

Overview

| UCD | Core modules | Code | Credits |
|-----|--|-----------|-----------|
| | Core Skills for Research | BIOL40010 | 5 |
| | Plant-Atmosphere Climate Interaction | BOTN40180 | 5 |
| | Global Change – Introduction | ENVB40130 | 5 |
| | Science and Society | BIOL40140 | 5 |
| | Environmental Impact Assessment & Strategic Environmental Assessment | AESC40080 | 5 |
| | Optional modules | | 5 |
| | a) Biodiversity | ZOOL40010 | |
| | b) Bioassessment of Freshwaters | ENVB40120 | |
| | c) Peatland and Environmental Change | ENVB40040 | |
| | d) Public policy & Environment | PEP30140 | |
| | e) Marine Population Biology | ZOOL40050 | |
| | Total CP in UCD for taught modules | | 30 |

| JLU | Core modules | Code | Credits |
|-----|---|----------|-----------|
| | Global Change - Advanced Techniques | M-GC-GCE | 4 |
| | Plant-Soil-Atmosphere Interactions | M-GC-PSA | 6 |
| | Ecosystem and Model development | M-GC-ÖUM | 3 |
| | Policy Consultancy | M-GC-PBR | 6 |
| | Resource Economics and Environmental Management | M-GC-REM | 6 |
| | Biodiversity Informatics | M-GC-BDI | 3 |
| | Palaeoclimatology | M-GC-PAL | 6 |
| | Optional modules | | 6 |
| | a) Scientific Presentations in Ecology | M-GC-SEM | |
| | b) Evolutionary Biology | M-GC-EVO | |
| | c) Climate Change and Human Health | M-GC-CCH | |
| | Total CP in JLU for taught modules | | 40 |

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| Module 'Work Placement' | UCD | 20 |
| Module 'Research Project/Thesis' | UCD | 30 |
| Total Number of CP | | 120 |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 2 |
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UCD - Core modules:

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|---|---|-----------------------------------|---------------------|---------------|-------|
| ENVB40130 | Global Change Ecology – Introduction | | Winter | 5 CP | |
| Title of module | Global Change Ecology – Introduction | | | | |
| Code of module | ENVB40130 | | | | |
| Faculty / study program / Institution | UCD, Environmental Biology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Prof. Thomas Bolger | | | | |
| Prerequisites | None | | | | |
| Course aims | Introduction to global change as a many-faceted process arising from human and natural activities. Topics covered include elevated concentrations of atmospheric CO ₂ , enhanced levels of nitrogen deposition, changes in land use, biodiversity loss and global warming. The background is set through descriptions of the diversity of terrestrial systems, the differences between terrestrial and aquatic systems and the importance of climate in determining the distribution and functioning of terrestrial systems. | | | | |
| Course content | <p>What will the student learn?</p> <p>On completion of this module students should:</p> <ul style="list-style-type: none"> - Understand the ecosystem concept; - Appreciate the differences between terrestrial and aquatic ecosystems; - Understand the drivers of global change; - Understand the consequences of global change. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 112 h | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post-processing, LN | | | |
| | Lecture | 18 | | | |
| | Practical | 9 | | | |
| | Field Trip | 5 | | | |
| | Total | 32 | 80 | | 112 |
| Examination format Grading Repetition | Essay on aspects of global change (25%); end of course examination (50%) and report from fieldtrip (25%) | | | | |
| Availability Duration | Winter, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 3 |
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|---|--|-----------------------------------|---------------------|---------------|-------|
| BIOL40010 | Core Skills for Research | | Winter | 5 CP | |
| Title of module | Core Skills for Research | | | | |
| Code of module | BIOL40010 | | | | |
| Faculty / study program / Institution | UCD, Biology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Jonathan Yearsley | | | | |
| Prerequisites | None | | | | |
| Course aims | This module aims to equip MSc students with the skills required for completion of a research project, including critical review of primary literature in the field of biology and environmental science and design and analysis of biological and environmental experiments. Instruction will also be provided in the key skills required to succeed in job applications. | | | | |
| Course content | <p>What will the student learn? The student will learn to</p> <ul style="list-style-type: none"> - critically review an article of primary scientific literature in the field of biology and environmental science, - design a biological / environmental experiment, taking due account of independence, allocation of replicates and controls, - select and undertake basic univariate analyses using a widely available software package, - select multivariate analyses appropriate for analysis of a range of data sets and objectives, - construct an effective job application (CV and cover letter) and approach an interview in a professional manner. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 111 h | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 20 | | | |
| | Practical | 12 | | | |
| | Computer Aided Lab | 4 | | | |
| | Specified Learning Activities | 12 | | | |
| | Total | 48 | 63 | | 111 |
| Examination format Grading Repetition | Experimental design and analysis (30%), written exam (70%) | | | | |
| Availability Duration | Winter, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 4 |
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|---|--|-----------------------------------|---------------------|---------------|-------|
| BOTN40180 | Plant-Atmosphere Climate Interaction | | Winter | 5 CP | |
| Title of module | Plant-Atmosphere Climate Interaction | | | | |
| Code of module | BOTN40180 | | | | |
| Faculty / study program / Institution | UCD, Botany | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Jennifer McElwain | | | | |
| Prerequisites | None | | | | |
