COURSE DESCRIPTION CARD - SYLLABUS

Course name
Introduction to computer science [N1MiBP1>WdI]

Course

Field of study	Year/Semester
Mechanical and Automotive Engineering	2/3

Area of study (specialization)	Profile of study
–	general academic

Level of study	Course offered in
first-cycle	Polish

Form of study	Requirements
part-time	compulsory

Number of hours

Lecture	Laboratory classes	Other
9	0	0

Tutorials	Projects/seminars	
0	0	

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

Student knows the definition of computational machine

Course objective

The course objective is to deliver the information about basic computational tools used during the studies

Course-related learning outcomes

Knowledge:
Has elementary knowledge of the basics of computer science, i.e. computer architecture, binary, decimal and hexadecimal counting system, representation of numbers and graphic characters in computer memory, variable types, general knowledge of low, medium and high level languages used in computer programming, operating systems , databases, RAD development environments, and typical engineering applications.
Has elementary knowledge of automation systems, microcontrollers, control algorithms, automatic machines and industrial robots, electronic navigation systems used in machines and wired and wireless communication systems in local computer networks used in machines.
Is aware of the latest trends in machine construction, i.e. automation and mechatronization, automation

of machine design and construction processes, increased safety and comfort of operation, the use of modern construction materials.

Skills:
Can obtain information from literature, the Internet, databases and other sources. Can integrate the obtained information, interpret and draw conclusions from it, and create and justify opinions.
Can use computer office packages for editing technical texts, including formulas and tables, technical and economic calculations using a spreadsheet and running a simple relational database.
Has the ability to self-educate with the use of modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books.

Social competences:
Is ready to fulfill social obligations and co-organize activities for the benefit of the social environment.
Is willing to think and act in an entrepreneurial manner.
Is ready to fulfill professional roles responsibly, including:
- observing the rules of professional ethics and requiring this from others,
- caring for the achievements and traditions of the profession.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Assesment test

Programme content

Operating systems, Windows Command Line, Linux Command Line, CAD tools, CAE tools, CFD tools. Free alternatives for Office, Free IDE"s for solving mathematical and engineering problems.

Course topics

The program includes a discussion of the operation of computer components and the use of computer programs to solve engineering problems. The processing of experimental results, their graphical presentation and inference based on the obtained results are presented.

Teaching methods

Lecture with multimedia presentation

Bibliography

Basic
None
Additional
User manuals of software described on lecture

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	9	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	16	0,50