

Óbuda University Donát Bánki Faculty of Mechanical and Safety Engineering			Institute of Materials and Manufacturing Sciences Department of Manufacturing Technology		
Course title and code:Manufacturing equipment and systems I. BAGGRIANND				Credits:	4
Full-time, 2020/2021 academic year. 1. Semester					
Faculties in which the subject is taught: Donát Bánki Faculty of Mechanical and Safety Engineering					
Lecturer instructor	Dr. Czifra György			Instructor	Dr. Czifra György
Prerequisites conditions (code)		-			
Hours per week:	Lecture: 2		Practice: 2	Laboratory: 0	Consultation: 0
Semester closing way: (required)		Exam test			
Curriculum					
The objective of the course: Getting to know the students with machine tools, their structure and structural design. The course also prepares students for CNC-controlled machine tools.					
Schedule					
Educational weeks	Lecture			Exercise	
week 1	Machining Technology			Design for Machining: General Design Rules, Individual homework (IHW)	
week 2	Basic Elements and Mechanisms of Machine Tools: Structures, Guideways			Design for Machining by Cutting: Turning, Drilling and Allied Operations	
week 3	Basic Elements and Mechanisms of Machine Tools: Spindles and Drives			Design for Machining by Cutting: Milling	
week 4	Basic Elements and Mechanisms of Machine Tools:Planetary Transmission, Motors, Reversing Mechanisms,Couplings, Brakes, Reciprocating Mechanisms			Design for Machining by Cutting: Shaping, Broaching, Thread Cutting, Gear Cutting, grinding	
week 5	Lathe Machines and Operations			Turret and Capstan Lathes	
week 6	Drilling Machines and Operations			Automated Lathes, IHW consultation	
week 7	Milling Machines and Operations			Nontraditional Machine Tools and Operations: Jet Machines and Operations	
week 8	Shapers, Planers, and Slotters and Their Operations .			Nontraditional Machine Tools and Operations: Ultrasonic Machining Equipment and Operation	
week 9	Boring Machines and Operations			Nontraditional Machine Tools and Operations: Electrochemical Machines and Operations	
week 10	Broaching Machines and Operations			Nontraditional Machine Tools and Operations: Electrochemical Grinding Machines and Operations	
week 11	Grinding Machines and Operations			Nontraditional Machine Tools and Operations: Electrical Discharge Machines and Operations	
week 12	Thread Cutting			Electron Beam Machining Equipment and Operations, IHW presentation	
week 13	Gear Cutting Machines and Operations			Laser Beam Machining Equipment and Operations, IHW presentation	
week 14	Theory-Final exam - test			Plasma Arc Cutting Systems and Operations,	

Conditions of getting grade:

- participation in exercises - the minimum participation in exercises is 70%
- At least 50% fulfillment of the test
- Qualification of the homework as “adequate”

Replacement:

If the student has not met the conditions for obtaining the grade, he / she will be given the opportunity to make up for it in the form of a test. The result of the test is the same as the normal test result. If the student is unable to obtain the grade, he / she may retry testing during the first 10 days of the exam period.

If the test fails, the student does not complete the subject.

Calculation of grade:

0 – 49,99%	elégtelen (1) insufficient
50 – 59,99%	elégséges (2) sufficient
60– 69,99%	közepes (3) satisfactory
70 – 84,99%	jó (4) good
85 – 100%	jeles (5) excellent

Bibliography:

Course book:

1. Helmi A. Youssef, Hassan El-Hofy: Machning Technology-Machine Tools and Opeerations, CRC Press, 2008, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742 – www.EngineeringBooksLibrary.com
2. P.H. Joshi: Machne Tools Handbook, McGraw-Hill, 2008, ISBN 978-0-07-149435-9

Budapest, 07 September 2020

Lecturer instructor