Óbuda University, Donát Bánki Faculty of Mechanical and Safety Engineering	Institute of Machine Design and Safety Engineering

Name and code of the subject: Environmental technology (English course) BGBKO1ENND
Credits: 2 2016/2017 Spring valid until recalled

Faculty: **Mechanical, Mechatronical and Safety Engineering**

Course leader:	Dr. Kovács Tibor docent	Lecturer:	Tunyogi Dóra assistant lecturer

Prestudy conditions (code)	-

Weekly teaching hours:	Lecture: **2**	Classrom practice.: -	Lab: -	Consultation: -
Type of exam:	mid-semester grade			

Curriculum

The objective of the course: The students study the basic knowledge of raising awareness as well as the comprehensive approach of the notion of the environmental protection, a practice of protecting the natural environment on individual, organizational or governmental levels, the challenges and risks threatening our environment. The field encompasses the study of basic principles of ecology and environmental science, as well as associated subjects such as ethics, policy, politics, law, economics, philosophy, environmental sociology and environmental justice, planning, pollution control and natural resource management. Protecting the environment is needed due to various human activities. Waste production, air pollution and loss of biodiversity.

Syllabus: The objectives, tasks and system devices of environmental protection. Ecological knowledge. To protect the environment comprises: air quality protection, water quality protection, soil protection. Noise and vibration protection. Waste management, recycling waste.

Requirements during the Semester

Educational weeks	
week 1	Basic environmental concepts, definitions, most well-known multinational agreements. Environmental law.
week 2	Protection of wildlife and ecology.
week 3	The composition of air and its self-purification, air pollution sources and types, the harmful effects of air pollutants. Protection against air pollution: air quality control and area protection. The measurement and control of air pollution.
week 4	The importance of water, features of water resources. The quality of the water. Water pollution and its impact.
week 5	Optional topic/test/exam
week 6	Water pollution. Wastewater treatment, combined treatment of domestic and industrial pollution. Possibilities of waste water placement.
week 7	Types of soil, contamination, inherited problems of pollution. Termination of soil pollution.
week 8	The environmental noise pollution of settlements, reducing traffic noise and industrial noise.
week 9	Vibration protection.
week 10	Characteristics of waste, impact on the environment. Waste management.
week 11	Protection against the harmful effects of the waste, recycling waste.
week 12	Global warming, sustainability, energy efficiency, conservation, green building, waste of energy, endangered species
week 13	Green solutions, environmental organisations, renewable resources
week 14	Optional topic/test/exam

Attendance: compulsory on the 60 % of the classes. Failure of this means no signature for the fulfilment of the semester. No opportunity to retry.

Mid-semester grade**:** Each student will be tasked to write an 8-10 page long essay in English (in accordance with the formal requirements). The selected topics will be updated at the first lecture. 2 successful tests are required during the semester. Furthermore, during in the last 3 occassions the students have to give a presentation about any selected environmental topics. The arithmetic average of essays, tests and presentations results provide the mid-semester grade. Failure to hand in assignments, missed in-class tests is followed by probibition. Grade 1 tests or assignments result in '1' for the mid-semester grade, which may be improved once during the semester.

Bibliography:

Reference:
[1]GCSE Additional Science, The Complete GCSE Course for AQA, Coordination Group Publications Ltd. 2013
[2]GCSE Core Science, The Complete GCSE Course for AQA A, Coordination Group Publications Ltd. 2013
[3]Handbook of Environmental Protection & Enforcement Principles & Practice, Copyright Andrew Farmer, 2007
[4]Cities and Biodiversity Outlook Action and Policy, A Global Assessment of the Links between Urbanization, Biodiversity and Ecosystem Services
[5]Basic theory of sustainable development, The economy, society and the environment
[6]Adapt in Urban Water Systems to Climate Change (A handbook for decision makers at the local level), Publisher: ICLEI European Secretariat GmbH
[7] EU Environmental Policy Handbook, A Critical Analysis of EU Environmental Legislation Making (accessible to environmentalists and decision makers), Editor: Stefan Scheuer
[8] Simon Ákos: Környezetvédelem, főiskolai jegyzet, BMF 2008
[9]Moser Miklós-Pálmai György: A környezetvédelem alapjai, Nemzeti Tankönyvkiadó Rt 2006
[10] Barótfi István: Környezettechnika
[11] 1995. évi LIII. Törvény a környezet védelmének általános szabályairól
[12] 2012. évi CLXXXV. Törvény a hulladékról
[13] Környezet és természetvédelmi Lexikon I-II, Akadémiai Kiadó 2002
[14] Magyar-Angol Környezetvédelmi Értelmező Szótár, Akadémiai Szakszótárak, Akadémiai Kiadó 2005

Egyebek:
Órán kiadott anyagok.

The quality control methods of subject: feedback after the quality control meeting common with students and teachers after completion of semester

Budapest, January 01. 2017.

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Course leader