

<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>Basics of manufacturing BGXGA1ABNE / BAGGA1AMND</b> <i>Full time course Term: 2019/2020 I.</i>					
Programme: Tech Manager BSc II English			Mo. 13:30-15:10 Room 110. We. 15:20-17:10 Room 134.		
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>1</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>					
<b>Schedule</b>					
Week no.	Topics				
1.	Introduction Manufacturing process planning, requirements and process elements, Documenting				
2.	Blank materials, selection and calculation, tolerances and manufacturing errors		Safety and ergonomics in machining workshop		
3.	Cutting technology				
4.	Edge geometry and tool materials		Manufacturing examples and cost analyses		
5.	Tool wear, forces, cooling				
6.	Basic cutting methods and machine tools: turning,		Manufacturing examples and cost analyses		
7.	Basic cutting methods and machine tools: turning,				
8.	Basic cutting methods and machine tools: milling		Manufacturing workshop tour		
9.	Basic cutting methods and machine tools: drilling				
10.	Basic cutting methods and machine tools: Grinding		Edu Break		
11.	Positioning and fixtures, typical fixtures in machining				
12.	Manufacturing examples		Project presentation		
13.	Test				
14.					
<b>Requirements</b>					
1 test in 14. week (max 60 points), 1 homework (max 30 points)					
0-39 %      – 1 (fail);      40-54 %      – 2 (pass);      55-69 %      – 3 (satisfactory) 70-84 %      – 4 (good);      85-100 %      – 5 (excellent)					
<b>Literature:</b>					
[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					

