

Obuda University Bánki Donát Faculty of Mechanical and Safety Engineering				Institute of Mechanical Engineering and Technology			
Course title and code:		Design and Manufacturing of Plastic Injection Mould BGKTNIMBLF			Credits:		0
correspondence (part time)	training	2026/27	academic year	I.	semester		
Faculties in which the subject is taught:				Mechatrical Engineering BSc			
Lecturer instructor:		Mikó Balázs, Prof.PhD.habil		Instructor(s):		Mikó Balázs, Prof.PhD.habil	
Prerequisites conditions (code):							
Hours per week							
Lecture:	-	Practice:	-	Laboratory:	1	Consultation:	-
Semester closing way: (required):				midterm mark (written and oral)			
Timetable info:		Monday 13:30-16:05			Fr.3.315		
Online consultation (optional):				BBB link:			
Curriculum:		The course introduces the design and manufacturing of plastic injection moulds, covering the complete mould development process from concept to production. Students learn the fundamentals of injection moulding technology, moulding machines, and mould design workflows. The course examines plastic materials and design-for-moulding principles, followed by mould bases, guiding systems, mould materials, and heat treatment methods. Key functional systems, including injection, ejection, and cooling systems, are discussed in detail. Special attention is given to moulds for undercut parts, cost estimation, and industrial design considerations. Practical examples and homework assignments reinforce theoretical knowledge and engineering skills.					
Schedule							
Educational weeks		Topics					
1		Introduction, Injection moulding and machines, Mould design workflow, Plastic materials, Design for moulding					
2		Mould bases, guiding systems; Mould materials and heat treatment					
3		Injection system; Ejection system; Cooling system					
4		Undercutted parts Cost estimation Examples					
Requirements in a term							
Test		Task			Laboratory measurement		
Number	Date	Number	Deadline		Number	Date	
1 closing	14 th week	1	13 th week				
Requirements for completing the subject: Successful completion of 1 final test (max. 15 points, min. 7 points), Attendance at 75% of classes							
Condition of evaluate and replacement Participation in the courses is governed by TVSZ 46.§ (1)-(4). Replacement during the term time is regulated in TVSZ 47.§ (7)-(9). The procedure for getting midterm mark/signatures after the end of the educational term is provided down in the Academic Regulations, Book Three, Part One, Chapter II, Section 3:8.							
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
15	7				
Maximum overall score in a term:		15			
Scoring limits	pass from %	satisfactory from %	good from %	excellent from %	
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. 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. 06. 03.					
lecturer instructor					