



**Semester Package**  
**CIVIL ENGINEERING AND WATER MANAGEMENT**  
University of Natural Resources and Life Sciences, Vienna



**Bachelor Courses - Winter Term**

Course	Course Number	ECTS	Prerequisite
<a href="#">Geotechnical and Geoenvironmental Engineering</a>	873110	2	Some knowledge in mechanics and hydraulics are required
<a href="#">Organisational behaviour</a>	733104	3	Some knowledge about general processes in organisations is desirable (e.g. based on your work experience).
<a href="#">Scientific working and writing</a>	112101	2	-
<a href="#">Botany (UBRM)</a>	831123	3	-
<a href="#">Conservation biology (UBRM)</a>	834101	2	-
<a href="#">Economics of global commons and climate change</a>	733119	3	-
<a href="#">Specialised field trip UBRM - Rural water management</a>	815112	1	Recommended after the 3rd semester

**Bachelor Courses - Summer Term**

Course	Course Number	ECTS	Prerequisite
<a href="#">Pedestrian and bicycle traffic</a>	856111	1,5	Knowledge in non motorized traffic (e.g. lecture 856.110)
<a href="#">Getting Started in Programming for KTWW</a>	875117	4	spread sheet calculation, basic knowledge in core areas of KTWW: mechanics, statics, hydraulics, statistics, geotechnics
<a href="#">General hydrobiology - exercises</a>	812101	2	-
<a href="#">Corporate sustainability</a>	733119	3	Basic knowledge of the role of organisations in society (e.g. the differences with government and civil society); Knowledge about the major sustainability challenges in western societies.
<a href="#">Hydrobiology</a>	812109	2	-



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Course	Course Number	ECTS	Prerequisite
<a href="#"><u>Scientific computing</u></a>	731139	3	pre-knowledge in any programming language will facilitate the successful completion of the class.
<a href="#"><u>The garage</u></a>	790132	6	interest in innovation, entrepreneurship and not be afraid of economics.
<a href="#"><u>Environmental and energy policy in the EU</u></a>	732117	3	The course is open for all with an interest in interdisciplinary discussion with a social science focus.
<a href="#"><u>VS Social ecology: Sustainability of society-nature interactions</u></a>	737114	6	Basic knowledge in sustainable resource use; interest in interdisciplinary sustainability studies
<a href="#"><u>Air pollution control</u></a>	893127	3	+ General Chemistry + Process engineering (e.g. Prozesstechnik I + II) + Environmental science and engineering + Atmospheric pollution and climate change



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Course	Course Number	ECTS	Prerequisite
<a href="#">International land management</a>	857316	1,5	-
<a href="#">Sustainable spatial development</a>	855327	5	Course for master students or PhD-students! Knowledge of the courses "Spatial Planning" (Lecture) and "Projects in Spatial Planning" (Project work) is very recommended.
<a href="#">Development innovation</a>	934401	3	-
<a href="#">Integrated flood risk management</a>	819336	3	-
<a href="#">Risk management and vulnerability assessment</a>	871360	3	-
<a href="#">Environmental statistics</a>	851311	3	Advanced lecture in applied statistics. A sound basis in statistical methods (introduction to statistics) and computer basics is required!
<a href="#">Development and application of water erosion models</a>	815314	2	-
<a href="#">Seminar in groundwater management</a>	816303	3	Basic understanding of hydrology, equivalent to bachelor in "civil engineering and water management (KTWW H231)"
<a href="#">Hydrogeology</a>	872330	3	Understanding of basic geological principles; Knowledge about rock types, earth history
<a href="#">Hydraulic engineering and river basin management</a>	819301	3	Hydrography Hydrodynamics/hydraulics
<a href="#">Computer based river modelling</a>	819332	3	Basic knowledge in hydraulics and hydraulic engineering
<a href="#">Aquatic biomonitoring and -assessment</a>	812384	2	-
<a href="#">Human impacts in riverine landscapes</a>	812347	2	Basic knowledge in hydrobiology & fish ecology
<a href="#">Ecological river landscape management</a>	812349	2	-
<a href="#">Ecology of fishes</a>	812344	3	-
<a href="#">Ecohydromorphological mapping</a>	812354	2	-



