

Faculty of Environment, University of Jan Evangelista Purkyně, Ústí nad Labem

Departments: KTEV Department of Technical Sciences KPV Department of Natural History
KSPV Department of Social Sciences KIG Department of Informatics and GIS

Winter semester

Environmental English

Code: KSPV/0ENEN, ECTS: 6 Teacher: Mr. Miloslav Kolenaty Levels: Elementary, Pre-Intermediate, Intermediate Dealing with scientific texts in English (spoken and written). English terminology connected to the studied subject. Language items used in scientific texts. Dealing with topics covering the professional orientation. Improving communicative skills (writing and speaking, above all) focusing on the topics connected to the professional orientation.

1. 1. Ecology Basics
2. 2. Earth Science
3. 3. Wildlife
4. 4. Using the land
5. 5. Pollution
6. 6. Waste
7. 7. Energy
8. 8. The Environment of the Czech Republic

Lectures 2 h/week, exam

Advanced separation methods in environmental analysis: a practical course

Code: KTEV/0EPME, 6 ECTS Teacher: Mr. Pavel Janos, Mr. Pavel Kuran Practical training in application of chromatographic techniques (GC, HPLC) for the determination of selected organic pollutants in environmental samples, including methods of preconcentration and sample pretreatment (extraction, etc.). Special requirements: basic knowledge of principles of analytical chemistry and laboratory skill are presupposed. Laboratory set 3-4 weeks, 12 hour/week, exam: seminar work

Fundamental Soil Hydraulics

Code: KPV/0FUSH, ECTS: 10 Teacher: Mr. Jakub Štibinger Abstract: Subject “Fundamental Soil Hydraulics (Hydrology)” acquaints student with the basic principles and applications of hydraulics methods in the porous environment. The Darcy’s Law and its use in water engineering practise will be explained. The infiltration processes in the surface soil layers will be clarified, to mitigate the negative impact of hydrological extremes, in this case surface runoff, flooding, water erosion processes, etc. The basic principles of design of simple erosion control structures based on hydro-physical properties of soil will be explained. Case studies focused on soil hydraulics and water management from Czech Republic, Taiwan, Egypt will be discussed.

Lectures 2 h/week, exam

References:

Kutílek M. and Nielsen D. R. 1994. Soil hydrology. Geo-ecology textbook, Catena Verlag,

38162 Cremlingen Destedt, Germany. ISBN 3-923381-26-3
Ritzema H. P. (Editor). 1994. Drainage Principles and Applications. ILRI Publication no. 16,
Wageningen, The Netherlands.

Water in the landscape

Code: KPV/0WATE, ECTS 8 Teacher: Mr. Martin Neruda Information about water management in the Czech Republic. Basic information from Hydrology: flow measurements, water quality classification. Methods of streams revitalization (regeneration) - principles and techniques. Practical examples in the Czech Republic, Germany, Holland, Finland. Field measurements in “Klíšský potok” stream with small current meter OTT C2-flow velocity measurement and water quality measurements with ORION multimeter. Lectures: 2 h/week, terrain work-measure in river, exam

International environmental law

Code: KSPV/0ENLE, ECTS 8 Teacher: Mrs. Karolina Žáková The course is intended to introduce students to one of the youngest branches of international law that is becoming more and more important given the global character of most environmental problems. The first part of the course is general in nature dealing with development of international environmental law, its basic principles and main sources, role of various actors and institutions, implementation and enforcement of international environmental rules and international responsibility within this field. The second part focuses on specific environmental problems international law is helping to solve. Protection of individual components of the environment (air, water, soil, forests, biodiversity) is treated as well as fight against particular threats (dangerous wastes, chemicals, radiation, GMOs) and protection of international spaces (Antarctica, high seas and deep sea-bed). The course is terminated with a short essay followed by an oral examination. Lectures 2/week, exam

Environmental Geology

Code: KPV/0ENGE, ECTS 8
Teacher: Mrs. Mirka Blažková

This course relates the science of Earth to activities of human beings. It's a survey of relationship between Earth science and environmental science. Environmental science is the study of total human environment on the present Earth. The course includes the following topics:

Environmental geology (Geological Environment, Conditions and Preservation, The Anatomy of the Earth, The Dynamic of Earth – (endodynamic and exodynamic), Geological hazards (earthquakes, volcanoes, landslides, erosion, floods, subsidence, geomedical hazards), Geothermal energy (alternative source of energy)

Human impacts on the Earth (resource extraction, ground subsidence, engineering and agriculture, solid and liquid waste, ground water pollution etc.)

Earth resources for society (land and soil, subsurface water, construction materials, industrial and metallic materials, coal and petroleum etc. Geological influence on society (control on landscape and human geomorphology) Lectures 2 h/week, terrain work 8 h (total), seminar work, exam

Valuation and Pricing of Natural Resources

Code: KSPV / 0HOPZ, ECTS 10 Teacher: Assoc. Prof. Josef Seják

History of natural resource pricing within the development of economic thinking and theory.

Valuations of marketed and non-marketed natural resources (biotopes, ecosystem services).

Neoclassical methods based on the concept of willingness to pay or willingness to accept.

Expert methods based on valuing the ecological functions and services of ecosystems. Selected landscape case-studies.

Lectures 3/week, terrain and seminary work

Summer semester

Environmental English

Code: KSPV/0ENEN, ECTS: 6 Teacher: Mr. Miloslav Kolenaty Levels: Elementary,

Pre-Intermediate, Intermediate Dealing with scientific texts in English (spoken and written).

English terminology connected to the studied subject. Language items used in scientific texts.

Dealing with topics covering the professional orientation. Improving communicative skills (writing and speaking, above all) focusing on the topics connected to the professional orientation.

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Lectures 2 h/week, exam

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seminar work

Water in the landscape

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Economics and Organisation of National Parks and Protected Landscape Areas

Code: KSPV/0NP01, PVP, ECTS 4 Teacher: Mr. Jiri Moravec The aim of the course is to introduce students into basic issues of management of large-scale protected natural areas. The course takes a social sciences' approach. A significant number of university graduates will get into contact with administrations of national parks, or protected landscape areas at their work as public employees, private sector employees or associates of non-profit organizations. Therefore,

the course offers to round-up the academic curriculum through study of these institutions. The course is offered to foreign students, and also to Czech students with sufficient knowledge of English. The course is open to students of all study programs and levels of study.

Lectures/exercises 1/1, exam

Valuation and Pricing of Natural Resources

Code: KSPV / 0HOPZ, ECTS 10

Teacher: Assoc. Prof. Josef Seják

History of natural resource pricing within the development of economic thinking and theory.

Valuations of marketed and non-marketed natural resources (biotopes, ecosystem services).

Neoclassical methods based on the concept of willingness to pay or willingness to accept.

Expert methods based on valuing the ecological functions and services of ecosystems. Selected landscape case-studies.

Lectures 3/week, terrain and seminary work