

## COURSE DESCRIPTION CARD – SPECIMEN

Faculty of Mechanical Engineering									
Field of study	Mechanics							Degree level and programme type	Bachelor's degree/Master's degree/Doctoral degree
Specialization/ diploma path								Study profile	
Course name	Manufacturing Techniques							Course code	IS-FME-00164W
								Course type	obligatory
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	winter
	30		15					No. of ECTS credits	5
Entry requirements	Basics of Machine Construction, Structural Materials, Metrology and Measurement Systems								
Course objectives	To acquaint students with the basics of theoretical and practical techniques of manufacturing machinery parts and Introduction to the design and operating parameters of machine tools and machines used in the manufacturing industry								
Course content	design and manufacturing processes, characterization of structural materials, molding and casting, welding technologies, cutting technologies, metal forming, machining and machine tools, machining erosion, powder metallurgy in terms of applications in the manufacture of machine parts, the main processing technologies of technical plastics, own student project based on knowledge of self-selected manufacturing technology								
Teaching methods	lecture, project classes, project making documentation, specialization workshop, seminar								
Assessment method	lecture – written exam, project – evaluation of reports, verification of preparation for classes								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	student trims knowledge of manufacturing techniques, especially knowledge of modern technologies							M1_W16	
LO2	student compares the different variants of technology manufacturing equipment according to established criteria							M1_U09	
LO3	student applies the principles of occupational health and safety							M1_U23	
LO4	student evaluates the usefulness of methods for solving							M1_U24	

	simple engineering tasks in the design of manufacturing processes		
LO5	student builds a sense of responsibility for own work and is willing to comply with the rules work in a team	M2_K03	
LO6			
Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed	
LO1	qualifying test lecture, a reports on the project	Lecture, P	
LO2	preparation for project classes, discussion in the lecture	Lecture, P	
LO3	preparation for project classes, observation of work in the classroom	P	
LO4	active methods of lecture	Lecture	
LO5	Discussion on the report of the project, observation of work in the labs	P	
LO6			
Student workload (in hours)		No. of hours	
Calculation	lecture attendance	30	
	participation in classes, laboratory classes, etc.	30	
	preparation for classes, laboratory classes, projects, seminars, etc.	30	
	working on projects, reports, etc.	45	
	participation in student-teacher sessions related to the classes/seminar/project	10	
	preparation for and participation in exams/tests	30	
	TOTAL:	175	
Quantitative indicators		HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation		70	2
Student workload – practical activities		105	3
Basic references	1. Rusek P.: Innovative manufacturing technology, Instytut Zaawansowanych Technologii Wytwarzania, Kraków, 2012, 2. Singh R.: Introduction to Basic Manufacturing Processes and Workshop Technology, New Age International Publishers, 2006.		
Supplementary references	1. Jonsson P.: Manufacturing, planning and control, London, McGraw-Hill, 2009, 2. Gajek M.: Optimization of manufacturing processes and work environment, Oficyna Wydawnicza Politechniki Opolskiej, Opole, 2010.		
Organisational unit conducting the course	Chair of Materials Engineering and Production	Date of issuing the programme	
Author of the programme	Grzegorz Skorulski, PhD	2020.06.22	

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,

## **S – seminar**

Please notice!

Depending on number of students enrolled for the subject hours of tuition are as follows (for each 30 hours given in course description card):

1 – 2 students - 5 hours of tuition hours;

3 – 4 students - 8 hours of tuition;

5 – 6 students - 11 hours of tuition;

7 – 8 students - 15 hours of tuition;

9 and more students - hours of tuition given by a teacher as regular classes.