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<a href="#"><u>Modeling in sanitary engineering (sewer, treatment plant and receiver)</u></a>	811360	4,5	Basic knowledge on design models for water supply systems, sewers and wastewater treatment plants (e.g. course 811311 [Projekt Siedlungswasserbau] or 811358 [Planning and Design in Water Supply and Wastewater Treatment])
<a href="#"><u>On site solutions for water supply and sanitation</u></a>	811362	3	-
<a href="#"><u>Risk assessment in the aquatic environment</u></a>	811334	3	Basic knowledge on chemistry
<a href="#"><u>Using water erosion models</u></a>	815335	3	-
<a href="#"><u>Applied geophysics for engineers</u></a>	872314	3	Basics in geology
<a href="#"><u>Lecture series in soil, water and atmosphere</u></a>	815340	3	-
<a href="#"><u>International law and cooperation development</u></a>	816333	3	Basics of the European Community; Base Knowledge of water management problems and law.
<a href="#"><u>Hydrogeology</u></a>	872330	3	Understanding of basic geological principles; Knowledge about rock types and earth history.
<a href="#"><u>Global waste management I</u></a>	813300	3	basic knowledge of environmental technologies
<a href="#"><u>Waste management seminar</u></a>	813307	4,5	-
<a href="#"><u>Managerial economics</u></a>	731348	3	Basic Microeconomics
<a href="#"><u>Negotiating change: Simulating an international conference for sustainable development</u></a>	934306	3	Sufficient English, Advantage: courses at the Institute of International Dev., Centre for Development Research
<a href="#"><u>Mountain hazard processes</u></a>	871324	6	Knowledge of physics, geomorphology, hydraulics, soil mechanics
<a href="#"><u>Snow and avalanches</u></a>	871328	3	Only for master students. Basic knowledge of physics, mathematics, meteorology and geosciences is expected. Skiing or snowboarding skills are required.



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<a href="#"><u>Snow and avalanches - field methods</u></a>	871004	2	Previous experience with snow and avalanches expected
<a href="#"><u>Dynamics of geophysical flows</u></a>	871358	3	Hydraulics, soil mechanics, geomorphology, mountain hazard processes
<a href="#"><u>Mountain forest climatology and headwater hydrology</u></a>	912314	4,5	-
<a href="#"><u>Risk management and vulnerability assessment</u></a>	871360	3	A passed Bachelor is recommended.
<a href="#"><u>Disaster management</u></a>	871332	2	-
<a href="#"><u>Case studies in sanitary engineering</u></a>	811354	3	principle knowledge of water supply, sanitary engineering and water pollution control is of advantage
<a href="#"><u>Modelling in sanitary engineering (sewer, treatment plant and receiver)</u></a>	811360	4,5	Basic knowledge on design models for water supply systems, sewers and wastewater treatment plants (e.g. course 811311 [Projekt Siedlungswasserbau] or 811358 [Planning and Design in Water Supply and Wastewater Treatment]). Understanding the use of the software packages EPANET und SWMM is required (these software tools are used in the courses 811311 [Projekt Siedlungswasserbau] and 811358 [Planning and Design in Water Supply and Wastewater Treatment])
<a href="#"><u>Soil conservation and soil protection</u></a>	815321	3	-
<a href="#"><u>Soil water management</u></a>	815320	3	From Soil Physics: Soil Water Movement; Basic knowledge in rural water management
<a href="#"><u>Soil erosion models and their application</u></a>	815322	4,5	-
<a href="#"><u>Irrigation design</u></a>	815319	3	The aim of the lecture is to provide students with the numerical and theoretical skills required to design an irrigation scheme.
<a href="#"><u>Hydrological processes and modelling</u></a>	816334	3	Basic knowledge in hydrology
<a href="#"><u>Water resources planning and management</u></a>	816338	3	-
<a href="#"><u>Hydraulic engineering and river basin management</u></a>	819301	3	Hydrography, Hydrodynamics/Hydraulics
<a href="#"><u>Remote sensing and GIS in natural resource management</u></a>	857321	3	-



