

Óbuda University Bánki Donát Mechanical Safety Engineering Faculty		Institute of Materials and Manufacturing Science Department of Materials Technology		
<i>Name of the subject:</i> Materials Technology		<i>NEPTUN-code:</i> BAXACE3BNE		
<i>Lecturer:</i> Dr. Tünde KOVÁCS associate professor		<i>Practice:</i> Dr. Peter VARGA assistant professor		
Course Description:				
Overview of basic materials processing methods, like casting, rolling, forging, bulk and sheet metal forming, polymer processing, powder metallurgy, etc. Joining of metals, soldering, brazing, welding. Surface coating. Materials and forming technology. Engineering materials and forming processes. Functions, loads, materials and shapes of parts.				
Lessons per Week:	Lectures: 3	Labs: 0	Practice: 1	Consultation by request
Evaluation:	practice mark			

1. Lecture program	
Week	Subject
1	Introduction of the materials technology
2	Rolling and Forming technologies, Open die forging, Forging machines, Closed die forging
3	Shearing of sheet and plate
4	Blanking and piercing operations and dies.
5	Bending of sheets. Bending tools.
6	Test 1
7	Deep drawing operations. Deep drawing tools
8	Fusion welding, solid state welding
9	Special welding technologies, Brazing, soldering
10	Heat treating, Surface treating and surface coatings
11	Test 2
12	Vacation
13	Other joining technologies
14	Repeated Test 1, and Test 2

2. References
S. Kalpakjian: Manufacturing Processes for Engineering Materials, Addison-Wesley Publishing Company
J. A. Schey: Introduction to Manufacturing Processes, McGraw-Hill Book Company
P. Rácz: Metal Forming Processes, Óbuda University, (electronic textbook).

3. Requirements	
a) Taking part in lessons: Taking part in practical lessons is obligatory, and visiting lectures is recommended.	
b) Tests and other tasks	
Week	Tests
6	Test #1
11	Test #2
14	Repeated tests
c) Terms of signature and practice mark Students who accomplish semester requirements get signature and practice marks.	
d) Evaluation of practice mark The practice mark is the mean value of two test results (or repeater tests) if the mark of them is at least 2. If the mark of any of them after repeater tests is 1 then the practice mark is 1 as well.	
e) Repeater tests Failed tests can be rewritten on the last week of the lesson period of the semester.	
f) Repeater test in the examination period of the semester Failed practice marks can be improved in the first two weeks (10 working days) of the examination period. The date of it is given by the reader before the end of the lesson period.	

Budapest, 2024.02.01.



Dr. Tünde KOVÁCS
associate professor

Schedule for practical lessons

Participation in the lessons is obligatory.

		Schedule			
Week	Date	Course 01	Course 02	Topic	Lab
1	14. February	2	21. February.	Basics of plastic deformation	Fszt. 16.
3	28. February	4	06. March	Examples and calculations of basic plastic forming technologies Formability of sheet metals	Fszt. 16.
5	13. March	6	20. march	Hardenability of steels Jominy end-quench test	P 22A
7	27. March	8	03. April	Quenching and tempering of steel	P 22A
9	10. April	10	17. April	Welding practice	P 31 P 33
11	24. April	12	01. May	No practice	-
13	08. May	14	15. May	Welding practice	P 31 P 33

Wednesday 8:00-9:40