| Course aims | We are currently experiencing major changes in our climatic and atmospheric environment. Conservative estimates project that the concentration of greenhouse gas carbon dioxide will double by the end of this century and global temperatures are expected to rise by 1 to 4 °C. A major issue facing the scientific and political community is how these projected changes will influence natural ecosystems, plant and animal ecology and biodiversity. This course will explore examples of plant-atmosphere and plant-climate interactions in the geological past, in the more recent past of Quaternary glacial-interglacial cycles and from experimental studies of the present day. The course will provide a framework for understanding the nature and scale of evolution, adaptation and eco-physiological responses of plants to their atmospheric and climatic environment. | | | | |
| Course content | <p>The learning objectives of this course are:</p> <ul style="list-style-type: none"> - to understand plant evolution over the past 3700 million years (with specific emphasis on land plant evolution over the past 500 million years). - to understand fossil plant responses to environmental extremes associated with mass extinction events in Earth history. - to understand global, regional, local and individual level responses to past, present and likely future atmospheric CO₂ concentrations. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 106 h | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 12 | | | |
| | Conversation Class | 4 | | | |
| | Specified Learning Activities | 40 | | | |
| | Total | 56 | 50 | | 106 |
| Examination format Grading Repetition | Short in class presentation on research paper 30%; end of semester essay style examination (70%) | | | | |
| Availability Duration | Winter, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 5 |
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|---------------------------------------|---|------------|-----------------------------------|---------------|-------|
| AESC40080 | Environmental Impact Assessment | | Winter | 5 CP | |
| Title of module | Environmental Impact Assessment | | | | |
| Code of module | AESC40080 | | | | |
| Faculty / study program / Institution | UCD, School of Biology and Environmental Science | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Tasman Crowe | | | | |
| Prerequisites | None | | | | |
| Course aims | This module outlines the development and philosophy of the EIA framework in Ireland and Europe. We then focus on the practicalities of preparing an Environmental Impact Statement, including scoping and the collection, synthesis and dissemination of relevant information. Emphasis is placed on biological sampling and coastal examples. We compare EIA processes in a range of countries and discuss the pros and cons of different approaches. The course includes a mock EIA exercise and guest lectures from practising environmental consultants and decision makers. | | | | |
| Course content | <p>What will the student learn?</p> <p>Describe the philosophy, background and development of the Environmental Impact Assessment (EIA) process in Europe and Ireland and place it in a broader framework of approaches to environmental management;</p> <ul style="list-style-type: none"> - Summarise the general legal framework for EIA in Ireland, including the different categories of impact that must be addressed; - Discuss some of the difficulties of assessing 'significance' of impacts; - Work as part of a team to prepare a scoping report (part of EIA), based on practical experience of doing so; - Take a critical view of the design and interpretation of biological surveys for EIA; - Critically appraise the relative merits and flaws of EIA systems in different countries; - Consider the different careers available in the field of EIA and their spheres of influence. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 102h | | Credit-Points: 5 CP | | |
| containing: | | A Course | B Self-study | C examination | total |
| | | A presence | b preparation/post processing, LN | | |
| | Lectures | 9 | | | |
| | Specified Learning Activities | 30 | | | |
| | Total | 39 | 63 | | 102 |
| Examination format | Simulation exercise (30 %) and exam (70 %) | | | | |
| Grading | | | | | |
| Repetition | In-semester assessment | | | | |
| Availability | Winter, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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|---------------------------------------|---|-----------------------------------|---------------------|---------------|-------|
| BIOL40140 | Science and Society | | Winter | 5 CP | |
| Title of module | Science and Society | | | | |
| Code of module | BIOL40140 | | | | |
| Faculty / study program / Institution | UCD, Biology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Tamara Hochstrasser | | | | |
| Prerequisites | None | | | | |
| Course aims | The role of science and scientists in Western societies is rapidly changing. New technologies in particular the World Wide Web make information available in much faster time and to a wider audience than was traditionally the case. In the first half of this course, student participants should become familiar with the history of science in society as well as with the social structure and functioning of the scientific community over time through a series of readings and discussion groups. In the second half of the course, the students will explore the interface with the wider society by running a project where citizens are involved in the scientific process. | | | | |
| Course content | <p>What will the student learn?</p> <p>On completion of this module students should be able to:</p> <ul style="list-style-type: none"> - give an outline of how the role of science in society evolved over time - clearly explain the difference between scientific knowledge and other kinds of knowledge – priorities, normative and positive claims - be able to lead a citizen group in a discussion of a scientific topic - have a clear understanding and a working knowledge of methods to bridge the gap between scientists and society. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 110 h | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lectures | 20 | | | |
| | Small group | 10 | | | |
| | Practical | 20 | | | |
| | Specified Learning Activities | 20 | | | |
| | Total | 70 | 40 | | 110 |
| Examination format | Essay (40%) and oral examination (60%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Winter, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | 20 | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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UCD – Optional modules:

