

Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering			<i>Institute:</i> Institute of Material and Manufacturing Science		
Name of the subject: Manufacturing Engineering 2 BGXGTE3BNE / BAGGT23NED/C Credit: 4					
Full time course Term: 2021/2022 I.					
Programme: Mechatronic Eng BSc II English			Timetable: Lec.: Mo. 13:30-15:10 Room 106. Sem: Mo. 15:20-17:00 Room 106.		
Teacher respon- sible 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					
<i>The aim of the subject is to present the basics of manufacturing and cutting technology, the position- ing and fixtures and machine tools. The tool geometry, materials, wear process and life time are pre- sented. The different cutting methods (turning, milling, drilling, grinding, planning, shaping, broach- ing), tools and related machine tools are described.</i>					
Schedule					
Week no.	Topics				
1.	Introduction Manufacturing process planning, require- ments and process elements, Documenting				
2.	Blank materials, selection and calculation, tolerances and manufacturing errors		Safety and ergonomics in machining work- shop		
3.	Cutting technology		Manufacturing examples		
4.	Edge geometry and tool materials		Manufacturing process planning 1 HW1 out		
5.	Tool wear, forces, cooling		Manufacturing process planning 2		
6.	Basic cutting methods and machine tools: turning,		Consultation		
7.	Basic cutting methods and machine tools: turning,		Manufacturing process planning 3		
8.	Basic cutting methods and machine tools: milling		Manufacturing process planning 4		
9.	Basic cutting methods and machine tools: drilling		Manufacturing process planning 5		
10.	Basic cutting methods and machine tools: Grinding		Manufacturing process planning 6		
11.	Positioning and fixtures, typical fixtures in machining		Consultation		
12.	Manufacturing examples		Deadline of HW1		
13.	Test				
14.	Retake test				
Requirements					
1 test in 13th week (max 50 points), 1 homework (max 30 points)					
0-60 % – 1 (fail); 60-70 % – 2 (pass); 70-80 % – 3 (satisfactory)					
80-90 % – 4 (good); 90-100 % – 5 (excellent)					

Literature:

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