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Course	Course Number	ECTS	Prerequisite
<a href="#">Remote sensing and GIS in natural resource management</a>	857320	3	-
<a href="#">Statistical analyses of ecological data</a>	812352	3	Basic knowledge in statistics and aquatic ecology
<a href="#">Statistics of extreme events and geostatistics</a>	851320	3	Advanced applied statistics. For participants not familiar with geostatistics we recommend attending course "851311 Environmental Statistics" before.
<a href="#">Multivariate analysis of ecological data sets</a>	831315	3	Introductory course in statistics
<a href="#">Applied mathematical programming in natural resource management</a>	731351	3	-
<a href="#">Computer simulation in energy and resource economics</a>	731369	3	-
<a href="#">Technology assessment</a>	915344	3	Additionally attending the lecture 915.315 Systems Engineering in der Holzernte is recommended.
<a href="#">Soil physics and chemistry</a>	911300	3	Knowledge of fundamental physics, chemistry and soil science is required (at least at bachelor level).
<a href="#">Soil chemistry laboratory</a>	911309	3	-
<a href="#">Soil ecology</a>	833301	3	-
<a href="#">Field course soil ecology</a>	911321	3	-
<a href="#">Ecology of aquatic systems</a>	812342	3	-
<a href="#">Meteorological conditions and precipitation</a>	814301	3	Knowledge of physics (especially thermodynamics, mechanics, electromagnetic radiation) as well as ability to work with scientific diagrammes is important. If necessary, rehearse before the course.
<a href="#">Limnology</a>	812340	3	-
<a href="#">Limnochemistry and nutrient cycling</a>	812341	3	registration for the master applied limnology
<a href="#">Physical environment of riverine landscape</a>	812345	2	-



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Course	Course Number	ECTS	Prerequisite
<a href="#">River habitat and landscape assessment</a>	812353	4	GIS
<a href="#">Soil - plant science workshop: from the hypothesis to publication I</a>	911340	3	Sound knowledge of fundamental soil and plant sciences
<a href="#">Ecology and population biology of plants in agro-ecosystems</a>	831304	5	Basic knowledge about morphology, anatomy, ecology and systematics of plants are essential. Experience with the terminology in site ecology (soil, climate) and land use techniques helps a lot following the talks.
<a href="#">Farmland ecology</a>	833311	1	-
<a href="#">Population genetics and evolutionary theory relevant for the management and protection of aquatic organisms</a>	812389	3	General background (such as a Bachelor's degree) some biological field or environmental science field is expected.
<a href="#">Conservation biogeography and genetics</a>	834305	3	-
<a href="#">Taxonomy and ecology of benthic invertebrates</a>	812343	3	-
<a href="#">Fish sampling and monitoring</a>	812355	3	Basic knowledge of fish ecology and taxonomy
<a href="#">Fish ecological status assessment</a>	812356	3	-
<a href="#">Physiology of crop nutrition</a>	951333	4	Basics in chemistry and plant physiology
<a href="#">Plant and environment</a>	831312	3	-
<a href="#">Role of soils in nature conservation and wildlife management</a>	911322	1,5	-
<a href="#">Biochemistry of trace elements</a>	772309	3	Basics of static and dynamic biochemistry
<a href="#">Decision support systems</a>	735318	3	-
<a href="#">Multiple criteria decision making in natural resource management</a>	913311	3	Basic knowledge in mathematics are useful
<a href="#">Rhizosphere processes and application to agriculture and soil protection</a>	911312	3	Basic knowledge in soil and plant sciences (at least bachelor level)
<a href="#">Ecology and management of the rhizosphere in ecological engineering</a>	911344	3	-
<a href="#">Air pollution effects on forest ecosystems</a>	912317	3	-



