

Title Robotics	Code 10102512510102202267
Field Mechanical Engineering	Year / Semester 3 / 5
Specialty -	Course core
Hours Lectures: 1 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 2
	Language polish

Lecturer:

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Status of the course in the study program:

Core course at the Faculty of Mechanical Engineering and Management, field of study - Mechanical Engineering. Undergraduate studies B. Sc. degree

Assumptions and objectives of the course:

The student should obtain knowledge of the theoretical fundamentals and practical problems of construction and programming of industrial robots

Contents of the course (course description):

Lecture: The essential of automation and robotization. The determining factors and needs of robotization. Robotics development. Basic definitions. Industrial robots classification. Robot basic construction. Industrial robot kinematics (forward - direct and inverse transformation). Power units and control (PTP, MP, CP) of the industrial robots. Internal and external sensors. Robot grippers, end-effectors and tooling. Peripheral equipment. Tendencies of evolution of the robots construction.

laboratory: Controlling and programming of the industrial - education robots

Introductory courses and the required pre-knowledge:

Basic knowledge of mechanics, automation and theory of the mechanism

Courses form and teaching methods:

Lectures supported by slides and video films, Laboratory of robotization

Form and terms of complete the course - requirements and assessment methods:

Written tests and oral examination. Estimation of project realized on laboratory exercises

Basic Bibliography:

Additional Bibliography: