Courses taught in foreign languages in 2015/16

Faculty/Institute:	Faculty of Environment
Course title:	**Environmental English**
Course code:	KSPV/0ENEN
ECTS:	8
Level of course:	bachelor
Teacher:	Mgr. Miloslav Kolenaty
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	0/2 per week
Completion:	written credit test
Course goal:	Introducing basic English environmental terms and skills
Abstract:	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. Ecology Basics 2. Earth Science 3. Wildlife 4. Using the land 5. Pollution 6. Waste 7. Energy 8. The Environment of the Czech Republic

Faculty/Institute:	Faculty of Environment
Course title:	**International Environmental Law**
Course code:	KSPV/0ENLE
ECTS:	8
Level of course:	bachelor
Teacher:	Mrs. Karolina Žákovská
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week
Completion:	Essay/exam
Course goal:	Introducing one of the youngest branches of international law, focusing on general aspects and specific environmental problems.
Abstract:	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.

Faculty/Institute:	Faculty of Environment
Course title:	**Valuation and Pricing of Natural Resources**
Course code:	KSPV / 0HOPZ
ECTS:	8
Level of course:	bachelor
Teacher:	Mr. Josef Seják
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week
Completion:	written test + spoken exam
Course goal:	Introducing the history of natural resource pricing within the economic theory development.
Abstract:	History of natural resource pricing within the economic theory development. Valuation of market and non-market natural resources (ecosystems). Neoclassical methods based on the concept of willingness to pay or willingness to accept. Expert methods based on valuing the ecological functions of ecosystems. Selected case studies. 1. Introduction, Importance of natural resource and ecosystem valuations. The practice of environmental expert witnesses. 2. History of natural resource valuations, Time factor, Cost-benefit analysis. 3. Basic estimations of natural resource price. Formulas for basic natural resource types. 4. Land valuations (admin. and market prices, price information system, price maps) 5. Valuation methods of ecosystem functions and services. Preferential and expert methods. 6. Case studies in contingent valuations in environmental quality change. 7. Biotope valuation method (BVM) in the CR. 8. Case studies in BVM. 9. Ecosystem services and their valuations. 10. Externalities and public goods. 11. Property rights and nature protection. 12. Valuations in integrated forest functions. 13. Pricing of water and water flows in landscape. 14. Seminar works and their assessment.

Faculty/Institute:	Faculty of Environment
Course title:	**Ecological Economics**
Course code:	KSPV / 0EKEK
ECTS:	8
Level of course:	bachelor
Teacher:	Mr. Josef Seják
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week
Completion:	Exam/written test
Course goal:	This transdisciplinary course introduces students into the general interactions among economics, economy and natural environment, brings students to the interface of natural sciences and social sciences. Gives basic knowledge about the decision-making processes in frame of the environmental dimension with help of economic instruments and environmental values.
Abstract:	1. Earth and Life history; Energy Flows, Thermodynamics and Life 2. A Short History of Economic Thinking and Doing 3. Ecological Economics as an Integration of Economic System into Ecological System of Biosphere 4. Sustainable Development Principles and Philosophy 5. Valuing Natural Resources and Ecosystem Services 6. Market Failure and Internalization of Externalities 7. Human Behaviour and Economics 8. Macroeconomic Concepts: GNP, GDI, ISEW 9. Economic Instruments and Environm. Adjusted Cost Benefit Analyses 10. Green Taxes, Limits and Commands, Tradable Permits 11. Sustainable Scale, Just Distribution, Efficient Allocation 12. Environmental Dimension of Global Economy 13. Short Essay and Its Discussion.

Faculty/Institute:	Faculty of Environment
Course title:	**Environmental Drainage Systems**
Course code:	KPV/0EDSY
ECTS:	8
Level of course:	Bachelor
Teacher:	Mr. Jakub Štibinger
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week
Completion:	Exam
Course goal:	To introduce the basic principles of drainage processes and environmental drainage policy, with focusing on land, structures and water regime protection.
Abstract:	Subject “Environmental Drainage Systems” is focused to present to the students the basic principles and applications of drainage policy. Also environmental or sustainable drainage processes will be presented and explained. The students will be explained with modified hydraulics methods with Darcy’s Law and equation of continuity, which are necessary for design, verifications and estimations drainage and environmental drainage systems, especially to determining of the basic design parameters of drainage. Rural Sustainable Drainage System (RSuDS) with Sustainable Urban Drainage System (SUDS) for mitigation of negative impact of climate dynamics (heavy rains, floods, long term droughts) in the landscape (RSuDS) and in urban areas (SUDS) will be introduced. The findings from the soil hydrology area will be fully used. Exemplary case studies from Czech Republic, Netherlands, Egypt and Taiwan will be discussed.