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Course	Course Number	ECTS	Prerequisite
<a href="#">Forests and water</a>	912313	3	-
<a href="#">Scientific writing</a>	833313	1,5	-
<a href="#">Field camp I - introduction to mountain forestry and forest sciences</a>	916323	2	-
<a href="#">Field camp III - integrated forest management applications</a>	915300	3	-
<a href="#">Process simulation</a>	893312	2	None, but basic knowledge of physics, chemistry and thermodynamics is helpful.
<a href="#">Environmental impacts on riverine ecosystems I</a>	812387	4	Basic knowledge on environmental and ecological processes in riverine ecosystems. Basic skills of analytical tools, e.g. statistical analyses, GIS
<a href="#">Environmental impacts on riverine ecosystems II</a>	812388	2	Environmental impacts on riverine ecosystems I" 812.387 Knowledge on the outline of a scientific manuscript - 812.351 Scientific reading and presentation in aquatic ecology
<a href="#">Protection of natural resources by organic farming</a>	933302	3	-
<a href="#">Soils and food security</a>	911342	2	-
<a href="#">Soils and global change</a>	911327	4	-
<a href="#">International land management</a>	857316	1,5	-
<a href="#">Innovations for sustainable forest management</a>	732337	4	-
<a href="#">Adapting forest management to climate change</a>	913324	2	Forestry background and an interest in forest management decisions under uncertainty. Background in silviculture.
<a href="#">Radioactive waste management – its perception and acceptance I</a>	818306	2	-
<a href="#">Foresights - what future to expect?</a>	730306	2	-
<a href="#">Applied development research I</a>	934302	3	-
<a href="#">Mountain forest policy</a>	732321	4,5	-





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<a href="#"><u>Multiple criteria decision making in natural resource management</u></a>	913311	3	Some basic knowledge in mathematic are useful.
<a href="#"><u>Formulation of questions and experimental design in ecological research</u></a>	833317	4,5	Basic classes in statistics
<a href="#"><u>Modelling of mountain forest ecosystems</u></a>	913339	2,5	Basic computer skills
<a href="#"><u>Simulation in vadose zone environment</u></a>	815311	3	Basic knowledge of soil physics (VU 815.101) is appreciated. Experience in numerical simulations is appreciated.
<a href="#"><u>Game theory in environmental and natural resource management</u></a>	731335	3	-
<a href="#"><u>Water legislation</u></a>	812348	2	-
<a href="#"><u>Restoration and conservation of riverine landscapes</u></a>	812315	3	-
<a href="#"><u>Scientific reading and presentation in aquatic ecology</u></a>	812351	3	-
<a href="#"><u>Aquaculture in practice - lectures and field trips</u></a>	812316	2	-
<a href="#"><u>Laboratory methods in fish genetics</u></a>	812390	4	Students are expected to have successfully completed the lecture "Population genetics and evolutionary theory relevant for the management and protection of aquatic organisms"
<a href="#"><u>Introduction in natural resources management and ecological engineering</u></a>	911353	3	-
<a href="#"><u>Uncertainties in hydrological and ecosystem modelling</u></a>	816355	3	Background in statistics, calculus and environmental systems. Starting in week 3, it is expected that students have developed via self-learning some introductory knowledge in R- or Python-programming. The course is designed for students at the M.Sc. or PhD level with interest in ecosystem modelling.



