques operate within a particular context (1F) • Identify opportunities and barriers for successful policy transfer (2K) (5D) and • Collaborate in a systematic way in planning and presenting results of a comparative research project and evaluate comparative analyses produced by peers on their completeness, accuracy and relevance and critically reflect on own research process and outcomes (3E) (6C) (6D)
Module contents	The aim of this course is to compare planning systems, practices and cultures in different countries (focusing predominantly on Europe) and to draw lessons from such comparisons. A supplementary aim of the course is to provide students with the methodological tools (e.g. qualitative comparative analysis, case study approach, lesson drawing, policy transfer) to do international comparative research. Comparative analysis allows students to better understand planning systems and practices in their country of origin, to determine possibilities for drawing lessons from planning systems and practices in other (national) planning contexts, to critique different systems as well as to draw other generic lessons from across the borders. Spatial planning practices –including environmental and infrastructure planning ones – remain highly diverse among different countries. Important issues can vary as a result of physical circumstances, institutional designs and national history. National cultures can be supportive or unsupportive of a planned intervention. The institutional context of spatial, environmental and infrastructure planning is closely related to national judicial traditions and constitutional make-up of the

state. As a result, strategies to influence spatial development are contingent to national circumstances. The CRPP course will provide an overview of related planning practices, systems and their institutional design. In order to set the context and to explain the history and development of a particular planning system, one individual country is at the focus of each so called 'case' lecture. Within the context of each country subsequently the key institutions, powers, limitations and strengths of the planning system are explored through an examination of particular tools, themes and techniques that operate within. Alongside, in the 'methods' lectures an introduction is given into qualitative comparative analysis, case study approach, lesson drawing and policy transfer as useful methods to analyze, understand and draw inspiration from different national planning systems and practices. In addition to completing a written exam, students are expected to demonstrate their knowledge and understanding of doing comparative research by completing a group assignment with the focus on transferring a (successful) policy/drawing lessons from one national/institutional/cultural context to another while being sensitive and critical towards national/institutional/cultural differences, opportunities and limitations.

Literaturempfehlungen	Journal articles will be supplied.	
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMCOMPRPP for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Examination with open questions, Group assignments (and pitch & video/presentation)
Lehrveranstaltungsform	Seminar	
Frequency		

wcm280 - Reinventing Environmental Planning

Module label	Reinventing Environmental Planning	
Modulkürzel	wcm280	
Credit points	5.0 KP	
Workload	150 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Area of specialisation	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	1. Describe and explain the main changes occurring in environmental planning over the past decades (1a, 1e, 1g, 2f) 2. Describe and explain the main challenges our governments and societies are currently confronted with in relation to the urban development, nature and biodiversity, climate change, air pollution and energy (1a, 1g, 3a, 3f) 3. Present and discuss the main arguments in support of recent changes in environmental planning, while drawing from theoretical concepts and debates in planning and policy sciences on governance renewal (1b, 1g, 4c, 6a) 4. Present and discuss the doubts and risks associated with renewing environmental policy based on a 'post-contingency' perspective (1e, 2a, 2b, 2c, 2f, 3a, 3g, 4c, 6a) 5. Discuss and evaluate the possible planning and governance strategies that can be applied to respond to these main challenges, while understanding of the arguments in favor and against these responses (1d, 2a, 2b, 2c, 2h, 3d, 3f, 3g, 6a, 6d) 6. Make well-argued choices for possible planning and governance strategies when faced with practical environmental issues, while showing sensitivity to how these strategies relate to the characteristics of the issues and circumstances (1c, 1d, 1f, 2a, 2b, 2h, 3d, 3f, 3g, 5a, 6a, 6d)	
Module contents	The course discusses recent changes in the field of environmental planning related to the emergence of sustainable development as a prime governance guideline. The course explains how sustainable development challenges the reliance on reactive and regulatory based policies that have long been common in environmental planning in many countries. Sustainable development is presented as a call for more proactive policies that integrate environmental concerns in overall governance activities. These calls for governance renewal are connected to wider shifts in both planning theory and practice, away from command and control policies towards a richer variety of policy approaches, inspired by for example market processes, public and private partnerships, communicative rationality and multi-level governance. While discussing recent changes in environmental planning, students are invited and stimulated to develop a critical and constructive attitude, while drawing on a 'post-contingency' perspective for identifying various theoretical arguments and doubts regarding these changes. Students will subsequently be shown examples of changes in environmental planning, related to five dominant environmental issues: urban development, nature and biodiversity, climate change, air pollution and energy. Students will be invited during a written exam to critically discuss and reflect on recent changes in environmental planning. Finally, through assignments, students need to show their ability to make theoretically supported and well-argued choices between different planning strategies and measures when faced with different issues and circumstances.	
Literatureempfehlungen		
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMREENVPL for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		
Lehrveranstaltungsform	Seminar	

Frequency

wcm360 - Fieldwork Water Quality

Module label	Fieldwork Water Quality	
Modulkürzel	wcm360	
Credit points	5.0 KP	
Workload	150 h	
Verwendbarkeit des Moduls	Master's Programme Water and Coastal Management (Master) > Area of specialisation	
Zuständige Personen		
Prerequisites		
Skills to be acquired in this module	The students will be able to understand different topics related to the management of water quality and the relationships between spatial planning and water quality (1E) (3C) (3D) (4B). Example topics addressed in the course include: agriculture, pollution and water management; salinization; nature development and ecology; drinking water and water purification. Further aim of the fieldwork is to practice different presentation techniques by giving an 'on-site' presentation and preparing a critical statement for discussion in groups on a water quality related topic provided by the lecturers (2H) (3E) (4A) (4C) (6A) (6C). The students are expected to also actively collect primary data during fieldwork by asking questions from invited experts, documenting the discussions and integrating the collected material in a meaningful, coherent and critical manner to their final report (1D) (2B) (2D) (2E) (2H) (4D) (5A) (5B) (6A) (6B) (6C). Learning to work as a group in planning, conducting and presenting research is an essential part of the field-work (1D) (4A) (5A) (5B) (6C). A final goal of the fieldwork is to introduce to the students different water-related professions available for them in the water management field (4B).	
Module contents	The course starts in Groningen with three introductory lectures about the relationship between water quality and spatial planning and an introduction to the context of the Netherlands. The students will be introduced to a number of central concepts pertaining to planning for water quality. In addition, a tutorial about the field-work assignment 2 and planning will be held. Further introduction into the 'cases' and the data collection 'in the field' will take place in four regions in the Netherlands. Each group will provide an on-site presentation at one of the case study areas. The final deliverable is a written report by each group.	
Literatureempfehlungen		
Links		
Languages of instruction		
Duration (semesters)	1 Semester	
Module frequency		
Module capacity	unlimited	
Reference text	Elective course for the students of Double Degree Master Water and Coastal Management. Not open for other students. Max. 15 students. This course is part of the second year of the Double Degree Master Water and Coastal Management and takes place in Groningen. See https://www.rug.nl/ocasys/frw/vak/show?code=GEMFLDWWQ for more information about this course.	
Examination	Prüfungszeiten	Type of examination
Final exam of module		Active participation, Group assignments, Oral presentation
Lehrveranstaltungsform	Seminar	
Frequency		

