

## LECTURE PROGRAMME

Materials Selection, GEMTT074M-a

Week	Date	Type of lecture	Topics
1.	09.02.2016	Lecture	Introduction. Requirements.
	09.02.2016	Practice	
2.	16.02.2016	Lecture	Materials in design. The evolution of engineering materials. The design process. Organising materials and processes.
3.	23.02.2016	Lecture	Engineering materials and their properties. General material properties. Mechanical properties, stiffness, elastic moduli, plasticity, yielding and ductility, hardness, fracture, fracture toughness, friction and wear. Special characters.
	23.02.2016	Practice	<i>Prefixes and units.</i>
4.	01.03.2016	Lecture	Material property charts. Types and application.
5.	08.03.2016	Lecture	Materials selection - the basics. The selection strategy. The selection procedure. Computer-aided selection.
	08.03.2016	Practice	<i>Calculation exercises.</i>
6.	15.03.2016	-	National holiday.
7.	22.03.2016	Lecture	Materials selection—case studies. CES in practice.
	22.03.2016	Practice	<i>Calculation exercises.</i>
8.	29.03.2016	-	Easter holiday
9.	05.04.2016	Lecture	Materials selection—case studies. CES in practice. <b>TEST.</b>
	05.04.2016	Practice	<i>Calculation exercises.</i>
10.	12.04.2016	Lecture	Processes and process selection. Classifying processes. The processes: shaping, joining, and finishing. Computer-aided process selection. Process selection case studies. CES in practice.
11.	19.04.2016	Lecture	Materials and process selection: Project works in CES.
	19.04.2016	Practice	<i>Calculation exercises.</i>
12.	26.04.2016	Lecture	Materials for special applications: high temperatures, electronic applications, bio-applications, etc.
13.	03.05.2016	Lecture	Strategic thinking- matching material to design. Materials, processes and the environment. Life cycle assessment and materials selection.
	03.05.2016	Practice	<i>Calculation exercises.</i>
14.	10.05.2016	Lecture	Supplementation of the neglected tasks ( CES project work, TEST, if necessary).

Miskolc, 9. February 2016.

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