Title	Code
(Robotyka)	**1010331141010330292**
Field: **Control Engineering and Robotics**	Year / Semester: **2 / 4**
Specialty: **-**	Course: **core**
Hours: Lectures: **1** Classes: **1** Laboratory: **-** Projects / seminars: **-**	Number of credits: **3**
	Language: **polish**

Lecturer:

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Status of the course in the study program:

Obligatory course, Faculty of Electrical Engineering, field Control Engineering and Ro-botics.

Assumptions and objectives of the course:

Acquaintance of the basic knowledge necessary for understanding further issues on robot control and robot programming. Students should also gain some knowledge about problems of robot automation.

Contents of the course (course description):

Robot, robot automation, robot manipulator. Kinematical chains, degrees of freedom, Denavit-Hartenberg notation, main kinematical structures of robot manipulators. Robot task space and its coordinates, orientation, kinematical coordinates, homogenous co-ordinates and transformations. Direct and inverse problems of robot kinematics: posi-tions, velocities, accelerations, manipulator Jacobian matrix. Models of robot dynamics.

Introductory courses and the required pre-knowledge:

Basic knowledge of differential and matrix calculus, theory of mechanisms automatic control, and computer science.

Courses form and teaching methods:

Lectures and exercises supported by transparencies, slides, and films.

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

Examinations and exercises.

Basic Bibliography:

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Additional Bibliography:

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