Programme structure valid from the academic year 2024/2025

programme of study: mechanical engineering
level of qualification: second-cycle
type of education: academic

	Course code		Course title	l	c	lab	p/s	No. of hours	exam	ECTS credits
	Semester 1									
K	M#2-S2-ME-101	1	Analytical Mechanics	15	15			30		2
K	M#2-S2-ME-102	2	Design of Experiment Techniques	15				15		1
K	M#2-S2-ME-103	3	Advanced Finite Element Method	15		15	15	45		2
K	M#2-S2-ME-104	4	Heat Transfer	15	15	15		45		2
K	M#2-S2-ME-105	5	Automation and Robotics for Manufacturing	15		15		30		2
K	M#2-S2-ME-106	6	Advanced Measurement: Geometric Dimensioning and Tolerancing	15		30		45	1	3
K	M#2-S2-ME-107	7	Applications of Artificial Intelligence	15				15		1
K	M#2-S2-ME-108	8	Thin-Walled Structures	15				15		1
S1	M#2-S2-ME-PT-109	9	CNC Programming and Machining Centre Programming	15		15	15	45	1	3
S1	M#2-S2-ME-PT-110	10	Laser and Plasma Processes	15		15		30		2
S1	M#2-S2-ME-PT-111	11	Safety and Accessibility Criteria in Design	15			15	30		2
S1	M#2-S2-ME-PT-112	12	Advanced CAM Systems	15		15	15	45		3
S1	M#2-S2-ME-PT-113	13	Mass Finishing	15		15		30	1	2
S1	M#2-S2-ME-PT-114	14	Metal Forming: Analysis of Process Parameters	15			15	30		2
S1	M#2-S2-ME-PT-115	15	Dynamics of Mechanical Systems	15		15		30		2
S2	M#2-S2-ME-EM-109	9	Automotive Testing and Maintenance	15		30		45	1	3
S2	M#2-S2-ME-EM-110	10	Machinery Testing and Maintenance	15		30		45	1	3
S2	M#2-S2-ME-EM-111	11	Rapid Control Prototyping and Hardware-in-the-Loop Simulation	15		15	15	45		3
S2	M#2-S2-ME-EM-112	12	Advanced Programming Methods	15		15		30		2
S2	M#2-S2-ME-EM-113	13	Tribology and Tribotechnology	15		30		45		3
S2	M#2-S2-ME-EM-114	14	Design and Testing of Mechatronic Systems	15		15		30		2
		S1	Courses for a specialism of PT	105	0	75	60	240	2	16
		S2	Courses for a specialism of EM	90	0	135	15	240	2	16
		S1	**Total number of hours and ECTS credits for PT**	**225**	**30**	**150**	**75**	**480**	**3**	**30**
		S2	**Total number of hours and ECTS credits for EM**	**210**	**30**	**210**	**30**	**480**	**3**	**30**

	Semester 2									
K	M#2-S2-ME-201	1	Advanced CAD Systems	15			30	45		2
K	M#2-S2-ME-202	2	Processes for Altering the Structure and Properties of Engineering Materials	15		30		45		2
K	M#2-S2-ME-203	3	Experimental Mechanics	15		15		30		2
K	M#2-S2-ME-204	4	Numerical Methods in Mechanical Engineering	15		15		30	1	2
K	M#2-S2-ME-205	5	Non-Destructive Testing	15		15		30		2
K	M#2-S2-ME-206	6	Pre-Final Project				30	30		2
K	M#2-S2-ME-207	7	Foreign Language			30		30		2
K	M#2-S2-ME-208	8	Materials Characterization in Advanced 3D Printing	15		30		45		2
S1	M#2-S2-ME-PT-209	9	Joining Processes	15		15		30	1	2
S1	M#2-S2-ME-PT-210	10	Virtual Prototyping in Machine Design	15			15	30		2
S1	M#2-S2-ME-PT-211	11	Machine Design	15	15		15	45		3
S1	M#2-S2-ME-PT-212	12	Advanced Surface Modelling	15		15		30		2
S1	M#2-S2-ME-PT-213	13	Machine Design: Jigs and Fixtures	15			30	45		3
S1	M#2-S2-ME-PT-214	14	Laser and Plasma Processes	15		15		30	1	2
S2	M#2-S2-ME-EM-209	9	Coatings for Mechanical Engineering Applications	15		15		30	1	2
S2	M#2-S2-ME-EM-210	10	Automotive Diagnostics	30		30		60		4
S2	M#2-S2-ME-EM-211	11	Machinery Safety	15			15	30	1	2
S2	M#2-S2-ME-EM-212	12	Failure Analysis	15		15		30		2
S2	M#2-S2-ME-EM-213	13	Programmable Logic Controllers	15		15		30		2
S2	M#2-S2-ME-EM-214	14	Refrigeration and Air Conditioning	15		15		30		2
		S1	Courses for a specialism of PT	90	15	45	60	210	2	14
		S2	Courses for a specialism of EM	105	0	90	15	210	2	14
		S1	**Total number of hours and ECTS credits for PT**	**180**	**15**	**180**	**120**	**495**	**3**	**30**
		S2	**Total number of hours and ECTS credits for EM**	**195**	**0**	**225**	**75**	**495**	**3**	**30**
	Semester 3									
HS/K	M#2-S2-ME-301	1	Patent and Copyright Protection	15				15		1
K	M#2-S2-ME-302	2	Maintenance of Production Systems	30		15		45		3
K	M#2-S2-ME-303	3	Thesis					0		20
HS/K	M#2-S2-ME-304	4	Famous Polish Scientists	15				15		1
HS/K	M#2-S2-ME-305	5	History of Design	15				15		1
HS/K	M#2-S2-ME-306	6	Project Management	15				15		1
HS/K	M#2-S2-ME-307	7	Self-employment	15				15		1
K	M#2-S2-ME-308	8	Thesis Seminar				30	30		2
			Total number of hours and ECTS credits	**105**	**0**	**15**	**30**	**150**	**0**	**30**

S1	**Total number of ECTS credits for PT**	**510**	**45**	**345**	**225**	**1125**	**6**	**90**
S2	**Total number of ECTS credits for EM**	**510**	**30**	**450**	**135**	**1125**	**6**	**90**

ECTS credits for electives (a minimum of 27 required)	
Thesis Seminar	2
Thesis	20
Pre-Final Project	2
Humanities and Social Sciences (HS)	0
Programme-Specific Elective	0
S1 Courses for a specialism of PT	30
S2 Courses for a specialism of EM	30
Total number of ECTS credits for PT	**54**
Total number of ECTS credits for EM	**54**

Humanities and Social Sciences, semester 3

M#2-S2-ME-301	1	Patent and Copyright Protection	15				15		1
M#2-S2-ME-304	4	Famous Polish Scientists	15				15		1
M#2-S2-ME-305	5	History of Design	15				15		1
M#2-S2-ME-306	6	Project Management	15				15		1
M#2-S2-ME-307	7	Self-employment	15				15		1

ME - Mechanical Engineering
HS - Humanities and Social Sciences
PT - Design and Manufacturing
EM - Machine Operation and Maintenance

l - lecture
c - class
lab - laboratory class
p/s - project/seminar