

Obuda University Bánki Donát Faculty of Mechanical and Safety Engineering				Institute of Mechanical Engineering and Technology			
Course title and code:		BGXBM3EBNF Basics of Manufacturing Technology			Credits:		4
full time	training	2025/26	academic year		II.	semester	
Faculties in which the subject is taught:				Mechatronics Engineering BSc			
Lecturer instructor:		Mikó Balázs, Prof.PhD.habil		Instructor(s):		Mikó Balázs, Prof.PhD.habil	
Prerequisites conditions (code):							
Hours per week							
Lecture:	1	Practice:	2	Laboratory:	-	Consultation:	-
Semester closing way: (required):				midterm mark (written and oral)			
Timetable info:		We 12:35-15:10			N.106 (József krt 6.)		
Online consultation (optional):				BBB link:			
Curriculum: The aim of the course is to acquaint the students with the production technologies of machinery parts, the basic types of production equipment, and production processes. Within the framework of the subject, the types and tools of cutting processes are addressed, as well as the structure of traditional and CNC-controlled machine tools. The technologies of fine surface machining (grinding, polishing, honing, etc.), laser, plasma, and water jet machining, as well as EDM technologies, are discussed. The production technologies of plastic and composite parts, as well as additive manufacturing processes, are addressed separately. The learning of basic measurement methods is included as part of the subject.							
Schedule							
Education al weeks		Topics					
1.		Introduction; Manufacturing process planning, requirements and process elements, Documenting Project work discussion					
2.		Safety and ergonomics in machining workshop					
3.		Manufacturing examples and cost analyses, Blank materials;					
4.		Basic cutting methods and machine tools: turning, drilling, Tool properties					
5.		Workshop tour 1					
6.		Basic cutting methods and machine tools: milling, planning, shaping, broaching, grinding					
7.		Plastic part production technologies, part analysis					
8.		Composite technologies Additive manufacturing					
9.		EDM, LASER, WJ; Presentation workshop					
10.		Metrology; Measuring lab					
11.		Machining lab 1; Project consultation					
12.		Machining lab 2; Project consultation					
13.		Project work presentation					
14.		Test					
Requirements in a term							
Test		Task			Laboratory measurement		
Number	Date	Number	Deadline		Number	Date	
1 closing	14 th week	1	13 th week				
3 small	6/9/12 week						

Requirements for completing the subject: Successful completion of 1 final test (max. 40 points, min. 20 points), 4 practice tests during the semester (max. 3x3 = 9 points) Technological analysis and presentation of a product in groups of 3 people (max. 15+5 points)					
Condition of evaluate and replacement					
<i>Participation in the courses is governed by HKR.</i>					
<i>Replacement during the term is regulated in HKR.</i>					
<i>The procedure for getting midterm mark/signatures after the end of the educational term is provided down in the Academic Regulations.</i>					
Other requirements for participation in courses not covered by the regulations and restrictions on replacements:					
Test		Task		Laboratory measurement	
maximum overall score	minimum score for completion/test	maximum overall score	minimum score for completion/task	maximum overall score	minimum score for completion/measurement
40+3x3	20+0	20	10		
Maximum overall score in a term:					
Scoring limits	pass from %	satisfactory from %	good from %	excellent from %	
	50	60	70	85	
Other evaluation criteria:					
No signature:					
Requirements in case of exam					
System of exams and reports:					
Type of exam: <input type="checkbox"/> oral <input type="checkbox"/> written <input type="checkbox"/> oral and written <input type="checkbox"/> other:					
Condition of offered mark and pre-exam:					
Mandatory course book:		1. S. Kalpakjian; S.R. Schmid: Manufacturing engineering and technology; Pearson Singapore 7 th ed. 2014. (Chapters: 21-26.) 2. Handouts in the Moodle system			
Recommended course book:					
Quality method of this subject:					
In all matters not covered by this document, the provisions of the Study and Examination Regulations and the Study Regulations of Óbuda University shall apply.					
Date: Budapest, 2026. 01. 15.					
lecturer instructor					