The student will choose one module from the following list:

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|---------------------------------------|--|-----------------------------------|--------------|---------------|-------|
| ZOOL40010 | Biodiversity | Winter | 5 CP | | |
| Title of module | Biodiversity | | | | |
| Code of module | ZOOL40010 | | | | |
| Faculty / study program / Institution | UCD, Zoology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Prof. Thomas Bolger | | | | |
| Prerequisites | None | | | | |
| Course aims | <p>Biodiversity loss due to human activities is currently more rapid than at any time in human history. To achieve progress towards biodiversity conservation it is necessary to respond with actions that recognise the conservation and sustainable use of biodiversity. These responses need to recognise the indirect and direct drivers of change as well as mechanisms of coexistence and community assembly. In this course the definition, measurement, maintenance and value of biodiversity are discussed taking into account the constant change which is characteristic of ecological systems. While the value of biodiversity will be discussed primarily on ecological grounds; economic, aesthetic and ethical issues will also be discussed. Issues arising from the Millennium Ecosystem Assessment and the EU Strategy for Sustainable Development will be used to structure discussion.</p> | | | | |
| Course content | <p>What will the student learn? On completion of this module, students should be able to:</p> <ul style="list-style-type: none"> - evaluate techniques of biodiversity enumeration; - demonstrate knowledge of mechanisms of coexistence and assembly of communities; - examine and determine the functional, aesthetic, ethical and economic values of biodiversity; - understand the difficulties with the identification of keystone species. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | Credit-Points: 5 CP | | | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 12 | | | |
| | Tutorial | 8 | | | |
| | Total | 20 | 80 | | 100 |
| Examination format | Written exam (1 hour) (65%), presentation in class (35%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Winter, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 8 |
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|---------------------------------------|--|-----------------------------------|---------------------|---------------|-------|
| ENVB40120 | Freshwater Resources Assessment | | Winter | 5 CP | |
| Title of module | Freshwater Resources Assessment | | | | |
| Code of module | ENVB40120 | | | | |
| Faculty / study program / Institution | UCD, Biology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Mary Kelly-Quinn | | | | |
| Prerequisites | None | | | | |
| Course aims | <p>The overall aim of this course is to equip students with the skills (theoretical backgrounds and practical methods) to participate in freshwater studies and reporting on water quality with particular emphasis on the detection of impacts from land-use activities. It commences with an overview of the range of freshwater habitats and their physico-chemical and biological characteristics. This includes instruction to the basic biology of key aquatic biota such as macroinvertebrates. Pollution types, sources and impacts are outlined. The main part of the course deals with assessment of water quality and the focus is on the requirements of the EU Water Framework Directive. Concepts and issues explored include ecosystem health/integrity, stress factors, reference or ecological target conditions, physical habitat description, lake and river typologies, design of monitoring programmes, monitoring using fish, invertebrates and plants; rapid bioassessment assessment protocols, multimetric vs multivariate approaches, biological indicators; sub-lethal stress indicators, analyses and interpretation of macroinvertebrates data; biotic metrics and indices and 'hindcasting methods'.</p> | | | | |
| Course content | <p>What will the student learn? On completion of this module students should:</p> <ul style="list-style-type: none"> - have acquired knowledge of basic concepts in freshwater ecology; - be able to confidently design or review a monitoring programme to detect potential impacts of land-use activities on water quality; - have basic knowledge of methodologies for collection and processing of water and biological samples; - have ability to interpret biological and chemical water-quality data; - have sufficient knowledge to read and communicate water quality information in reports; - appreciate the requirement of the Water Framework Directive (WFD); - recognise the ecological basis of the WFD requirements; - be able to source and review freshwater research literature and; - work as a team to compile reports and make oral presentations. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | 124 h | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 12 | | | |
| | Practical | 24 | | | |
| | Field trip | 8 | | | |
| | Specified learning activities | 20 | | | |
| | Total | 64 | 60 | | 124 |
| Examination format | Group or individual report (40%), written examination (2 hours) (60%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Winter, each year | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 9 |
|--|------------|--------------|------|

Gültig ab WiSe 2012/13

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| Duration | one semester |
| Acceptance capacity | None |
| Language of instruction | English |
| Literature | |
| Notes | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 10 |
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Gültig ab WiSe 2012/13

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|---|--|------------|-----------------------------------|---------------------|---------------|-------|
| ENVB40040 | Peatland and Environmental Change | | Winter | 5 CP | | |
| Title of module | Peatland and Environmental Change | | | | | |
| Code of module | ENVB40040 | | | | | |
| Faculty / study program / Institution | UCD, Biology | | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | | |
| Person in charge | Dr Florence Renou-Wilson | | | | | |
| Prerequisites | None | | | | | |
| Course aims | <p>Aim:</p> <p>This module should provide the students with a comprehensive summary of peatland science. Human activity, climatic variability as well as other natural processes shape peatlands which are dynamic ecosystems, constantly evolving. From microbial diversity to entire landscape, students will develop an understanding peatlands especially Irish ones but also around the world.</p> | | | | | |
| Course content | <p>What will the student learn?</p> <p>On completion of this module, students should be able to:</p> <ul style="list-style-type: none"> - recognise peatland types and understand their natural history (their origin and development and how they got to their current status), - understand processes within these ecosystems (ecology, hydrology and peat accumulation), - understand peatland-environment feedback, especially with regards to global climate - recognise the different ecosystem services they provide and appraise the consequence of these values, - evaluate resource management options. | | | | | |
| Class format | Lecture and practice | | | | | |
| Workload | | | | Credit-Points: 5 CP | | |
| containing: | | A Course | | B Self-study | C examination | total |
| | | a presence | b preparation/post processing, LN | | | |
| | Lecture | 16 | | | | |
| | In class conversation | 4 | | | | |
| | Field trip | 6 | | | | |
| | Total | 26 | | 80 | | 106 |
| Examination format Grading Repetition | In class presentation on research paper (30%), written examination (2hours)(70%) | | | | | |
| Availability Duration | Winter, each year one semester | | | | | |
| Acceptance capacity | None | | | | | |
| Language of instruction | English | | | | | |
| Literature | | | | | | |
| Notes | | | | | | |

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Gültig ab WiSe 2012/13

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|---------------------------------------|---|-----------------------------------|---------------------|
| PEP30140 | Public Policy and Environment | Winter | 5 CP |
| Title of module | Public policy and environment | | |
| Code of module | PEP30140 | | |
| Faculty / study program / Institution | UCD, School of Geography, Planning & Environmental Policy | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | |
| Person in charge | Dr Mark Scott | | |
| Prerequisites | None | | |
| Course aims | <p>The capacity to develop environmental policy choices, to analyse them critically and to provide guidance in their implementation is one for which there is a growing demand. However, environmental policy and politics have become increasingly complex, reflecting a growing shift from government to governance, and characterised by increasingly complex economic, social and political changes, which have transformed the manner in which policy is made and delivered. These changes include an increasing acknowledgement of the multi-faceted nature of public policy and administration, the inter-connectedness of policy decisions taken at the local, regional and international levels and the influence of multi-level EU governance, the increasing fragmentation of policy delivery and heterogeneous public service cultures. Within this context, this module addresses the interaction of politicians, experts, interest networks and citizens in the formulation of environmental policy. The module is divided into four components:- Part 1 Introduction to Environmental Policy: this will examine the emergence of the 'environment' as a concern for public policy, charting both the roots of environmental problems and also the emergence of environmentalism in 20th Century politics. This part of the module will also introduce students to key concepts in Environmental Policy, including sustainable development, the polluter pays principle, the precautionary principle, and environmental resilience.- Part 2 Environment, Governance and Policy-Making: this will explore the nature of environmental policy-making and problem solving. This will include an assessment of multi-level environmental governance and also provide analysis of the interplay of experts, politicians, markets and the public within the environmental arena. Finally, this part of the module will examine policy design and policy-making processes, including the 'politics of environmental policy'.- Part 3 Environment and Society: this will focus on the growing demand by citizens to be included in environmental policy processes, and will focus on issues related to social movements and green politics, social equity and environmental justice, and participatory policy approaches.- Part 4 Environmental Policy Case Studies: this will explore examples of environmental policy in practice at a range of spatial scales, including climate change, the urban environment and local land-use conflicts.</p> | | |
| Course content | <p>What will I learn?</p> <p>On successful completion of the module you should be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of the political and public policy context for environmental policy; 2. Critically appraise concepts and theories surrounding policy making, accountability and representation within governance processes, and understand how these influence environmental policy; 3. Apply an understanding of the policy process to assess the nature and purpose of environmental policy; 4. Demonstrate an understanding of environmental citizenship and the role of public participation in environmental debates. | | |
| Class format | Lecture | | |
| Workload | | | Credit-Points: 5 CP |
| containing: | A Course | | B Self-study |
| | a presence | b preparation/post processing, LN | total |
| | Lecture | 22 | |
| | Tutorial | | |
| | Practical | | |
| | Total | 22 | 78 |
| Examination format | 2000 word assignment (25%) and examination (75%) | | |
| Grading | In-semester assessment | | |
| Repetition | | | |