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<a href="#"><u>Stable isotopes (C, N, S, O, H) in soil and environmental sciences</u></a>	911351	2	Basic background in chemistry and analytical chemistry.
<a href="#"><u>Interdisciplinary project work: soil sciences</u></a>	911307	6	Fundamental knowledge in soil science
<a href="#"><u>Interdisciplinary seminar on agriculture, climate change and transition</u></a>	814308	3	-
<a href="#"><u>Geo-data management</u></a>	857300	3	Basic GIS
<a href="#"><u>Computing seminar on hydraulics and rural water management</u></a>	815327	4,5	-
<a href="#"><u>Seminar in global change and ecosystems</u></a>	833319	2	Basics in ecology
<a href="#"><u>Climate change scenarios and regional impact</u></a>	814305	3	This lecture is obligatory for UBRM master students of the module climate. The meteorological/climatological know how of an UBRM Bachelor is the precondition
<a href="#"><u>Climate change impacts, adaption and mitigation</u></a>	814326	15	Finished Bachelor
<a href="#"><u>Processes and technologies for waste management</u></a>	813003	1	For incoming Students that need approval and have to fulfill requirements for their specific Master Programm at BOKU.



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Course	Course Number	ECTS	Prerequisite
<a href="#">Traffic and transport planning</a>	856306	3	Basic knowledge of research methods, literature and literature sources.
<a href="#">Remote sensing and image processing</a>	857304	6	Some previous exposure to spatial analysis concepts and environmental studies is a definite advantage.
<a href="#">Application of GIS in hydrology and water management</a>	816347	3	Basic knowledge of hydrology (approximately at the level of courses 816100 and/or 816101)
<a href="#">Protection and mitigation measures against natural hazards</a>	871314	3	Knowledge in hydrology, hydraulics, construction, mechanics and structural analysis Snow and avalanche hazards, hazard and risk analysis
<a href="#">Soil protection</a>	911301	3	Fundamentals of soil science (at least bachelor level, ideally the level after passing the exam of 911.014 - Soil Science Refresher)
<a href="#">Possible impacts of climate change on water resources</a>	816342	3	-
<a href="#">Hydrogeological excursion</a>	872331	1	Course of Hydrogeology (LV 872330) and basics in geology
<a href="#">Structural Analysis - FEM Lecture</a>	875317	2	The course builds on the scientific foundations imparted by the Bachelor's program, and in particular on basic knowledge of: (a) Mechanics, (b) Structural design and strength of materials, (c) Construction of framework structures
<a href="#">Structural Analysis - FEM exercise</a>	875318	2	The course builds on the scientific foundations imparted by the Bachelor's program, and in particular on basic knowledge of: (a) Mechanics, (b) Structural design and strength of materials, (c) Construction of framework structures
<a href="#">Benthic invertebrate status assessment</a>	812358	3	The lecture "Benthic invertebrate sampling and monitoring" is in connection with this lecture; LV 812 357 is therefore a prerequisite
<a href="#">Ecology of aquatic plants</a>	831301	2	-
<a href="#">Fish passes and continuity</a>	812372	2	-
<a href="#">Aquatic habitat modeling</a>	812381	2	Basics in aquatic ecosystems



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Course	Course Number	ECTS	Prerequisite
<a href="#">Water resources management in developing cooperation</a>	811332	3	-
<a href="#">Industrial water management</a>	811363	3	-
<a href="#">Planning and assessment of waste management systems</a>	813303	3	The content of the lecture „Life cycle management“ (813.304) or similar knowledge to Life cycle Assessment, Impact categories, Assessment Methodologies.
<a href="#">Life cycle management</a>	813304	2	basic knowledge of waste management and basics in natural sciences
<a href="#">Global waste management II</a>	813301	3	-
<a href="#">Operations research and system analysis</a>	731370	3	-
<a href="#">Geotechnics</a>	873320	3	Knowledge in soil mechanics
<a href="#">Planning and design in water supply and wastewater treatment</a>	811358	3	Basic knowledge on water supply, drinking water treatment, urban drainage systems and waste water treatment (e.g. lecture 811.002 Water Supply and Wastewater Treatment resp. 811108) as well as hydraulic calculation methods (e.g. head losses in piped water systems) will be required.
<a href="#">Biology, chemistry and microbiology for civil engineering</a>	811357	3	-
<a href="#">Rural water management (advanced)</a>	815342	3	Basic knowledge of soil physics and rural water management, Participation in "Lecture Series in Soil, Water and Atmosphere" (815340) required.
<a href="#">Environmental risk analysis and management</a>	816343	3	-
<a href="#">Flood forecasting and flood protection</a>	816325	3	-
<a href="#">Sediment regime and river morphology</a>	819339	3	-



