SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Environmental protection_5ECTS

Educational subject description sheet

Basic information

Field of study Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes) **Speciality** - **Organizational unit** Course Offer for exchange students **Study level** second cycle studies, including uniform master studies (MA programmes) **Study form** full-time studies **Education profile** General academic	**Didactic cycle** 2024/25 **Subject code** PWMPWM2S_D.B100000P.06290.24 **Lecture languages** english **Mandatory** Elective subjects **Block** Basic subjects **Disciplines**

Coordinator	Magdalena Vaverková
Teacher	Magdalena Vaverková

Period	**Examination**	**Number of ECTS points**
Winter semester	Exam **Activities and hours** Lecture: 15 Laboratory exercises: 15	5

Goals

Code	Goal
C1	The aim of the course is to prepare students to perform ecological surveys and solve problems using case study approach.
C2	On the basic of examples students learn to apply scientific knowledge in practice and perform environmental expertise.
C3	Developing of public awareness, understanding of the threats caused by human activity, ability to utilize ecological knowledge for sustainable development.
C4	Promotion of knowledge of nature conservation.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	Knows environmental and social conditions, and legal regulations determining the use of natural resources as well as the functioning and development of rural areas, including engineering activities.		Oral exam, Oral credit
W2	Knows the methods, techniques, technologies and materials as well as life cycle assessment to protect and use the potential of nature to ensure the quality of human life.		Oral exam, Oral credit
Skills – Student can:			
U1	Can plan and implement practical and research tasks in the field of environmental protection using various sources of information as well as analytical, simulation and empirical methods.		Oral exam, Oral credit
Social competences – Student is ready to:			
K1	Is ready to make decisions related to the state of the environment, food safety and quality of life, guided by the principle of predicting the effects and reducing the risk.		Oral exam, Oral credit
K2	Is ready for teamwork.		Oral exam, Oral credit

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Renewable and Non-renewable Resources: (1) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems, (2) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies, (3) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, Case studies, (4) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies, (5) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.	W1, W2, U1, K1, K2	Lecture
2.	Environmental Pollution: (1) Definition, (2) Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, (3) Solid waste management: Causes, effects and control measures of urban and industrial Wastes, (4) Role of an individual in prevention of pollution (5) Pollution case studies.	W1, W2, U1, K1, K2	Lecture
3.	Social Issues and the Environment: (1) From unsustainable to sustainable development, (2) Urban problems related to energy, (3) Water conservation, rain water harvesting, watershed management, (4) Environmental ethics: Issues and possible solutions, (5) Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents. Case studies, (6) Wasteland reclamation, Consumerism and waste products.	W1, W2, U1, K1, K2	Lecture
4.	Human Population and the Environment: (1) Population growth, variation among nations, (2) Population explosion, (3) Environment and human health.	W1, W2, U1, K1, K2	Lecture
5.	The class will generally consist of (1) a discussion of the readings, (2) a short lecture on the day’s topic, (3) student briefings, and (4) plenary or sub-group work on developing the report on environmental protections.	W1, W2, U1, K1, K2	Laboratory exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Conversation lecture, Case study, Brainstorm, Presentation
Laboratory exercises	Case study, Discussion, Teamwork

Activities	Examination method	Percentage
Lecture	Oral exam	50%
Laboratory exercises	Oral credit	50%

Activities	Credit conditions
Lecture	Final grade: Oral credit (project defence), including: 25% - evaluation of the project and student activity based on observations during the classes, 25% - answer to questions about the project, 50% - answer questions about the topics of lectures.
Laboratory exercises	Oral credit (project defence).

Literature

Obligatory

1. There is NO REQUIRED TEXTBOOK for this course.
2. VAVERKOVÁ, M.D. ADAMCOVÁ, D., 2015, Environmental Conservation, Mendel University in Brno, ISBN:978-80-7509-293-9
3. CHRISTENSEN, T.H. (ed.) (2011) Solid Waste Technology and Management. Wiley, Chichester, West Sussex, UK
4. CUNNINGHAM, W P., CUNNINGHAM, M A., SAIGO, B W. 2005, Environmental science: a global concern, Boston, McGraw-Hill, ISBN:0-07-243956-4

Optional

1. BOTKIN, Daniel B. a Edward A. KELLER. Environmental science: earth as a living planet. 7. Hoboken: John Wiley and Sons, c2014. ISBN 978-1-118-42732-3
2. MILLER Tyler G. Environmental Science. 2018, Cengage Learning ISBN-13: 9781337569613

Calculation of ECTS points

Activity form	Activity hours*
Lecture	15
Laboratory exercises	15
Preparing the project	20
Conducting literature research	15
Self-study on the content covered in class	15
Preparation of a multimedia presentation	15
Preparation for the exam	15
Preparation for exercises	15
Student workload	**Hours** 125
Number of ECTS points	**ECTS** 5

* hour means 45 minutes