



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Computer Programming 2

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### Course

Field of study

Engineering Management

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

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### Number of hours

Lecture

18

Tutorials

Laboratory classes

16

Projects/seminars

Other (e.g. online)

### Number of credit points

5

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### Lecturers

Responsible for the course/lecturer:

Ph.D., Eng. Zbigniew Włodarczak,

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Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

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### 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

Knows the methods and tools of data staff, their repair and the availability of information in the context of programming [P6S\_W]

Has a life about the life cycle of products [P6S\_WG\_1]

Known basic methods, techniques, tools and technical materials, solving technical problems with technical techniques in the field of machine operation and exploitation [P6S\_WG\_16]

### Skills

Can plan and carry out programming experiments, including measurements and computer simulations, interpret the obtained results and draw conclusions [P6S\_UW\_09]

Can be responsible for his own work and jointly performed tasks, and is ready to submit to the rules of working in a programming team [P6S\_UO\_01]

### Social competences

is able to see cause-and-effect relationships in the achievement of goals and rank the importance of alternative or competitive tasks (P65\_KK\_02)

## 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	34	1,5
Student's own work (literature studies, preparation for laboratory classes, preparation for tests) <sup>1</sup>	91	3,5

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<sup>1</sup> delete or add other activities as appropriate