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| Availability Duration | Winter, each year one semester |
| Acceptance capacity | None |
| Language of instruction | English |
| Literature | |
| Notes | |

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|---------------------------------------|---|-----------------------------------|---------------------|---------------|-------|
| ZOO40050 | Marine Population Biology | | Winter | 5 CP | |
| Title of module | Marine Population Biology | | | | |
| Code of module | ZOO40050 | | | | |
| Faculty / study program / Institution | UCD, Zoology | | | | |
| used in StG / Sem. | 1 Sem., MSc Global Change | | | | |
| Person in charge | Dr Jon Yearsley | | | | |
| Prerequisites | None | | | | |
| Course aims | <p>Aim:</p> <p>Nowadays, as 70% of the world's fisheries are over-exploited, many of which have undergone dramatic collapses, there is the urge for scientists, fishery managers and policy-makers to take significant actions. The understanding of patterns of distribution, migration, life-history and spatio-temporal structure of marine fish populations is key to our ability to manage and conserve declining stocks and their ecosystems. This is also fundamental for predicting evolutionary responses to continued harvesting and environmental change. This course covers the main aspects of the ecology and population genetics of marine fish, with particular focus on state-of-the-art methods employed for fish stock identification.</p> | | | | |
| Course content | <p>What will the student learn?</p> <ul style="list-style-type: none"> - Awareness of the importance of understanding population structure and life-histories in the marine environment; - Understanding the main problems associated with the study of marine fish populations; - Essential knowledge of applied population and ecological genetics; - Methods employed in the identification of fish stocks; - Basic techniques for presenting a research proposal in fish population biology. | | | | |
| Class format | Lecture and practice | | | | |
| Workload | | | Credit-Points: 5 CP | | |
| containing: | A Course | | B Self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 10 | | | |
| | Conversation class | 3 | | | |
| | Total | 13 | 95 | | 108 |
| Examination format | 2 essay-type questions to be chosen among 3 (2 hours) (80%), presentation of a grant proposal (20%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Winter, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |

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JLU - Core modules:

| M-GC-GCE | Global Change: advanced techniques (GC) | Summer | 4 CP | | |
|---|---|-----------------------------------|--------------|---------------|-------|
| Title of module | Global change ecology: stable isotopes and other advanced techniques (GC) | | | | |
| Code of module | M-GC-GCE | | | | |
| Faculty / study program / Institution | 08/ Biology/ Department of Plant Ecology | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | | | |
| Person in charge | Prof. Christoph Müller, PhD. | | | | |
| Lecturers | Müller, Grünhage | | | | |
| Prerequisites | None | | | | |
| Course aims | Students will <ul style="list-style-type: none"> - have knowledge of current global change issues, - know the current methods for the investigation of global change effects on ecosystems, - have the ability to organize on their own current scientific literature, - have the ability to plan ecological experiments, to interpret results and evaluate, discuss and present them adequately. | | | | |
| Course content | <ul style="list-style-type: none"> - Current state-of-the-art scientific knowledge on Global Change Science (e.g. Paleoclimatology, Indicator-Proxies, current Trends, Intergovernmental Panel on Climate Change). - Quantification of global matter cycles using stable isotope based on the example of a permanent grassland. - Automated methods to quantify gas fluxes and the abiotic factors and their interactions that influence processes in permanent grassland. - Positive feedback effect of global change on biosphere processes (e.g. phenology). | | | | |
| Class format | lecture (25%), seminar (12.5%), practical (62.5%) | | | | |
| Workload | 120 h | Credit-Points: 4 | | | |
| containing: | A Course | | B self-study | C examination | Total |
| | a presence | b preparation/post processing, LN | | | |
| Lecture | 10 | 16 | | | |
| Seminar | 2 | 4 | | | |
| Practice | 20 | 38 | | | |
| Essay | | | | 30 | |
| Total | 32 | 58 | | 30 | 120 |
| Examination format Grading, Repetition | Oral presentation (30%), report (40%), essay (30%) | | | | |
| Availability Duration | Summer, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | | | |

