

Course schedule for RMTSK2ETNC Environmental Protection II.
2019/20 1. semester

ÓBUDA UNIVERSITY						
Rejtő Sándor Faculty of Light Industry and Environmental Engineering		Faculty	Media Technology and Light Industry		Institute	
Hungarian title of the course:		Speciális környezetvédelem II.		Neptun code:		RMTSK2ETNC
English title of the course:		Environmental Protection II.		Credit:		2
Type (compulsory/obligatory):		Compulsory	Education Type	Full-time	Semester : 7	
Study field:		Environmental Engineering programme				
Lecturers:		Dr. Cecilia Tamás-Nyitrai, lessons 1.-7. Dr. Csaba Horváth, lessons 9.-14				
Required preliminary knowledge:		none				
Weekly teaching hours:	Lecture:	2	Practical work:	0	Laboratory work:	0
Exam type:		Tm	Language of course:	English	In timetable:	Wednesday 9.50-11.20.
CURRICULUM						
<i>Abstract:</i>						
<p>The main objective of the course is to make student more and more environmentally-concerned. Students will get acquainted not only with the basic knowledge and technical terms used in cellulose-, paper-, packaging- and printing industries, but all the environmental and social roles of these companies. Green technologies, waste managements, as well as different directives and certificates will also be presented.</p>						
<i>Detailed schedule of the course:</i>						
<i>Topics of lectures and exercises:</i>						
Educational week	Date	Description				
1.	2017. 09.13.	Introduction, the purpose of the course. Types of renewable materials. Discussing potential Topics for students' Oral Presentation. (Attached to this document).				
2.	09.20.	Classification of organic compounds, functional groups. Types of polymers. Cellulose, the most abundant polymer in nature. Advantages and disadvantages the use of primary (virgin) and secondary fibers (recycled) in paper manufacturing.				
3.	09.27.	Visiting the Papermaking plant, Paper Museum and Waste-water treatment plant in Dunaújváros.				
4.	10.04.	Environmentally friendly directives in Cellulose Industries. Concerning gas emission, waste managements and water treatments. Regeneration of chemicals (inorganic compounds) and product recovery (hemicellulose, ethanol, yeast, lignin, vanillin, solvents, etc.) from process waste water. Environmentally friendly directives in Paper Industries. Concerning waste managements and water treatment technologies. Total close of water circuits.				
5.	10.11.	Packaging materials, biodegradability. Synthetic polymers and processing technologies. Waste collection systems, selection methods. New directives and Regulations in Packaging Industry (See CSAOSZ Newsletters).				

6.	10.18.	Oral presentations I. (See Attached document)
7.	10.25.	Oral presentations II. (See Attached document)
8.	11.01.	Break – National day
9.	11.08.	Environmentally friendly technologies in Printing industry. Leen and green printing.
10.	11.15.	IPA free technologies. Recovery of VOC (volatile organic compounds) from gases. Certificates applied in Printing Industry. FSC, GPWA, EMAS, ISO
11.	11.22.	Checklist for printing houses.
12.	11.29.	Environmentally-concerned problemsolving in printing industry.
13.	12.06.	Written Test (Packaging and printing industry)
14.	12.13.	Improver test and oral presentation.
Requirements		
<i>Attendance at lectures:</i>		
To be present on lectures is compulsory. Rules of education and exam directory (TVSZ) are the guidelines.		
<i>Exams and tests (types, data)</i>		
6. and 7.week	Oral presentations	
13.week	Written Test	
14.week	Improver test and oral presentations	
<i>Requirements for qualification:</i>		
For midterm mark, students have to write two tests on the 7 th and 13 th weeks of teaching course		
	0-50 %	fail
	51-100 %	pass
If failed, test can be rewrite in week 14 or/and once more within the first 10 days of the examination period.		
<i>Type of exam (written, oral, tests etc.) and the method of assessment:</i>		
Oral test during the semester and the examination period.		
Literature		
<i>Compulsory:</i>		
<i>Recommended:</i>		
<i>Others:</i>	PPT files on homepage of the Institute/Moodle elearning system.	
Quality Management		
The structure of the course is harmonized with other lecturers from different universities. Assessment of students is carried out at every lecture, and at the end of semester.		
The ppt files are continuously renewed according to the new literature data.		