COURSE DESCRIPTION CARD - SYLLABUS

Course name
Engineering-oriented databases [S1ZiIP2>IBD]

Course

Field of study
Management and Production Engineering

Year/Semester
3/6

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
15

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

2,00

Coordinators

Lecturers

Prerequisites

It has knowledge of the construction and operation of a computer. It can operate a computer, know how to use the basic tools of MS Office to support engineering activities. It has a sense of responsibility for their own work, to understand the need to learn and acquire new knowledge.

Course objective

Theoretical and practical issues of designing information systems for management support, including database design.

Course-related learning outcomes

Knowledge:
Defines, distinguishes and classifies the basic concepts in the area of information systems designing and databases. Distinguishes, names, characterizes and describes the methods of designing information systems and databases. He proposes the use of database notation for management information systems.

Skills:
Applies the methodology of designing an IT system in practice. Designs a relational database for various areas of the enterprise. Implements the database for the management information system.

Social competences:
It is aware of the role of computerization in the activities of engineering. Can independently develop knowledge concerning.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Intermediate rating:
Lecture : credit based on test consisting of open questions in a scale 0-1. Test is passed after obtaining at least 51% of all points. Discussion of the test results. Test is carried out at the end of the semester. Assignment of grades to percentage ranges of results: <90-100> very good; <80-90) good plus; <70-80) good; <60-70) satisfactory plus; <50-60) satisfactory; <0-50) unsatisfactory.
Laboratory: credit based on tasks performer during laboratory (credit on computer workstation) and the implementation of the report of the exercises. The student must obtain a positive assessment of the executed report.

Programme content

Database classification.
Relational databases - characteristics, design methods.
Database design tools.

Course topics

Lecture:
Basic knowledge and principles of database design (concepts, definitions, characteristics, classification). Methods and methods of designing information systems. Designing databases in the IT system life cycle. The use of databases in the enterprise (the role of databases, requirements, organization of data, examples of applications).Documenting the IT system project.
Laboratory:
Methodology of designing a relational model for a management information system. Create a sample forms and queries. Implementation of the relational model in MS Access (create relationships, relationships and giving referential integrity). The execution of user interface database.

Teaching methods

Lecture: multimedia presentation illustrated with examples given on a board, problem solving.
Laboratory: solving tasks at the computer. Practical exercises and discussion.

Bibliography

Basic:
P. Beynon-Davies, Systemy baz danych, WNT, Warszawa, 1998
Hamrol A. (red.) Elementy informatyki dla inżynierów mechaników, Wydawnictwo Politechniki Poznańskiej, Poznań, 2001
Rojek-Mikołajczak I, Bazy danych, Wydawnictwo Akademii Bydgoskiej, Bydgoszcz, 2004
Mark Whitehorn, Bill Marklyn, Relacyjne bazy danych, Helion, Warszawa 2003

Additional:
Fundamentals of database systems, R. Elmasri, S. B. Navathe, The Benjamin/Cummings Publishing Company, Redwood City CA 94065, 1994

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00