



Państwowa Akademia
Nauk Stosowanych
w Krośnie

Course catalogue for Erasmus students

Automatics and Robotics

Academic year 2025/2026

Winter semester 2025/2026

Name of course	Year of study	ECTS	Number of hours, form of classes	Language of the course	Form of credit
Polytechnic classes	Winter (1 st Year)	2	Laboratory (15h)	PL/ENG	credit
Physics 1	Winter (1 st Year)	4	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	credit
Chemistry	Winter (1 st Year)	3	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	credit
Engineering graphics and drawing	Winter (1 st Year)	4	Lecture (15h), Project classes (30h)	PL/ENG	credit
Enterprise quality systems	Winter (1 st Year)	2	Lecture (15h), Project classes (15h)	PL/ENG	credit
Basics of automation	Winter (2 nd Year)	5	Lecture (30h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Numerical methods	Winter (2 nd Year)	4	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Environmental management	Winter (2 nd Year)	1	Lecture (5h), Project classes (10h)	PL/ENG	credit
Manufacturing technology	Winter (2 nd Year)	4	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Fundamentals of machine construction	Winter (2 nd Year)	4	Lecture (15h), Project classes (30h)	PL/ENG	credit
Electrical Machines	Winter (2 nd Year)	5	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Thermodynamics and fluid mechanics	Winter (2 nd Year)	5	Lecture (30h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Microprocessor techniques	Winter (3 rd Year)	4	Lecture (15h), Laboratory (15h) Project classes (15h)	PL/ENG	credit
Control theory	Winter (3 rd Year)	4	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Process Automation	Winter (3 rd Year)	4	Lecture (15h), Project classes (30h)	ENG	credit
Technical diagnostics	Winter (3 rd Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Robotics	Winter (3 rd Year)	4	Lecture (15h), Project classes (30h)	PL/ENG	exam
Modeling of dynamic systems	Winter (3 rd Year)	4	Lecture (15h), Project classes (30h)	PL/ENG	credit
Optimization methods	Winter (3 rd Year)	3	Lecture (15h), Exercise classes (30h)	PL/ENG	credit
Project Management	Winter (3 rd Year)	2	Lecture (15h), Project classes (15h)	PL/ENG	credit
Visualization of production processes	Winter (4 th Year)	3	Lecture (15h), Project classes (30h)	PL/ENG	credit
Industrial automation	Winter	2	Lecture (15h),	ENG	credit

	(4 th Year)		Project classes (15h)		
--	------------------------	--	-----------------------	--	--

Spring semester 2025/2026

Name of course	Year of study	ECTS	Number of hours, form of classes	Language of the course	Form of credit
Differential Equations, Integral Transforms, and Operational Calculus for Automation Engineers	Spring (1 st Year)	5	Lecture (25h), Exercise classes (35h)	PL/ENG	credit
Physics 2	Spring (1 st Year)	4	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Mechanics and strength of materials	Spring (1 st Year)	4	Lecture (30h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Electrotechnics	Spring (1 st Year)	4	Lecture (30h), Exercise classes (15h), Laboratory (15h)	PL/ENG	exam
Informatic	Spring (1 st Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Fundamentals of metrology	Spring (1 st Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Entrepreneurship and protection of intellectual property	Spring (2 nd Year)	1	Lecture (10h), Project classes (10h)	PL/ENG	credit
Measurement methods and techniques	Spring (2 nd Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Electronics	Spring (2 nd Year)	4	Lecture (15h), Exercise classes (15h) and laboratory (15h), Project classes (15h)	PL/ENG	exam
Signal processing and analysis	Spring (2 nd Year)	3	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	credit
Structural and object-oriented programming	Spring (2 nd Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	credit
Circuit theory	Spring (2 nd Year)	3	Lecture (15h), Laboratory (30h)	PL/ENG	exam
Computer-aided design	Spring (2 nd Year)	3	Lecture (15h), Project classes (30h)	PL/ENG	credit
Electric drives	Spring (3 rd Year)	3	Lecture (15h), Exercise classes (15h), Laboratory (15h)	PL/ENG	credit
PLC controllers and SCADA systems	Spring (3 rd Year)	4	Lecture (30h), Laboratory (30h)	PL/ENG	exam
Neuronal networks	Spring (3 rd Year)	2	Lecture (15h), Laboratory (15h)	PL/ENG	credit
Exploitation of machines and energy installations	Spring (3 rd Year)	2	Lecture (15h), Exercise classes (15h)	PL/ENG	credit
Drives and control of pneumatic and hydraulic systems	Spring (3 rd Year)	4	Lecture (30h), Exercise classes (15h)	PL/ENG	exam
Designing processes in 3D technology - CAD CAM	Spring (3 rd Year)	3	Lecture (15h), Project classes (30h)	PL/ENG	credit
Design of electronic circuits	Spring (3 rd Year)	3	Lecture (15h), Project classes (15h)	PL/ENG	credit
Industry 4.0	Spring	2	Lecture (15h),	ENG	credit

	(3 rd Year)		Project classes (15h)		
Engineering project in automation	Spring (3 rd Year)	2	Project classes (30h)	PL/ENG	credit

Optional courses

Courses are implemented in the winter semester and summer semester, provided a minimum of 5 students participate.

Course name in English (in Polish)	Year of study, semester of study in the cycle	Number of hours, form of classes	ECTS	Form of credit	Language of the subject
Polish for Foreigners	For Erasmus students only	15 class	2	credit	ENG
Introduction to Poland	For Erasmus students only	15 class	2	credit	ENG
Lean management	For Erasmus students only	15 class	2	credit	ENG
Work improvements with AI solutions	For Erasmus students only	15 class	2	credit	ENG