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<a href="#"><u>Globalisation and rural development</u></a>	731333	3	The course will start from scratch. Some background in economic theory would be advantage. This could be provided by e.g., Wirtschaftliche Grundlagen – Volkswirtschaftslehre (731104), Principles of Commodity Markets and Trade Policy (in Eng.) (731325).
<a href="#"><u>Appropriate technologies for water supply &amp; sanitation in developing countries</u></a>	811308	3	-
<a href="#"><u>In-situ treatment of polluted soils and sediments: phytoremediation, in-situ fixation and attenuation techniques</u></a>	911343	3	We recommend parallel attendance of course 911.336 (Soil Pollution and Remediation) as in this will provide theoretical information and an overview on the topic.
<a href="#"><u>Soil and water bioengineering - principles and applications</u></a>	874300	3	-
<a href="#"><u>Participatory methods in development research and practice</u></a>	934317	3	Advantage: 169.401 Development Innovation, 169.304 Livelihood system dynamics in rural development, 169.305 Facilitating change for sustainable development
<a href="#"><u>Valuation methods for natural resources</u></a>	731328	3	introductory course in microeconomics and statistics or econometrics, and differential and integral calculus
<a href="#"><u>Principles of commodity markets and trade policy</u></a>	731325	3	Principles of economics
<a href="#"><u>Resource and environmental economics</u></a>	731324	3	-
<a href="#"><u>Rural development</u></a>	731347	3	-
<a href="#"><u>Mountain risk engineering</u></a>	871327	6	Knowledge in hydrology, hydraulics, construction, mechanics and structural analysis, Snow and avalanche hazards, hazard and risk analysis
<a href="#"><u>Management and forest protection in high altitude afforestations and protective forests</u></a>	916326	3	-
<a href="#"><u>Fire management in mountain forest ecosystems - prophylaxis and control</u></a>	913327	2	General basic knowledge about forest ecosystems and natural resources is recommended.
<a href="#"><u>Cost/benefit analysis</u></a>	871331	3	-



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<a href="#">Biogeochemistry of soils</a>	911341	3	Fundamental knowledge of the main features of soil composition (phases and their constituents such as elemental composition, main compounds and mineralogy), soil (forming) processes, soil classification (international system - World Reference Base), basics of soil
<a href="#">Principles of empirical research methods in the social sciences</a>	731383	3	-
<a href="#">Project management</a>	915327	3	-
<a href="#">Soils of the world: genesis and classification</a>	911350	3	Basics of soil and environmental sciences
<a href="#">Description, functions of soil structure and its changes in agricultural landuse</a>	911346	3	-
<a href="#">Soil properties and processes for ecological engineering</a>	911317	3	-
<a href="#">Advanced topics on hydroclimatology</a>	816354	3	-
<a href="#">Benthic invertebrate sampling and monitoring</a>	812357	3	Expected: Hydrobiologie I und Allgemeine Hydrobiologie Übungen (in German or English). Recommended: 812343 Ecology of benthic invertebrates, 812346 Biomonitoring and – assessment.
<a href="#">Physiology of crop nutrition - laboratory exercises</a>	951310	2	Lecture "Crop Nutritional Physiology - 951333" and being familiar with the principals of plant nutrition.
<a href="#">Crop production in the tropics and subtropics</a>	951332	4	-
<a href="#">Biophysical chemistry</a>	772300	3	Basic chemical and biochemical knowledge from BSc
<a href="#">Bioorganic chemistry</a>	773310	3	Fundamental knowledge of biochemistry and organic chemistry
<a href="#">Kinetics of biochemical reactions</a>	772311	3	-
<a href="#">Proteomics</a>	772306	3	-



