



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Computer Science

Course

Field of study

Safety Engineering

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

Polish

Requirements

Number of hours

Lecture

10

Laboratory classes

12

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Responsible for the course/lecturer:

Prerequisites

Student has knowledge of the subjects of Information Technology.

Student can use previously learned applications.

Student is active and participate in the discussion on a given topic.

Course objective

The aim of the course is to prepare for using application programs as well as learning information useful in the specification, implementation and operation of IT systems.



Course-related learning outcomes

Knowledge

1. Student knows the current trends and best practices in information technology.
2. Student knows the basic techniques and tools used to solve simple engineering tasks using information technology.

Skills

1. Students can find, integrate, interpret information from literature, databases and other selected sources.
2. Student know how to use the theoretical knowledge to describe and analyse of the causes and processes and phenomena of social (cultural, political, legal, economic) and is able to formulate their own opinions, and choose the critical data and methods of analysis.
3. The student has the ability to self-learning and understands it.
4. Student is able to use information and communication technology for the tasks of typical engineering activities.

Social competences

1. Student understands the need and knows the possibilities of lifelong learning.
2. Student can work in team.
3. Student understands the need to provide information and opinions on the achievements of technology and other aspects of engineering.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge presented in the lecture is verified by assessing the students' activity during the lectures and one 45-minute colloquium carried out during the last lecture. The test consists of 5-6 open questions. Final issues on the basis of which questions are prepared will be given to students during lectures.

Skills achieved in the laboratory are verified based on the tasks performed during the class and a test verifying the ability to create a program algorithm.

Programme content

Lecture:

The lecture program covers issues presenting the basic field of computer science, development of programming languages, with particular emphasis on structural and object-oriented languages, the concept of the algorithm, ways of representing algorithms in the form of block diagrams and pseudo-code.



Laboratory:

An introduction to programming taking into account the use of variables, conditional statements, loops and functions. Creating functional applications.

Teaching methods

1. Lecture: multimedia presentation, illustrated with examples.
2. Laboratory exercises: practical tasks performed by students based on the presented instructions.

Bibliography

Basic

1. Stallings W., Organizacja i architektura systemu komputerowego, WNT, Warszawa, 2000
2. Harel D., Rzecz o istocie informatyki. Algorytmika, WNT, Warszawa, 2000
3. Hankiewicz K., Strona internetowa z materiałami do ćwiczeń laboratoryjnych

Additional

1. Wróblewski P., Algorytmy, struktury danych i techniki programowania, 2019
2. Sedgewick R., Wayne K., Algorytmy, 2012

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2
Classes requiring direct contact with the teacher	22	1
Student's own work (literature studies, preparation for laboratory classes, preparation for tests)	38	1