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Gültig ab WiSe 2012/13

| M-GC-PSA | Plant-Soil-Atmosphere Interactions | | Summer | 6 CP | |
|---------------------------------------|--|-----------------------------------|---------------|---------------|-------|
| Title of module | Plant-Soil-Atmosphere Interactions | | | | |
| Code of module | M-GC-PSA | | | | |
| Faculty / study program / Institution | 08/ Biology/ Department of Plant Ecology | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change, MSc Biology | | | | |
| Person in charge | Prof. Christoph Müller, PhD. | | | | |
| Lecturers | Müller, Grünhage, Koyro | | | | |
| Prerequisites | None | | | | |
| Course aims | Students <ul style="list-style-type: none"> - have good knowledge of ecophysiology, System ecology and microbial ecology, - know the most important methods in autecology and synecology, - know matter of transformation processes and nutrient cycles on community and ecosystem level, - have the ability to organize on their own current scientific literature, - have the ability to plan ecological experiments, to interpret results and evaluate, discuss and present them adequately. | | | | |
| Course content | <ul style="list-style-type: none"> - Photosynthesis of plants and communities in relationship to abiotic factors and climate change (e.g. increasing CO₂ concentrations). - C and N transformations in terrestrial ecosystem (e.g. permanent grassland). - Energy fluxes in permanent grassland. - Interactions between vegetation and soil. - Statistical method in aut- and synecology. | | | | |
| Class format | lectures (25%), seminar (12.5 %), practical (62.5%) | | | | |
| Workload | 180 h | Credit-Points: 6 | | | |
| containing: | A Course | | B self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 20 | 37 | | |
| | Seminar | 4 | 5 | | |
| | Practice | 40 | 74 | | |
| | Total | 64 | 116 | | 180 |
| Examination format | Oral presentation (30%), report (70%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Summer, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | | | |

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Gültig ab WiSe 2012/13

| M-GC-ÖUM | Ecosystem and model development | | Summer | 3 CP | |
|---|--|-----------------------------------|------------------|---------------|-------|
| Title of module | Ecosystem and model development | | | | |
| Code of module | M-GC-ÖUM | | | | |
| Faculty / study program / Institution | 08/ Biology/ Department of Plant Ecology | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change, MSc Biology | | | | |
| Person in charge | Prof. Christoph Müller, PhD. | | | | |
| Lecturers | Müller, Grünhage | | | | |
| Prerequisites | None | | | | |
| Course aims | Students <ul style="list-style-type: none"> - understand scientific problems and know how to structure and analyse them, - have a good overview of current topics in functional biodiversity, - have the ability to organize on their own current scientific literature relevant botanical databases, - are able to construct mathematical models, - are able to use the most important techniques and programming of mathematical models, - understand to adequately handle results of models and critically reflect results and validate them. | | | | |
| Course content | <ul style="list-style-type: none"> - System and its components, - Structure of ecological systems and its mathematical development, - Measure and analyse data of ecological experiments, - Meta-Analysis of selected features of selected datasets, - Programming of models, - Illustration and validation of model results. | | | | |
| Class format | lecture (27%), seminar (13%), practical (60%) | | | | |
| Workload | 90 h | | Credit-Points: 3 | | |
| containing: | A Course | | B self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 8 | 16 | | |
| | Seminar | 4 | 8 | | |
| | Practice | 18 | 36 | | |
| | Total | 30 | 60 | | 90 |
| Examination format Grading Repetition | Oral presentation (30%), report (70%) | | | | |
| Availability Duration | Summer, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | | | |

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Gültig ab WiSe 2012/13

| M-GC-PBR | Policy Consultancy | | Summer | 6 CP | |
|---------------------------------------|--|------------------------------------|---------------|------------------|-------|
| Title of module | Policy Consultancy | | | | |
| Code of module | , M-GC-PBR AfK-Nr. 336 | | | | |
| Faculty / study program / Institution | ZEU (Center for international Development and Environmental Research) | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | | | |
| Person in charge | Prof. Dr. Thilo Maruhn | | | | |
| Lecturers | Prof. Dr. Thilo Maruhn | | | | |
| Prerequisites | None | | | | |
| Course aims | Additional to academic qualifications, students have to acquire more skills in order to carry out socially relevant functions as managers and leaders in their home country and abroad. They need specific skills which exceed the simple transfer of knowledge in order to communicate relevant information and findings to decision makers in politics, economy and society. That includes interpersonal skills like a convincing appearance, confident association with stakeholders and skills in debating, consulting and communicating. The aim of the lecture is on the one hand, to make students aware of different political processes and the possible ways for actors to influence decision-making processes, and on the other hand, to demonstrate how advisers themselves analyse the area and way they might be able to influence the political process. The knowledge of the practical side of governance will be integrated into different theoretical approaches. Apart from the knowledge of different analytical models, the students are able to convey them on the political practice in a professional and methodical way. Additionally, the students get the possibility to be individually coached. Within this training students can improve rhetorical, social and personal skills. | | | | |
| Course content | <ul style="list-style-type: none"> - The lecture deepens the students' knowledge of the basic principles in regional, national and international politics and policy consulting. The basics of policy consulting, governance and communication will be analysed and discussed methodical and with regard to contents. - The lecture will be accompanied by JLU teaching staff, external experts and practitioners of the policy consulting practice (particularly of consulting companies). - The interdisciplinary approach allows the students to gain a broad knowledge of theoretical and practical research on governance, policy management and public affairs. Additionally, this knowledge will be deepened in practical exercises. - The contents will be deepened in a topic-oriented study-trip to the "Gesellschaft für Internationale Zusammenarbeit" (GIZ) GmbH. The participants will be confronted with a specific task of the political, social or economic practice which they have to solve in team work. Afterwards, the groups will present their results. | | | | |
| Class format | Lecture, practice | | | | |
| Workload | 180 h | | | Credit-Points: 6 | |
| containing: | A Course | | B self-study | C examination | total |
| | a presence | b preparation /post processing, LN | | | |
| | Lecture | 30 | 25 | | |
| | Practice | 30 | 25 | | |
| | Total | 60 | 50 | 40 | 30 |
| Examination format | Written test (40%), oral test (40%), presentation (20%) | | | | |
| Grading, Repetition | | | | | |
| Availability, Duration | Summer, each year, one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information: see http://www.uni-giessen.de/cms/fbz/zentren/zeu/news/politikberatung | | | | |