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<a href="#">Soil fertility and soil ecology in organic agriculture</a>	933308	3	-
<a href="#">Agroforestry in mountain regions</a>	912328	3	-
<a href="#">Field camp II - concepts and methods of site ecology, forest growth and yield</a>	912332	3	-
<a href="#">Natural resource management in mountain forests</a>	913338	4	-
<a href="#">Soil pollution and remediation</a>	911336	3	Profound knowledge of the fundamentals of soil science and soil chemistry (911.014 - Soil Science Refresher)
<a href="#">Ecology, restoration and conservation of aquatic and riparian vegetation</a>	812360	2	Basic knowledge in ecology.
<a href="#">Biodiversity and conservation of mountain forests</a>	912337	2	-
<a href="#">Mountain forest dynamics and fire ecology</a>	912330	3	-
<a href="#">Biocultural diversity in rural landscapes</a>	834321	3	-
<a href="#">Soil problems in aridic and semiaridic regions</a>	911347	3	Basic knowledge on soils and ecosystems
<a href="#">Soil management in tropical and subtropical developing regions</a>	911324	3	-
<a href="#">Global aspects in landscape planning</a>	854331	4,5	-
<a href="#">Integrated land use modelling</a>	731401	3	Basics in GAMS, R, mathematical programming, regression analysis, scientific writing.
<a href="#">Radioactive waste management – its perception and acceptance II</a>	818307	2	-
<a href="#">Global networking</a>	735322	6	-
<a href="#">Environmental history of river systems</a>	812318	2	-
<a href="#">Facilitating change for sustainable development</a>	934305	3	-



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<a href="#"><u>Growth, development, trade and environment</u></a>	731330	3	Basic analysis and microeconomics.
<a href="#"><u>Science and technology studies: Understanding sustainable innovation</u></a>	852319	3	Master programme or PhD students
<a href="#"><u>Applied development research II</u></a>	934303	3	National and international students who pursue a doctoral degree, provided that their research is related to applied development issues; Master and bachelor students who are concerned about 'research for development' in Africa, Asia or Latin America.
<a href="#"><u>Advanced topics on hydroclimatology</u></a>	816354	3	-
<a href="#"><u>Participatory methods in development research and practice</u></a>	934317	3	Not required, but an advantage: 169.401 Development Innovation, 169.304 Livelihood system dynamics in rural development, 169.305 Facilitating change for sustainable development
<a href="#"><u>Atmospheric pollution and climate change</u></a>	814101	3	Basic mathematics and physics
<a href="#"><u>Slope engineering</u></a>	873302	2	-
<a href="#"><u>Ecologically oriented methods and monitoring in river engineering</u></a>	819340	3	-
<a href="#"><u>Multi-scale modelling and system dynamics in aquatic ecosystems</u></a>	812380	2	Basics in applied limnology, statistics and data management
<a href="#"><u>Participatory methods in development research and practice</u></a>	934317	3	Not required, but an advantage: 169.401 Development Innovation 169.304 Livelihood system dynamics in rural development 169.305 Facilitating change for sustainable development





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**Master Courses - Summer Term**

