

Óbuda University <i>Donát Bánki Faculty of Mechanical and Safety Engineering</i>			Responsible unit: Institute of Materials and Manufacturing Sciences	
Name of the subject: Basics of manufacturing BGXGA1ABNE / BAGGA1AMND <i>Full time course Term: 2020/2021 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: 2	Practice.: 0	Labs: 1	Consultation:
Way of closing the semester:	Exam			
Curriculum				
<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 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		Technology workshop	
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		Presentation workshop	
9.	Basic cutting methods and machine tools: drilling			
10.	Basic cutting methods and machine tools: Grinding		Manufacturing workshop tour	
11.	Positioning and fixtures, typical fixtures in machining			
12.	Manufacturing examples		Project presentation	
13.	Test			
14.	Retake test			
Requirements				
1 test in 13th week (max 60 points), 1 homework (team work, manufacturing process analysis) (max 30 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 th ed. 2014. (Chapters: 21-26.) [3] Handouts in the Moodle system				

