POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)
pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Computer Science

Course

Field of study
Safety Engineering

Year/Semester
1/1

Area of study (specialization)

Profile of study
general academic

Level of study
First-cycle studies

Course offered in
Polish

Form of study
part-time

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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Faculty of Engineering Management

2 Jacka Rychlewskiego Str.

60-965 Poznan

Responsible for the course/lecturer:

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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. He knows contemporary trends and best practices in information and IT techniques [P6S_WK_03].

2. He knows the basic methods, techniques, tools and materials used in preparation for conducting scientific research and solving simple engineering tasks with the use of information technology, information protection and computer support [P6S_WK_04].

Skills

1. He can acquire, integrate, interpret information from literature, databases and other properly selected sources [P6S_UO_01].

2. Can properly select sources and information derived from them, make an evaluation, critical analysis and synthesis of this information [P6S_UW_01].

3. Can use various techniques in order to communicate in a professional environment and in other environments [P6S_UW_02].

4. Is able to identify changes in requirements, standards, regulations and technical progress and the reality of the labor market, and on their basis define the need for supplementing knowledge [P6S_UU_01].

Social competences

1. Is aware of the recognition of the importance of knowledge in solving problems in the field of safety engineering and continuous improvement [P6S_KK_02].

2. Is aware of the understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions made [P6S_KK_03].

3. He can initiate activities related to the formulation and transfer of information and cooperation in the society in the field of security engineering [P6S_KO_02].

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

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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