STUDY MODULE DESCRIPTION FORM

Name of the module/subject **The elements of computer science techniques**		Code **1010331111010335032**

Field of study **Control Engineering and Robotics**	Profile of study (general academic, practical) **practical**	Year /Semester **1 / 1**
Elective path/specialty **-**	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: **1** Classes: **-** Laboratory: **-** Project/seminars: **1**	No. of credits **3**

Status of the course in the study program (Basic, major, other) **other**	(university-wide, from another field) **university-wide**

Education areas and fields of science and art **technical sciences**	ECTS distribution (number and %) **3 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has a basic knowledge resulting from upper
2	**Skills**	Student is able to obtain information from the literature , databases, and other sources; has the skills of self-education in order to improve and update professional competence . He speaks English at a level sufficient to B2 communication , as well as reading comprehension cards catalog , application notes , manuals, equipment and descriptions of tools.
3	**Social competencies**	The student understands and knows the need for continuous training opportunities - improving professional skills , personal and social , can inspire and organize the learning of others.

Assumptions and objectives of the course:

The aim of the course is to familiarize students with basic computer tools used in the later part of the learning process for the preparation and presentation of technical documentation (LaTeX) , documenting the program code (doxygen) , calculations and numerical simulation (MATLAB) and version management of projects and the basics of group work (SVN) presentation capabilities and support Linux

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. The student has an elementary knowledge of the operation and use of tools for rapid prototyping and design , simulation and visualization systems , and automation and robotics and mechanical design of the project record . - [K_W14]

Skills:

1. Student is able to compile the results and give a presentation on the implementation of engineering tasks . - [K_U10]

2. The student is able to work individually and in a team; is able to estimate the time needed for the commissioned work; able to develop and implement a work schedule to ensure deadlines - [K_U02]

Social competencies:

1. The student has awareness of the importance and understand non-technical aspects and effects of engineering activities including its impact on the environment and the resulting responsibility for the decisions - [K_K02]

Assessment methods of study outcomes

Faculty of Electrical Engineering

Lecture : credit practical skills such as checking the tools discussed in the lecture
Project: Preparation of documents and presentations in LaTeX with the data generated from other tools (MATLAB , doxygen)

Course description

Lecture: The package MATLAB : basics of scripting language , basic functions , matrix operations , presentation of results , export and import data , the base of symbolic computation , presentation package Simulink . Doxygen : rules for the preparation of documentation programistrycznej , commenting code. SVN : version management of the project and the basics of working in a group. LaTeX : Document preparation , the creation of bibliographies , mathematical formulas , embedding graphics , tables , prepare a presentation in the package Beamer .

Project: It is practical to use the content presented in the lecture , by solving a problem and preparation of documentation and presentation of programming

Basic bibliography:

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Lecture	15
2. Participation in project activities	15
3. Preparation for the exercise and performance of reports	30
4. Preparation for exam	5
5. Consultation	5

Student's workload

Source of workload	hours	ECTS
Total workload	70	3
Contact hours	35	1
Practical activities	35	1