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	Year/Semester
Logistics	1/1
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
First-cycle studies	Polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15	15	
Tutorials	Projects/seminars	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Aleksander Jurga

Mail to: aleksander.jurga@put.poznan.pl

Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

1. Knowledge: Basic knowledge of secondary school.

2. Skills: Basic computer literacy.

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3. Social competencies: Able to work in computer laboratory group.

Course objective

Students should be made familiar with algorithmic thinking, the ways algorithms are developed and coded in programming languages. They should be able to design and implement simple algorithms in modern development environment. They should be provided with the introduction to computer science disciplines the most relevant to further study of logistics.

Course-related learning outcomes

Knowledge

1. Student is able to explain what is an algorithm and how it is converted into a computer program. Knows the evolution of programming languages and its impact on programming efficiency. Understands the issue of computational complexity of exact algorithms and the role of heuristic and simulation methods. Understands the basic terminology of net oriented application programs [P6S_WK_07].

2. Has a preliminary knowledge of data structures for schedulling ond discrete optimization problems in logistics [P6S_WG_04].

3. Is able to characterize shortly parts of computer science important for logistics and operations research [P6S_WK_07].

4. Knows the basic management issues specific to logistics and supply chain management [P6S_WG_08].

5. Knows the basic relations between the technical and economic sphere characteristic of logistics and supply chain management [P6S_WK_01].

Skills

1. Is able to design and analize flowcharts of algorithms and explain how they work [P6S_UO_02].

2. Is able to generate in Visual Basic a graphical user interface for simple application, and to program simple engineering task [P6S_UO_02].

3. Is able to define decision makimng problem in the way appropriate for further computerized solution [P6S_UO_01].

4. Is able to apply appropriate information and communication techniques in the field of logistics and its specific issues, as well as supply chain management [P6S_UW_02].

5. Is able to apply appropriate experimental and measuring techniques to solve the problem within the studied subject, including computer simulation in logistics and its specific issues, and supply chain management [P6S_UW_03].

6. Is able to identify and formulate a practical (engineering) task characteristic of logistics [P6S_UO_01].

Social competences

1. Is aware of computer data security and the interests and rights of their users [P6S_KR_01].

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2. Is aware of the recognition of the importance of knowledge in the field of logistics and supply chain management in solving cognitive and practical problems [P6S_KK_02].

3. Is aware of initiating activities related to the formulation and transfer of information and cooperation in society in the field of logistics [P6S_KO_02].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

a) In the field of lectures: Scored written tests (closed questions) or on the eKursy platform at the end of individual thematic blocks of lectures. Passing threshold min. 50 points. Each lecture ends with control questions as help to solve tests.

b) In the field of laboratory classes: implementation of exercises, practical test on a komputer. Passing threshold min. 50 points.

Summary:

a) In the field of lectures: assessment based on the sum of test points accumulated.

b) In the field of laboratory classes: assessment based on the sum of accumulated points.

Programme content

Lectures:

General knowledge of the problems of basic IT departments.The concept of the algorithm, methods of representing algorithms in the form of block diagrams and pseudocode.The relationship between the way the algorithm is represented and the capabilities of the target programming language.Stages of development of programming languages, with particular emphasis on structural and object-oriented languages. Structural control instructions. Computer architecture and main trends of its development.Basics of Boolean algebra.

Laboratories:

Graphical user interface objects. Event-driven applications. Introduction to object-oriented programming with the help of tools for rapid application generation (Visual Studio).

Teaching methods

Information lecture: multimedia presentation, illustrated with examples on the board.

Work with a book.

Demonstration method.

Laboratory method: multimedia presentation illustrated with examples given on a blackboard and performance of tasks given by the teacher - practical exercises.

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Bibliography

Basic

1. Jurga A., Sławińska M., Wybrane aspekty projektowania systemów informacyjnych wspomagających procesy logistyczne, [w:] Gospodarka Magazynowa i Logistyka, 2011.

2. Stallings W., Organizacja i architektura systemu komputerowego, WNT, Warszawa, 2000.

3. Harel D., Rzecz o istocie informatyki. Algorytmika, WNT, Warszawa, 2000.

4. Reichel W., Visual Basic dla studentów : podstawy programowania w Visual Basic 2010, Witkom (Salma Press), Warszawa 2011.

5. Jan Bielecki J.,.Visual Basic do Windows : programowanie zdarzeniowe, Wyd. PLJ, Warszawa 1991.

Additional

1. Samolej S. i inni, Wprowadzenie do informatyki : skrypt dla studentów kierunków nieinformatycznych na uczelniach technicznych. 1, Architektura komputerów, algorytmika, paradygmaty i języki programowania, Oficyna Wydawnicza Politechniki Rzeszowskiej, Rzeszów, 2014.

2. Avery J., [tł. Garbacz B, Kaczmarek D.], 100 sposobów na Visual Studio, Helion, Gliwice, 2005.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes / preparation for colloquium (lecture), implementation of exercises as part of laboratory classes.) [1]	20	1,0

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[1] delete or add other activities as appropriate