Faculty/Institute:	Faculty of Environment
Course title:	**Water in Landscape**
Course code:	KPV/0WATE
ECTS:	8
Level of course:	Bachelor (undergraduate)
Teacher:	Mr. Martin Neruda
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week and terrain work
Completion:	exam
Course goal:	Introducing the basics of Hydrology and environmental water management.
Abstract:	Information about water management in the Czech Republic. Hydrology: catchments description, hydrological cycle, hydrological balance, flow measurements, groundwater, runoff prediction, water quality in rivers and lakes. Methods of streams restoration (principles, techniques, fish pass types) and flood management. Good practise examples. Hydrological measurements in stream or river.

Faculty/Institute:	Faculty of Environment
Course title:	**Environmental Geology**
Course code:	KPV/0ENGE
ECTS:	8
Level of course:	bachelor
Teacher:	Mrs. Mirka Blažková
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/0 per week
Completion:	terrain work 8 h (total), seminar work, exam
Course goal:	Relating Earth Science and Environmental science, introducing the basics of Environmental Geology.
Abstract:	This course relates the science of Earth to activities of human beings. I 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)

Faculty/Institute:	Faculty of Environment
Course title:	**Subterranean Habitats**
Course code:	KPV/0CAEC
ECTS:	6
Level of course:	bachelor
Teacher:	Mr. Michal Holec, Mr. Richard Pokorný
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	0/2 per week
Completion:	Two field trips - Seminar work
Course goal:	Introducing the definition and classification of caves and organisms occupied this ecosystem.
Abstract:	Course covering definition and classification of caves and organisms occupied this ecosystem. To be possible specified caves as unique ecosystem also basic information of other important underground ecosystems (e.g. debris stones, artificial mining galleries) will be given. Within framework of course caves, artificial mining galleries and debris stones will be visited and examples of cave investigation methods will be given. Course will be oriented to the Bohemia condition.

Faculty/Institute:	Faculty of Environment
Course title:	**Advanced Separation Methods in Environmental Analysis: a practical course**
Course code:	KTEV/0EPME
ECTS:	10
Level of course:	bachelor
Teacher:	Mr. Pavel Janos, Mr. Pavel Kuran, Mrs. Sylvie Kříženecká
Term:	Winter,summer
Language of instruction:	English
Lectures/exercises:	0/2 per week, limit 10 students –first come, first served
Completion:	Laboratory work - Seminar paper
Course goal:	Managing the practical application of chromatographic techniques (GC, HPLC) for the determination of pollutants in the environment.
Abstract:	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

Faculty/Institute:	Faculty of Environment
Course title:	**Management of Protected Areas**
Course code:	KSPV/0NPO1
ECTS:	8
Level of course:	bachelor
Teacher:	Mr. Jiří Moravec
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	1/1 per week and/or terrain work
Completion:	exam and/or term paper submission
Course goal:	Gaining knowledge of basic issues of protected area management
Abstract:	The aim of the course is to introduce students to the basic issues of management of protected natural areas (such as national parks, nature reserves, etc). System of protected areas is a cornerstone of a healthy landscape in modern societies. Formal declaration of protected areas is not sufficient, since protected areas need to be properly managed and organized, usually by governmental institutions. Protected areas (PA) contribute to water and soil protection. Protected areas preserve biodiversity and ecosystem functions, which has important economic and ecological implications. Ecosystem functions, such as natural water purification, natural water regulation, pollination, carbon recycling, photosynthesis, etc., have a major significance for human economy and society. Comparison of ecosystem services with technological solutions and fixes is a part of the subject. University graduates will need knowledge of management of PA when working as public administration employees, or as public policy makers. Also private sector employees should understand the purpose and limitations of PA. Tourism in protected areas requires educated visitors for its sustainability. Therefore, sound knowledge of significance and operation of protected areas will improve the educational profile of any student. The course offers to round-up the academic curriculum. It takes an integrated approach, applying both social and natural sciences, and explaining the role of technology. The course is offered to foreign students, as well as to Czech students with sufficient knowledge of English. The course is open to students of all study programs and levels of study. There is an English textbook for the course, written by the lecturer, both in printed version and in PDF format.