Course	Course Number	ECTS	Prerequisite
<a href="#">Selected methods of soil analysis</a>	815329	4	Basics in soil physics
<a href="#">Isotope and tracer hydrology</a>	815328	3	Knowledge in hydrology and soil physics is helpful, but not mandatory
<a href="#">Ecology of algae</a>	812359	2	Basics in limnology (e.g. courses in Limnology or limnochemistry or equivalent background), registration for the Applied Limnology Master program is of advantage.
<a href="#">Restoration and conservation of riverine landscapes I</a>	812385	4	basics in statistical analyses and GIS
<a href="#">Restoration and conservation of riverine landscapes II</a>	812386	2	basics in statistical analyses, GIS; outline of a scientific manuscript
<a href="#">GIS in riverscape planning</a>	812371	2	Autonomous working with ArcGIS—basic GIS knowledge (Introductory course); e.g. structure of GIS data, data import, editing, coordinate systems, transformations
<a href="#">Systems science for participatory management of dynamic socio-ecosystems</a>	934318	3	<ul style="list-style-type: none"><li>• Students of hydrology, limnology, forestry, ecology and other domains who are interested in science and policy applied to management of socio-ecosystems.</li><li>• Participants are expected to have potential action research topics of their own interest in mind.</li></ul>
<a href="#">Fish parasitology and pathology</a>	812376	2	-
<a href="#">Fish farming and aquaculture</a>	812378	2	General Hydrobiology
<a href="#">Data mining and data management in aquatic ecology</a>	812379	2	Basics in statistics. Knowledge of MS excel and/or other statistic software.
<a href="#">Limnochemistry II</a>	812391	4	Limnochemistry and nutrient cycling or equivalent course Basic knowledge in laboratory work
<a href="#">Water quality aspects in river restoration</a>	812392	2	Lecture in limnochemistry or equivalent course in water quality Basic knowledge in river engineering or river restoration is of advantage
<a href="#">Taxonomy and evolution of European fish communities</a>	812394	3	Basic skills in fish ecology recommended (812.344 Ecology of fishes)



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**Master Courses - Summer Term**

Course	Course Number	ECTS	Prerequisite
<a href="#"><u>Conservation genetic analysis methods</u></a>	834310	1	-
<a href="#"><u>Evolutionary biology and its applications</u></a>	834311	3	-
<a href="#"><u>Conservation genetic lab</u></a>	834312	2	The lab is designed for Master or advanced Bachelor students from biology derived programs
<a href="#"><u>Interdisciplinary concepts in understanding river-society interactions</u></a>	812327	3	-
<a href="#"><u>Intercultural communication</u></a>	735336	3	-
<a href="#"><u>Soil indicators</u></a>	911304	3	Basic soil knowledge.
<a href="#"><u>Methods in environmental biotechnology</u></a>	970306	3	Practical experience and required skills for working in chemical and microbiological laboratories. Knowledge and awareness of safety regulations for laboratories.
<a href="#"><u>Wind energy: Risks and design options</u></a>	818308	3	-
<a href="#"><u>Introduction to economical and political development cooperation</u></a>	731395	3	A strong interest in development issues
<a href="#"><u>Soil microbiology course</u></a>	911333	4	-
<a href="#"><u>Urban ecology</u></a>	833314	3	-
<a href="#"><u>Plant populations and conservation genetics</u></a>	831338	1	Basic knowledge in biology und genetics.
<a href="#"><u>Meteorological hazards and climate extremes</u></a>	814328	3	-
<a href="#"><u>Forest soil biology</u></a>	911348	3	-



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**Master Courses - Winter or Summer Term**

Course	Course Number	ECTS	Prerequisite
<a href="#">Applications in river landscape management</a>	812350	2	-
<a href="#">Structural exercises</a>	810301 / 870305 (only summer term)	6	Preconditions for the attendance (i.e. completed courses) may be determined by the supervisor (in case of an interdisciplinary topic the leading supervisor).
<a href="#">Field trip - rural water management</a>	815111 / 815343	1	recommended after the 3rd semester

**How to look for courses:**

[boku.ac.at/int-in-boku-howtolookforcourses-en.html](http://boku.ac.at/int-in-boku-howtolookforcourses-en.html)

**For more information please contact**

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