

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Diploma section		Code 1010331271010335472
Field of study Automatic Control and Robotics	Profile of study (general academic, practical) (brak)	Year /Semester 4 / 7
Elective path/specialty Robotics	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: 30 Project/seminars: 90		No. of credits 8
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 8 100%
Responsible for subject / lecturer: dr inż. Wojciech Giernacki email: wojciech.giernacki@put.poznan.pl tel. 0048 61 665 2367 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	K_W10: He has structured knowledge about selected algorithms and data structures, as well as methodology and techniques of procedural and object-oriented programming. K_W13: He has structured knowledge about computer architectures, systems and computer networks, as well as operating systems (including real time operating systems). K_W15: He has a basic knowledge about architectures and microprocessor systems programming; He knows languages of high- and low-level programming of microprocessors.
2	Skills	K_U03: He is able to prepare the documentation and give a presentation regarding the results of engineering task. K_U11: He is able to build an algorithm for solution of a simple measuring task, compute-control task. He is able to implement, test and run this algorithm in selected programming environment on microprocessor platform.
3	Social competencies	K_K01: He understands the need and knows the possibilities of lifelong learning - to improve professional, personal and social competencies.
Assumptions and objectives of the course: The aim of the course is to familiarize students with the methodology and the practical aspects of engineering design and preparation of project documentation rules. The goal is the acquisition of the practical application of skills previously acquired knowledge and skills independently solving problems encountered.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. He has a structured knowledge about the construction, application and control of automation and robotics systems. - [K_W19] 2. He knows and understands typical engineering technologies, principles and techniques of constructing simple automation and robotics systems; He knows and understands the rules of selection of actuators, computational units, components and control-measurement equipment. - [K_W20] 3. He has the knowledge about the current state of the art and recent R&D trends in the area of automation and robotics - [K_W21]		
Skills:		
1. He can build, launch, and test a simple electronics and electromechanical system. - [K_U20] 2. He can plan, prepare and conduct the simulation of simple automation and robotics systems. - [K_U21] 3. He is able to formulate and solve the tasks of automation and robotics systems design; He is able to see their non-technical aspects, including environmental, economic and law aspects - [K_U22]		
Social competencies:		

1. He has awareness of the responsibility for own work and a willingness to submit to principles of teamwork and responsibility for jointly implemented tasks; He is able to manage a small team, set goals and define priorities necessary to solve the task. - [K_K03]

Assessment methods of study outcomes		
Project: Evaluation of the presentation of projects related to the implementation of elements of the thesis. Laboratory: Assessing the progress in implementing the thesis and preparing the final report		
Course description		
Project: Develop skills in analysis and design of some of electromechanical and microprocessor and its programming. Evaluation of projects. Laboratory: Review of practical skills in the design resulting from the topic of the thesis.		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Pracownia dyplomowa	90	
2. Laboratorium	30	
3. Realizacja pracy dyplomowej	80	
Student's workload		
Source of workload	hours	ECTS
Total workload	200	8
Contact hours	120	5
Practical activities	200	8