

Assessment and subject description

Óbuda University		Kandó Kálmán Faculty of Electrical Engineering		Institute of Microelectronics and Technology	
Subject name and code: Knowledge of materials in the electrical industry laboratory (2)					
KMEVR12ANC				Credits: 2	
Full-time, Spring Semester					
Course: Electrical engineering					
Responsible:		Zsolt Horvath PhD		Teaching staff: György Meszlényi	
Prerequisites:		KMEVR11ANC			
Contact hours per week:	Lecture: 0	Class discussion.: 0	Lab hours: 1	Tutorial: 0	
Assessment and evaluation:	assignment				
Subject description					
<p><i>Aims:</i> Giving students practical materials science testing knowledge, applicable in the industrial practice. The material covered roughly corresponds to that contained in the course of the Hungarian language B.Sc. programme.</p> <p><i>Tasks:</i></p> <ul style="list-style-type: none"> • Learning theoretical background of measurements • Measure the properties of given materials • Recording and evaluating the measurement data in the laboratory practice report. <p><i>Topics to be covered:</i> Spectrophotometry; measuring concentration; Polarization optics; Insulating materials: measuring dielectric parameters; Mechanical properties: tensile strength and hardness; Microscopy basics.</p>					
Topics				Week	Lessons
Information about the laboratory works, safety regulations				1.	2
Spectrophotometry; measuring concentration				3.	2
Polarization optics				5.	2
Insulating materials: measuring dielectric parameters				7.	2
Mechanical properties: tensile strength and hardness				9.	2
Microscopy basics				11.	2
Reports, test				13.	2
Assessment and evaluation:					
<p>The attendance of laboratory practice is strongly recommended. Students work in measuring groups of 3 people. At the beginning of the measurements teacher ask questions controlling the preparation for the tasks. Every student makes his own laboratory practice report, and delivers it for the next measurement. At the final measurement students write end-of-term test paper; theme: control questions of the measurements.</p> <p>Replacement measurement in case of absence: in compliance with the teacher.</p> <p>Final grade components: Each laboratory practice report gives 10 % each in the final grade. End-of-term test paper gives 50 % in the final grade.</p>					
Compulsory literature : http://www.uni-obuda.hu/users/grollerg/Materials%20Science/					
Recommended literature: Callister: Fundamentals of Materials Science and Engineering					