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|---------------------------------------|--|-----------------------------------|------------------|---------------|-------|-----|
| M-GC-REM | Resource Economics and Environmental Management | | Summer | 6 CP | | |
| Title of module | Resource Economics and Environmental Management | | | | | |
| Code of module | M-GC-REM | | | | | |
| Faculty / study program / Institution | 09/ Agricultural Sciences, Nutritional Sciences and Environmental Management | | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | | | | |
| Person in charge | Prof. Dr. Ernst-August Nuppenau | | | | | |
| Lecturers | Prof. Dr. Ernst-August Nuppenau | | | | | |
| Prerequisites | None | | | | | |
| Course aims | <p>Students will</p> <ul style="list-style-type: none"> - have foundational knowledge modelling intertemporal optimization of agricultural resource utilization, - understand the basics of management concepts towards the resolution of resource use conflicts, - be able to simultaneously model ecological and economic material cycles, - be able to depict dynamic processes of resource regeneration, - be able to construct computer simulation models, - be able to derive economically and ecologically justifiable extraction rates from soil, water, and biotic resources, - be able to draw knowledge of such concepts as sustainability, the introduction of save minimum standards, etc. to aid efforts in resource management. | | | | | |
| Course content | <ul style="list-style-type: none"> - intertemporal optimization and resource usage, - economics of non-renewable resources, - economics of renewable resources, - open access property and extinction of species as biotic resources, - nature conservation as common property management, - introduction to the economics of sustainable cultivation, - mathematical formulation of resource management models, - programming of optimization models, - management of cultivated landscapes, - trade and the environment, - political questions about the implementation of environmental policies, - international questions of resource protection, - resource evaluation, - property rights and institutions | | | | | |
| Class format | Lecture (67%), seminar (20%), practice (13%) | | | | | |
| Workload | 180 h | | Credit-Points: 6 | | | |
| containing: | A Course | | B self-study | C examination | total | |
| | a presence | b preparation/post processing, LN | | | | |
| | Lecture | 40 | 50 | | | |
| | Seminar | 12 | | | | |
| | Practical | 8 | | | | |
| | Total | 60 | 50 | 30 | 40 | 180 |
| Examination format | Oral presentation (30%), written examination (70%) | | | | | |
| Grading Repetition | | | | | | |
| Availability | Summer, each year | | | | | |
| Duration | one semester | | | | | |
| Acceptance capacity | None | | | | | |
| Language of instruction | English | | | | | |
| Literature | | | | | | |
| Notes | Information: see http://www.uni-giessen.de/cms/fbz/fb09/institute/iam/pau | | | | | |

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|---|---|-----------------------------------|------------------|---------------|-------|
| M-GC-BDI | Biodiversity Informatics | | Summer | 3 CP | |
| Title of module | Biodiversity informatics | | | | |
| Code of module | M-GC-BDI | | | | |
| Faculty / study program / Institution | 08/ Biology/ Institute of Animal Ecology and Systematics | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change, MSc Biology | | | | |
| Person in charge | Prof. Dr. T. Wilke | | | | |
| Lecturers | Albrecht, Wilke | | | | |
| Prerequisites | None | | | | |
| Course aims | <p>Students</p> <ul style="list-style-type: none"> - receive an overview of important methods in biodiversity informatics and can critically judge their individual performances, - are familiar with the digital acquisition, management and processing of biodiversity data, - are able to plan complex field studies, - are familiar with important aspects of biodiversity modeling, - can critically assess changes in biodiversity over time, - understand human impact on biodiversity, - possess a high level of cognitive competence. | | | | |
| Course content | <ul style="list-style-type: none"> - acquisition, management and processing of biodiversity data, - biological databases and collections, - geo-referencing/GPS, - biodiversity indices, - visualization of spatially-explicit statistical data, - species range dynamics under global change scenarios, - human impact and invasion biology | | | | |
| Class format | Lecture (40%), Seminar (20%), Tutorial (40%) | | | | |
| Workload | 180 h | | Credit-Points: 6 | | |
| containing: | A Course | | B self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 14 | 20 | | |
| | Seminar | 7 | 7 | | |
| | Tutorial | 14 | 28 | | |
| | Total | 35 | 55 | | 90 |
| Examination format Grading Repetition | Exercises (50%), oral presentation (50%) | | | | |
| Availability Duration | Summer, each year one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | | | |

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| M-GC-PAL | Palaeoclimatology | | Summer | 6 CP | |
|---------------------------------------|---|-----------------------------------|------------------|---------------|-------|
| Title of module | Palaeoclimatology | | | | |
| Code of module | M-GC-PAL | | | | |
| Faculty / study program / Institution | 07/ Geography | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | | | |
| Person in charge | Prof. Jürg Luterbacher, PhD | | | | |
| Lecturers | Prof. Jürg Luterbacher, PhD | | | | |
| Prerequisites | None | | | | |
| Course aims | <p>The students will</p> <ul style="list-style-type: none"> - learn about climate proxies (including from biological archives) from different areas of the world covering the past 2000 years and their suitability for estimating past climate, - learn how statistical reconstructions are performed using different proxies and estimate uncertainties of past climate, - study and understand past climate variations in different areas of the world, - study and understand the role of different forcings (anthropogenic, sun, volcanoes) responsible for past climate variations, - discuss relevance of palaeoclimatology in the context of current and future climate, - discuss open issues in palaeoclimatology, - learn palaeoclimatological field work. | | | | |
| Course content | <p>Paleoclimatology is the study of climate and environmental processes in the geologically recent past prior to the existence of instrumental records. Instrumental records span only a tiny fraction of the Earth's climate history and so provide a totally inadequate perspective on climatic variation and the evolution of climate today. Studies of past climates must begin with an understanding of the types of proxy data available and the methods used in their analysis. The palaeorecord (derived from marine and lake sediments, ice cores, tree rings, corals, cave deposits, biological archives, historical documents, etc.) in concert with modelling of past scenarios provides a quantitative understanding of past Earth System variability and the underlying processes. In order to better understand current global changes and to project future scenarios, knowledge of what has happened in the past is imperative. Nowadays questions in palaeoclimatology relate increasingly to the regional climatic and environmental responses to global change, as these affect societies and form the basis for efficient adaptation measures. The course will also include 2 to 3 days field course in the vicinity of Giessen where information from tree rings is gathered which is used to derive palaeo temperature and precipitation covering the past millennium.</p> | | | | |
| Class format | Lectures and 2 to 3 days field course | | | | |
| Workload | 180 h | | Credit-Points: 6 | | |
| containing: | A Course | | B self-study | C examination | Total |
| | a presence | b preparation/post processing, LN | | | |
| | Lecture | 80 | 25 | | |
| | Seminar | 20 | 20 | | |
| | Practice | 24 | 11 | | |
| | Total | 124 | 56 | | 180 |
| Examination format | Oral presentation (30%), report (70%) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Summer, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |

