

<b>Óbuda University</b> Bánki Donát Faculty of Mechanical and Safety Engineering			<i>Institute:</i> Institute of Material and Manufacturing Science		
<b>Name of the subject:</b> <b>Fundamentals of manufacturing engineering BGXFAE3BNE / BAGFA1ANND</b> <b>Credit: 5</b> <i>(Forgácsolás technológia alapjai)</i> <i>Full time course Term: 2018/2019 I.</i>					
Programme: Mech Eng BSc II English			Mo. 13:30-17:00 Room 111		
Teacher responsible for the subject:	Mikó Balázs (PhD; ass. prof.)		Teachers:	Mikó Balázs (PhD; ass. prof.)	
Prerequisites:		-			
Hours per week:	Lecture: <b>2</b>	Practice.: <b>0</b>	Labs: <b>2</b>	Consultation:	
Way of closing the semester:	<b>Exam</b>				
<b>Curriculum</b>					
<i>The aim of the subject is to present the basics of manufacturing and cutting technology, the positioning and fixtures and machine tools. The tool geometry, materials, wear process and life time are presented. The different cutting methods (turning, milling, drilling, grinding, planning, shaping, broaching), tools and related machine tools are described.</i>					
Schedule					
Week no.	Topics				
1.	Introduction Cutting technology, cutting tools		Safety and ergonomics in machining workshop		
2.	Edge geometry and tool materials		Cutting tools, catalogues		
3.	Tool wear, forces, cooling		Manufacturing process planning 1 (HW1 out)		
4.	Cutting test		Cutting test		
5.	Manufacturing process planning, requirements and process elements, Documenting		Processing of cutting test data		
6.	Blank materials, selection and calculation, tolerances and manufacturing errors		Manufacturing process planning 2		
7.					
8.	Basic cutting methods and machine tools: turning,		Manufacturing process planning 3		
9.	Basic cutting methods and machine tools: turning,		Positioning and fixtures, typical fixtures in machining		
10.	Basic cutting methods and machine tools: drilling				
11.	Basic cutting methods and machine tools: milling		Milling machines		
12.					
13.	Basic cutting methods and machine tools: Grinding		<b>Deadline of HW1</b>		
14.	Test				
<b>Requirements</b>					
1 test in 14. week (max 60 points), 1 homework (max 20 points) 0-39 % – 1 (fail) 40-54 % – 2 (pass) 55-69 % – 3 (satisfactory) 70-84 % – 4 (good) 85-100 % – 5 (excellent)					

**Literature:**

- [1] G. Schneider: Cutting tools applications (electronically available)
- [2] S. Kalpakjian; S.R. Schmid: Manufacturing engineering and technology; Pearson Singapore 7<sup>th</sup> ed. 2014. (Chapters: 21-26.)
- [3] Handouts in the Moodle system