

<b>Óbuda University</b> Bánki Donát Faculty of Mechanical and Safety Engineering				<i>Institute:</i> Institute of Material and Manufacturing Science	
Name of the subject: <b>Basics of manufacturing BGXGA1ABNE / BAGGA1AMND</b> <b>Credit: 4</b>					
Full time course                      Term: <b>2022/2023 I.</b>					
Programme: Tech Manager BSc II English			Semiar:                      We. 13:30-15:10 Room 110. Lecture:                      We. odd 15:20-17:10 Room 110.		
Teacher responsible for the subject:	Mikó Balázs (PhD; ass. prof.)		Teachers:                      MIKÓ Balázs (PhD; ass. prof.)		
Prerequisites:		-			
Hours per week:	Lecture: <b>1</b>	Practice.: <b>2</b>	Labs: <b>0</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 Basics of cutting		-		
2			Technology		
3	Cutting tools, geometry and materials		Project work		
4			Manufacturing examples and cost analyses		
5	Tool wear, forces, cooling		Cutting tools workshop		
6			Blank materials		
7	Basic cutting methods and machine tools: turning, hole making		Safety and ergonomics in machining workshop		
8			Manufacturing workshop tour		
9	Basic cutting methods and machine tools: milling		Presentation workshop		
10			Manufacturing workshop tour		
11	Basic cutting methods and machine tools: planning, shaping, broaching, grinding		Measuring workshop 1		
12			Measuring workshop 2		
13	Metrology		Consultation		
14	<b>Test in the Moodle</b>		<b>Project presentation</b>		
<b>Requirements</b>					
1 test in 14th week (max 40 points), 4 small tests (12 points) 1 homework (team work, manufacturing process analysis) (max 20 points)					
0-59 %                      – 1 (fail);                      60-69 %                      – 2 (pass);                      70-79 %                      – 3 (satisfactory) 80-89 %                      – 4 (good);                      90-100 %                      – 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					