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| Language of instruction | English |
| Literature | Will be distributed and announced |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar |

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JLU – Optional modules:

The student will choose modules up to 6 CP in total from the following list:

| M-GC-SEM | Scientific Presentations in Ecology | | Summer | 3 CP | |
|---------------------------------------|---|-----------------------------------|------------------|---------------|-------|
| Title of module | Scientific Presentations in Ecology | | | | |
| Code of module | M-GC-SEM | | | | |
| Faculty / study program / Institution | 08/ Biology/ Department of Plant Ecology | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change, MSc Biology | | | | |
| Person in charge | Prof. Christoph Müller, PhD. | | | | |
| Lecturers | Müller, Grünhage, Koyro | | | | |
| Prerequisites | None | | | | |
| Course aims | Students <ul style="list-style-type: none"> - are able to use English literature, - have the ability to have a scientific conversation in English, - know how to present scientific projects and results, - are able to discuss scientific work, - know the current methods in ecology and their problems, - are familiar with the scientific studies in the Department of Plant Ecology. | | | | |
| Course content | <ul style="list-style-type: none"> - Methods to present scientific results (oral and written presentations), - Typical feature of English presentations and structure of scientific papers in English (peer-reviewed journals), - Prepare content and presentation of current topics in ecology, - Presentation of scientific methods results at scientific conferences (oral, written) | | | | |
| Class format | Seminar (100 %) | | | | |
| Workload | 90 h | | Credit-Points: 3 | | |
| containing: | A Course | | B self-study | C examination | total |
| | a presence | b preparation/post processing, LN | | | |
| | Seminar | 30 | 45 | | |
| | Presentation | | 15 | | |
| | Total | 30 | 60 | | 90 |
| Examination format | Presentations (100 %) | | | | |
| Grading | | | | | |
| Repetition | | | | | |
| Availability | Summer, each year | | | | |
| Duration | one semester | | | | |
| Acceptance capacity | None | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | | | |

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|---------------------------------------|---|------------|-----------------------------------|------------------|---------------|-------|
| M-GC-EVO | Evolutionary Biology | | | Summer | 3 CP | |
| Title of module | Evolutionary Biology | | | | | |
| Code of module | M-GC-EVO | | | | | |
| Faculty / study program / Institution | 08/ Biology/ Institute of Animal Ecology and Systematics | | | | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | | | | |
| Person in charge | Prof. T. Wilke | | | | | |
| Lecturers | Wilke, Albrecht | | | | | |
| Prerequisites | None | | | | | |
| Course aims | <p>Students</p> <ul style="list-style-type: none"> - receive an overview of important evolutionary mechanisms in the animal and plant kingdoms, - acknowledge evolution as a complex and differentiated process, - understand both spatial and temporal components of evolutionary changes, - are able to establish evolutionary hypotheses, - possess a high level of cognitive competence, - have respect for life and develop ethical judgment, - develop a critical judgment relative to animal-human-comparisons. | | | | | |
| Course content | <ul style="list-style-type: none"> - "Synthetic theory" of biological evolution, - Palaeobiology and evolutionary times scale, - Evolutionary mechanisms of plants and animals, - Macroevolution, - Biogeography, - Invasive species and biotic interchange, - Creationism and evolution critique. | | | | | |
| Class format | Lecture (100%) | | | | | |
| Workload | 90 h | | | Credit-Points: 3 | | |
| containing: | | A Course | | B self-study | C examination | total |
| | | a presence | b preparation/post processing, LN | | | |
| | Lecture | 24 | 36 | | | |
| | Written final | 2 | 28 | | | |
| | Total | 26 | 64 | | | 90 |
| Examination format | Written final (100 %) | | | | | |
| Grading | | | | | | |
| Repetition | | | | | | |
| Availability | Summer, each year | | | | | |
| Duration | one semester | | | | | |
| Acceptance capacity | None | | | | | |
| Language of instruction | English | | | | | |
| Literature | | | | | | |
| Notes | | | | | | |

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| Spezielle Ordnung für den Master-Studiengang Global Change: Ecosystem Science and Policy Anlage 2: Modulbeschreibungen | 01.10.2012 | 7.35.08 Nr.4 | S. 24 |
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Gültig ab WiSe 2012/13

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|---------------------------------------|--|-----------------------------------|---------------|
| M-GC-CCH | Climate Change and Human health | Summer | 6 CP |
| Title of module | Climate Change and Human Health | | |
| Code of module | M-GC-CCH | | |
| Faculty / study program / Institution | 07/ Geography | | |
| used in StG / Sem. | 2 Sem., MSc Global Change | | |
| Person in charge | Dr. E. Xoplaki | | |
| Lecturers | Dr. E. Xoplaki | | |
| Prerequisites | None | | |
| Course aims | <p>The students will</p> <ul style="list-style-type: none"> - learn about the links between climate and health issues - learn how to deal with human health and climate data - learn how statistical methods are applied and results interpreted - study and understand climate variations in different areas of the world, - discuss relevance of human health issues in a climatological context - discuss open issues in climate change and health issues - detect linkages between mortality rate of vector born diseases (west Nile virus, malaria, etc.) and temperature time-series in a selected region and time. | | |
| Course content | <p>Human beings are exposed to climate change through changing weather patterns (temperature, precipitation, sea-level rise and more frequent extreme events) and indirectly through changes in water, air and food quality and changes in ecosystems, agriculture, industry and settlements and the economy. There are concerns that in the future changes in climate might increase the spread of diseases and threaten human health. However, detecting these changes is challenging because climate is only one of several factors which affect the prevalence of disease at the present day. For instance, changes in frequency and intensity of extreme weather and climate events could pose a serious threat to human health. These threats may either be direct, such as heat waves and flooding, or indirect, for example by the spread of tick-borne diseases. The course also deals with Malaria, Dengue fever, West Nile Fever, Leishmaniasis, and Chikungunya fever and their potential relationship to climate change. The course will also cover the following topics: Climate, a modern health determinant, links between climate change and health, Impact modeling: analysis approaches, Climate Change and Disease Hazards, Extreme temperature impacts on human mortality, Drought and pollution impacts (heat-compounded) detect linkages between mortality rate of vector born diseases (west Nile virus, malaria, etc.) and temperature time-series in a selected region and time.</p> | | |
| Class format | Lectures, Seminar, and Practice | | |
| Workload | 180 h | Credit-Points: 6 | |
| containing: | A Course | | B self-study |
| | a presence | b preparation/post processing, LN | C examination |
| | Lecture | 80 | 20 |
| | Seminar | 30 | 24 |
| | Practice | 16 | 10 |
| | Total | 126 | 54 |
| Examination format | Oral presentation (40%), report (60%) | | |
| Grading | | | |
| Repetition | | | |
| Availability | summer, each year | | |
| Duration | one semester | | |
| Acceptance capacity | None | | |
| Language of instruction | English | | |
| Literature | Will be distributed and announced | | |
| Notes | Information concerning modules and literature: see board of information / Date: see university calendar | | |
| BIOLXXX | Work Placement | Summer | 20 CP |

