



COURSE DESCRIPTION CARD - SYLLABUS

Course name

ERP systems

Course

Field of study

Year/Semester

Computing

2/3

Area of study (specialization)

Profile of study

IT in Business Processes

general academic

Level of study

Course offered in

Second-cycle studies

polish

Form of study

Requirements

part-time

compulsory

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

16

18

0

Tutorials

Projects/seminars

0

0

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

dr hab. Marek Mika

Responsible for the course/lecturer:

arkadiusz Zimniak PhD

Prerequisites

A student starting this course should have basic knowledge of databases and economics. He or she should also have the skills to: solve basic problems in application design, programming in high level languages and obtaining information from indicated sources. Moreover, the student should understand the necessity of expanding their competences.

Course objective

To provide students with basic knowledge about widely understood business applications, especially ERP systems, in terms of architecture, functionality, functional and non-functional requirements and ways of implementing such systems. To develop students' ability to solve problems concerning the development of functionalities of business applications, in particular ERP systems.

Course-related learning outcomes

Knowledge

1. Structured, theory-based, general knowledge of the architecture and functionality of computer systems implementing the business logic of the enterprise, such as: business applications, ERP systems, CRM systems, automated identification systems, etc.



2. Basic knowledge about the life cycle of software systems supporting the business logic of the enterprise
3. Knowledge necessary for designing simple IT solutions which extend the functionality of computer systems supporting enterprise management.

Skills

1. Basic ability to design and implement business software in accordance with a given specification, including non-technical aspects, extending the functionality of the selected business management support system.
2. Using appropriate documentation during design and implementation of business software in the selected technology.

Social competences

- 1 The student understands that business software is constantly evolving and the knowledge and skills once acquired can quickly become obsolete.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Assessment of the knowledge acquired during the lecture is based on a written examination in the form of a test, which may include 20 to 50 both open and closed questions. In case of closed questions it is a multiple choice test. The score of individual questions is given in the content of the question. The form of the test and the issues to it are discussed during one of the last lectures. For a score of 3.0 she/he should get at least 50% of points, 3.5 at least 60% of points, 4.0 for at least 70% of points, etc.

In terms of laboratories, the verification of the assumed educational results is carried out by:

1. Execution of laboratory exercises
2. The final test covering the issues practiced in the laboratory classes, the test may include 20 to 50 both open and closed questions. In case of closed questions it is a multiple choice test. The score of individual questions is given in the content of the question.

Programme content

The lecture program includes the following issues:

Origin and definitions of MRP, MRP II and ERP systems. The most important features of ERP systems. Discussion of differences between the former and contemporary perception of ERP systems. The importance of data integration and linking the functionality and functioning of an ERP system to the daily business logic of a company. Functional modules of ERP systems, their functionality, meaning and interrelation between them. Technical aspects. The conceptual triangle of an ERP system: data, programs and interfaces. Integration at the level of data and business processes. CASE tools. Soft coding for programs and databases. Workflow definition. The division into universal and application workflow. Integration on the workflow level. Definition, meaning and types of documents in ERP system.



Definitions and examples of business function, business process and functional area. Mutual relations between the areas of finance and accounting, production, sales and distribution, and human resources. Life cycle of ERP systems. Strategies of ERP systems implementation. Goals, events and sequence of activities during ERP system implementation. Systems of electronic data interchange (EDI). Definition and genesis of EDI. The most popular EDI standards. EDIFACT documentation according to ISO. EDI system architecture. Functionality of EDI messages. Structure, constructing, coding, compression and rules for creating EDI messages. Division of EDI messages by application. Standards for page and product identification in EDI communication. Sample scenarios for document exchange. Standards of electronic document exchange using XML. Customer Relationship Management Systems (CRM). Definitions and properties of CRM systems. Operational and analytical CRM. CRM in marketing. CRM in customer service. SFA and FFA systems. CRM in e-commerce. Automatic identification systems. Genesis, application and standards of barcodes. RIFD - principle of operation and application.

Laboratory classes are conducted in the form of 2-hour exercises, taking place in the laboratory. As part of the laboratory classes, students learn about selected tools of the development environment for a selected ERP system (e.g. SAP R/3). They learn how to design and implement software for additional functionality of such a system in this environment.

Teaching methods

1. Lecture: multimedia presentation, discussion.
2. Laboratory exercises: task solving, practical exercises, tutorials.

Bibliography

Basic

1. Funkcjonalność informatycznych systemów zarządzania tom 1, Januszewski A., PWN, 2008
2. Funkcjonalność informatycznych systemów zarządzania tom 2, Januszewski A., PWN, 2008
3. CRM: Zarządzanie kontaktami z klientami, Dejnaka A, Helion, 2002
4. CRM: Relacje z klientami. Dyche J., 2002

Additional

1. Technologie informatyczne Firmy 2.0, Kania K., Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, 2010
2. ERP: A-Z Implementer's Guide For Success. Anderegg T, Resource Pub., 2000
3. Concepts in Enterprise Resource Planning, Wagner B, Monk E. Course Technology, 2009
4. Modern ERP: Select, implement & use today's advanced business systems, Bradford M., Lulu.com, 2010.



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 exercises, preparation for test and exam, individual task solving) ¹ | 91 | 3,5 |

¹ delete or add other activities as appropriate