Faculty/Institute:	Faculty of Environment
Course title:	**Transportation and Environment**
Course code:	KSPV/0TRE1
ECTS:	8
Level of course:	bachelor
Teacher:	Mr. Jiří Moravec
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	1/1 per week and/or terrain work
Completion:	exam and/or term paper submission
Course goal:	Gaining knowledge of basic environmental issues of transport
Abstract:	The aim of the course is to introduce students to basic environmental issues of transport (air and water pollution, soil sealing, landscape and biodiversity impact). Proper transport planning and management is essential for well-organized cities, regions and countries. Governments, private businesses and individuals have to look for solutions, both organizational and technological, in order to counter negative environmental impacts, including traffic congestion. The students will inquire into measures attempting to eliminate or reduce the negative environmental effects of transport. Topics covered will include land-use planning, reduction of traffic flows, technical anti-noise measures, technological adjustments of road pavements, cars and fuels, and construction of eco-ducts. The issue of transport-disadvantaged groups (handicapped) will be addressed, both organizational and technological measures. Public policies supporting environmentally sustainable modes of transport, and energy issues will be explained and discussed. The course is offered to foreign students, as well as to Czech students with sufficient knowledge of English. The course is open to students of all study programs and levels of study. There is an English textbook for the course, written by the lecturer, both in printed version and in PDF format.

Faculty/Institute:	Faculty of Environment
Course title:	**Environmental Issues of Turkey and Middle East**
Course code:	KSPV/0ETMD
ECTS:	8
Level of course:	bachelor
Teacher:	Mr. Jiří Moravec
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	1/1 per week
Completion:	exam and/or term paper submission
Course goal:	Developing knowledge of environmental issues of Turkey and Middle East
Abstract:	The aim of the course is to analyze selected environmental issues of Turkey and countries of the Middle East. The topics include air pollution, water pollution, water scarcity and management, soil degradation, erosion and desertification, forestry and biodiversity maintenance. The emphasis of the course may change from semester to semester, according to actual environmental events and developments. The students will inquire into measures and policies attempting to reduce selected environmental problems. Various approaches will be inspected (technologies, legislation, economic incentives, education and information). A participation in the course presumes basic general knowledge of environmental issues. Independent study and desk research will be encouraged.

Faculty/Institute:	Faculty of Environment
Course title:	**General economics**
Course code:	KSPV/0ECNE
ECTS:	8
Level of course:	bachelor
Teacher:	Ing. Jakub Vosátka, Ph.D.
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/1 per week
Completion:	exam
Course goal:	Introducing the basics of economic science.
Abstract:	The General economics course is as a first-level introduction to the economic science. The course consists of the two parts. The first part is focused at microeconomics, where students get acquainted with the behaviour of basic market agents, i.e. households and firms. The second part of the course is devoted to the macroeconomic issues, considering the economic role of the state from viewpoints of different economic schools.

Faculty/Institute:	Faculty of Environment
Course title:	**Soil Science**
Course code:	KPV/0SOSI
ECTS:	8
Level of course:	bachelor
Teacher:	Ing. Lenka Zoubková
Term:	Winter, summer
Language of instruction:	English
Lectures/exercises:	2/1/8 per week
Completion:	exam
Course goal:	Introducing the basics of soil science and its importance within other natural sciences. Laboratory training connected with sampling in terrain.
Abstract:	The course deals with basic knowledge of soil forming processes, soil classification, physical, chemical and microbiological soil conditions and problems of soil degradation in different parts of the world. Soil legislation in the Czech Republic will be mentioned as well. The main aim of the laboratory training is to give the principle of particular methods relating to physical, chemical and microbiological soil analyses. Laboratory training will be completed by short field excursion which will aim on methods of soil sampling and basic soil types´ determination.