

Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering			Institute: Institute of Material and Manufacturing Science		
Name of the subject: Fundamentals of manufacturing engineering BAGFA1ANND      Credit: 5 (Forgácsolás technológia alapjai)					
Full time course			Term: 2017/2018 I.		
Programme: Mech Eng BSc II English					
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: 2	Consultation:	
Way of closing the semester:	Exam				
Curriculum					
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.					
Schedule					
Week no.	Topics				
1.	Introduction Cutting technology, cutting tools		Safety and ergonomics in machining work-shop		
2.	Edge geometry and tool materials		Cutting tools, catalogues		
3.	Tool wear, forces, cooling				
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 1 (HW1 out)		
7.					
8.	Basic cutting methods and machine tools: turning,		Manufacturing process planning 2		
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		Deadline of HW1		
14.	Test				
Requirements					
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					