

NAME OF THE COURSE		Processing of materials						
Code	PMT157	Year of study			III.			
Course teacher	Doc.dr.sc.Endri Garafulić	Credits (ECTS)			5,0			
Associate teachers		Type of instruction (number of hours)			L	S	E	F
					30		30	
Status of the course		Percentage of application of e-learning						
COURSE DESCRIPTION								
Course objectives	Adopting basic knowledge for Materials Processing Technology: metal casting, deformation, particle separation, welding and the possibilities of application of these procedures.							
Course enrolment requirements and entry competences required for the course	None							
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	After this course, students will be able to: 1.Classify Materials Processing Technology 2.Classify procedures of particle separation and explain their importance. 3. Presentation and application of machine tools 4.Classify procedures for connecting and separating materials 5. Analyze the characteristics of the merging and separation procedures 6.Categorize procedures of casting , deformation , and minting							
Course content broken down in detail by weekly class schedule (syllabus)	Week 1 Definition of production , Definition and classification of technology , procedures of particle separation , Advantages and disadvantages of procedures of particle separation , Historical Development Week 2 Basic technology concepts of particle separation, tool and workpiece geometry Exercise 1 Introduction to machine tools in the laboratory . Turning. The geometry of the tool and workpiece . Types of separate particles , materials for cutting tools Week 3 Formation and forms of separate particles. Exercise 2 Turning Week 4 Thermal phenomena in processing of particle separation Exercise 3 Planing and gouging Week 5 Tool wear Exercise 4 Methods for making holes : drilling , countersinking and reaming Week 6 Materials for cutting tools Exercise 5 Sawing and broaching Week 7 Classification of machine tools . The structure and technical specifications of machine tools. Exercise 6 Milling Week 8 Colloquium 1 Week 9 The importance and types of deformation procedures. The concept of plastic deformation and indicators of material plasticity Exercise 7 Finishing procedures methods: grinding, honing, superfinishing , polishing Week 10 Changes in the material caused by deformation; anisotropy; Exercise 8 Wood processing Week 11 The degree and rate of deformation ; Flow curve and flow curves ; Procedures of compacting and forging Exercise 9 Wood processing Week 12 Base casting process ; Flow and solidification of metals . The procedures of casting in sand. Materials and methods of making molds and cores . Exercise 10 Wood processing Week 13 Procedures of compacting and forging Exercise 11 Wood processing Week 14 Definitions of procedures and principles of weld joints . Types of joints and welding positions. The forms of energy for welding . The flow of heat in welding. Exercise 12 Wood processing Week 15 Colloquium 2							
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)				
Student responsibilities	Class attendance Independently preparation of exercise. Making exercise reports Active participation in the teaching process. Exam.5							
Screening student work (name the proportion of ECTS)	Class attendance	1	Research		Practical training	1		
	Experimental	1	Report		(Other)			

<i>credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)</i>	work				
	Essay		Seminar essay		(Other)
	Tests		Oral exam		(Other)
	Written exam	2	Project		(Other)
Grading and evaluating student work in class and at the final exam	Total scoring (100%): Exam or 2 colloquiums - 80%, student exercises 20% 1. Colloquium 1: 40% (or exam) 2. Colloquium 2: 40% (or exam) 4. Excercises: 20% (obligatory) Rating by percentage: 50% to 62% - sufficient (2) 63% to 75% - good (3) 76% to 88% - very good (4) 89% to 100% - excellent (5)				
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media
	Fučko G, Interna skripta 2004. Šavar Š., Obrada odvajanjem čestica I i II, ŠK, Zagreb, 1993.				
Optional literature (at the time of submission of study programme proposal)	Lindberg A.R Processes and materials of manufacture, Boston, 1990.				
Quality assurance methods that ensure the acquisition of exit competences	Conversation with the students. Students opinions about the quality of teaching through anonymous polls. The success of students at exam. Self-evaluation.				
Other (as the proposer wishes to add)					