COURSE DESCRIPTION CARD - SYLLABUS

Course name
Computer Programming 2

Course

Field of study
Engineering Management
Area of study (specialization)

Level of study
First-cycle studies
Form of study
full-time

Year/Semester
2/3
Profile of study
general academic
Course offered in
Polish
Requirements
compulsory

Number of hours

Lecture
30
Laboratory classes
45
Other (e.g. online)

Tutorials
Projects/seminars

Number of credit points
5

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:

Prerequisites

Knowledge and skills acquired from the classes in the Programming subject 1. The ability to efficiently use a computer and the use of MS Office. Ability to work in a project team.

Course objective

The aim of the course is to provide students with knowledge of database design used in information management systems.

Course-related learning outcomes

Knowledge

The student names and describes various methods and tools used for data collection and processing in the context of computer science and management. [P6S_WG_08]

The student defines the life cycle of industrial products and explains its significance in the context of product management. [P6S_WG_15]

The student recognizes basic methods, techniques, tools, and materials used for solving simple engineering tasks in the field of machine construction and operation. [P6S_WG_16]

The student identifies basic safety and hygiene principles in the machine-building industry. [P6S_WG_18]

Skills

The student plans and conducts experiments, including measurements and computer simulations, interprets the results, and draws conclusions. [P6S_UW_09]

The student uses the VBA programming language to create programs that operate a database. [P6S_UW_09]

The student prepares the structure of a database in a selected environment, considering the basics of data management. [P6S_UW_09]

The student implements solutions using graphic user interface objects in the context of object-oriented programming. [P6S_UW_09]

The student analyzes the structure of an information system in management and understands the architecture of database systems. [P6S_UW_09]

Social competences

The student perceives cause-and-effect relationships between the use of appropriate methods and tools and the efficiency of data and information management. [P6S_KK_02]

The student distinguishes the importance of different tasks and activities in the context of managing database systems and information systems. [P6S_KK_02]

The student demonstrates readiness to collaborate in a team and takes responsibility for their own work and tasks implemented in the field of computer science and management. [P6S_UO_01]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The lecture grade is based on the percentage of the colloquium. Questions and tasks checking understanding of the issues. Passing threshold - 50%.

The grade from the laboratory is given as an average of the grades of individual tasks performed during classes. The assessment takes into account the correctness and completeness of the results obtained.

Programme content

Computer science tasks in management. Information system structure in management. Database systems, types of databases. Relational database management system. BD Systems Architecture. Distributed systems. Basics of programming in VBA.
Graphical user interface objects. Introduction to object-oriented programming, introduction to databases, creating a database structure in a selected environment. Basics of data management.

Teaching methods

Lectures: informative lecture, problem lecture, seminar lecture, case method.
Laboratories: laboratory (experiment) method, workshop method.

Bibliography

Basic

Jurga A., Rozwój systemów informatycznych. [w]: Adamczyk M. i inni, Projektowanie systemów informacyjnych zarządzania, Wyd. Politechniki Poznańskiej, Poznań, 2010.

Connoly T., Begg C., Systemy baz danych, praktyczne metody projektowania, implementacji i zarządzania, Wydawnictwo RM, 2006

Kopertowska M., Sikorski W., Bazy danych. Poziom zaawansowany, PWN, Warszawa, 2006

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

Mendrala D., Szeliga M., Access 2013 PL: bazy danych? Z programem MS Access to nic trudnego!, Wydawnictwo, Helion, Gliwice 2013.

Additional

Bałachowski L., Krzysztof Stencel K., Systemy zarządzania bazami danych, Wyd. Polsko-Japońskiej Wyższej Szkoły Technik Komputerowych, Warszawa, 2007

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	75	3,0
Student's own work (literature studies, preparation for laboratory classes, preparation for tests) [1]	50	2,0

1 delete or add other activities as appropriate