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|---------------------------------------|--|--|-----------------------------------|--------------|-------------------|-------|
| Title of module | | Work Placement | | | | |
| Code of module | | | | | | |
| Faculty / study program / Institution | | UCD, Biology | | | | |
| used in StG / Sem. | | 1 Sem., MSc Global Change | | | | |
| Person in charge | | Dr Florence Renou-Wilson | | | | |
| Prerequisites | | None | | | | |
| Course aims | | <p>This Masters programme offers students the opportunity to spend minimum 6 weeks in a real-life employment. The student will work in a setting that reflects his/her interests as an Environmental professional. Placements may vary considerably but in general terms the students will be placed in industrial, government, non-government or research environment where they will obtain a breadth of practical experience to complement their degree programme. Employers welcome 'transferable skills' acquired during a work placement such as communication, numeracy, use of IT, group work and time management to name but a few. The students will experience workplace culture making them more effective employee following graduation. The work experience is defined as a learning experience incorporating mentoring, professional supervision in which work is viewed from critical and evaluative perspectives much in contrast to the notion of routine or regular work.</p> | | | | |
| Course content | | <p>What will the student learn? From the Work Placement experience, the students should be able to: -Evaluate the interaction between policies and the quality of the environment in its multiple biotic, abiotic and cultural-economic dimensions. -Describe some aspect of the environment which is impacted by global change and understand the implications and possible mitigation and adaptation measures. -Demonstrate an understanding of professional practice in some of the following areas: scientific analyst, policy adviser, researcher, environmental management industries.</p> <p>How will the student learn? A minimum of 6 weeks contact time with employers is required. After the placement, students are required to submit a report (the format will be finalised depending on the skills a student may wish to develop) but should incorporate observations, critical thinking, evaluation and research.</p> | | | | |
| Class format | | Work placement | | | | |
| Workload | | 400 h / 6 weeks minimum <u>contact time with employer</u> | | | Credit-Points: 20 | |
| containing: | | A Course | | B self-study | C examination | total |
| | | a presence | b preparation/post processing, LN | | | |
| work placement | | 270 | | | | |
| Report | | | | | 90 | |
| Total | | 270 | | 40 | 90 | 400 |
| Examination format | | Report | | | | |
| Grading, Repetition | | no grade: fail or pass | | | | |
| Availability | | | | | | |
| Duration | | 6 weeks minimum contact time with employer. 2 weeks for report | | | | |
| Acceptance capacity | | 20 | | | | |
| Language of instruction | | English | | | | |
| Notes | | | | | | |

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|---|--|-----------------------------------|--------------|-------------------|--------------|
| BIOLXXX | Research Project Thesis | | | Summer | 30 CP |
| Title of module | Research Project Thesis | | | | |
| Code of module | BIOLXXX | | | | |
| Faculty / study program / Institution | UCD, Biology | | | | |
| used in StG / Sem. | 3 Sem., MSc Global Change | | | | |
| Person in charge | Dr Florence Renou-Wilson, Prof. Dr. Christoph Müller (chairman of examination board) | | | | |
| Prerequisites | None | | | | |
| Course aims | The research project is an important element of the Masters in Global Change as it involves the planning, execution and communication of a research question that the student wishes to investigate in depth. Students select individual projects from a list provided by the module co-ordinator, following consultation with the selected supervisor. During the third semester, a period of 16 weeks will be devoted entirely to the project work. Students will maintain regular contact with their supervisor, who will assist by guiding the project, reading and commenting on written work, and providing advice as necessary. | | | | |
| Course content | <p>What will the student learn?</p> <p>During the course of the research project, the student will:</p> <ul style="list-style-type: none"> - develop independent research and organisational skills; - develop technical competence in the specific research area and learn to synthesise information and write a scientific report. | | | | |
| Class format | Research thesis | | | | |
| Workload | 750 h | | | Credit-Points: 30 | |
| containing: | A Course | | B self-study | C examination | Total |
| | a presence | b preparation/post processing, LN | | | |
| Autonomous student learning | | 750 | | | |
| | | | | | |
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| | | | | | |
| | | 750 | | | 750 |
| Examination format Grading Repetition | <p>On completion of the research project the student will produce a mini-thesis in the format of a scientific paper, which will be graded by a supervisor and a second assessor. The format for grading will be as follows:</p> <p>Statement of problem & literature review (20%) Statement of aims and objectives (10%) Methodology (20%) Treatment of results (15%) Discussion (15%) Referencing/Bibliography (10%) Other (layout/formatting/proof-reading) (10%)</p> | | | | |
| Availability Duration | each year | | | | |
| Acceptance capacity | | | | | |
| Language of instruction | English | | | | |
| Literature | | | | | |
| Notes | | | | | |