



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Implementation of ERP systems

Course

Field of study

Year/Semester

Computing

2/3

Area of study (specialization)

Profile of study

Informatyka w procesach biznesowych

general academic

Level of study

Course offered in

Second-cycle studies

polish

Form of study

Requirements

part-time

elective

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

16

16

Tutorials

Projects/seminars

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

Arkadiusz Zimniak, PhD

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Prerequisites

The student starting this course should have basic knowledge of software engineering in the field of project management and about integrated ERP-class enterprise management systems.

A student starting this course should have the ability to obtain information from the indicated sources.

He should also understand the need to expand his competences. Moreover, in terms of social competences, the student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, respect for other people.

Course objective

1. Extending the knowledge of IT project management in the field of scope, communication, resources, time, quality, cost and procurement management. In particular, the aim of the course is to get acquainted with PMBOK - a set of standards and solutions in the field of project management adopted in the USA as the national standard for project management and a specialized methodology for implementing integrated IT systems Microsoft Dynamics Sure Step, developed taking into account the PMBOK standard.



2. Developing students' ability to solve problems occurring in complex IT projects of ERP system implementation. Skills are developed by conducting a case study of the implementation of the Microsoft Dynamics 365 ERP system

3. Shaping the students' teamwork skills while running a complex IT project.

Course-related learning outcomes

Knowledge

has ordered and theoretically founded general knowledge related to key issues in the field of computer science, in particular in the field of IT projects, implementation of ERP systems (K2st_W2)

has advanced detailed knowledge of ERP systems implementation (K2st_W3)

has a structured, theoretically founded general knowledge in the field of software engineering, in particular, conducting IT projects. (K2st_W4)

has theoretically founded detailed knowledge related to selected issues in the field of computer science, such as: requirements management and the scope of the project (K2st_W5)

knows advanced methods, techniques and tools used in solving complex engineering tasks and conducting research in a selected area of computer science conducting complex implementation projects (K2st_W6)

Skills

can obtain information from literature, databases and other sources (in Polish and English), integrate them, interpret and critically evaluate them, draw conclusions and formulate and exhaustively justify opinions (K2st_U1)

can use analytical, simulation and experimental methods to formulate and solve engineering tasks and simple research problems (K2st_U4)

can - when formulating and solving engineering tasks - integrate knowledge from various areas of computer science (and, if necessary, also knowledge from other scientific disciplines) and apply a systemic approach, also taking into account non-technical aspects (K2st_U5)

can assess the usefulness and the possibility of using new achievements (methods and tools) and new IT products (K2st_U6)

can make a critical analysis of existing technical solutions and propose their improvements (improvements) (K2st_U8)

can assess the usefulness of methods and tools for solving an engineering task consisting in the construction or evaluation of an information system or its components, including the limitations of these methods and tools; (K2st_U9)

is able to interact in a team, assuming various roles (K2st_U15)



is able to determine the directions of further learning and implement the process of self-education, including other people (K2st_U16)

Social competences

understands that in the field of IT the knowledge and skills quickly become obsolete (K2st_K1)

understands the importance of using the latest knowledge in the field of computer science in solving research and practical problems (K2st_K2)

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Formative assessment:

a) in the field of lectures:

- on the basis of answers to questions about the material discussed in previous lectures and discussed during the current lecture

b) in the field of laboratories / exercises:

- based on the assessment of the current progress in the implementation of tasks,

Summative assessment:

a) the knowledge and skills acquired during the lectures are assessed on the basis of a test containing multiple choice questions, tasks and open-ended questions. The test consists of 30 questions and tasks. Sample tasks are provided to students in advance. You can get 120 points. 106.5 - 120 points: 5.0; 95.5 - 106 points: 4.5; 84.5 - 95 points: 4.0; 71.5 - 84 points: 3.5; 60.5 - 71 points: 3.0; 0-60 points: 2.0

b) in the field of laboratories, verification of the assumed learning outcomes is carried out by:

- assessment of the student's preparation for individual sessions of laboratory classes, through the assessment of homework, introducing the subject of laboratory classes

- evaluation of the report partially prepared during the course;

Obtaining additional points for activity during classes, especially for:

- discussion of additional aspects of the issue,

- remarks related to the improvement of teaching materials

Programme content

The lecture program covers the following topics:

Basic aspects of project management: project definition, project features, examples of projects in enterprises, project management versus functional management, causes of failures and successes of IT projects, project life cycle. Basic concepts of project management according to PMI (Project



Management Institution), which is PMBOK developed by PMI Basic groups of processes according to PMBOK. Project initiation processes: formulate project goals, start phase outputs (project fiche), project organization best practices. Project planning processes. Project implementation processes. Project monitoring and control processes. Termination processes.

Discussion of the areas of knowledge about project management contained in PMBOK. Project Integrity Management: developing a project charter, developing a project management plan, directing and managing project implementation, monitoring and controlling project work, integrated change management, closing a project or phase. Project scope management: collecting requirements, defining the scope, creating a work breakdown structure (WBS), defining the project scope using WBS, scope control, scope verification. Time management: defining activities / tasks, organizing activities / tasks, network diagrams, estimating the resources needed to perform activities, estimating the duration of activities / tasks, developing a schedule, determining the critical path and time slack, shortening the critical path, PERT method, presentation of the schedule Gantt chart, schedule compression methods, schedule control. Cost management: cost management plan, cost estimation, budget setting, cost control, earned value ratios. Quality management: quality planning, quality assurance, quality control. Human resource management: developing a human resource management plan, responsibility matrix, admitting project team members, developing a project team, managing a project team, resolving conflicts, motivating members of the project team. Communication management: stakeholder identification, communication planning, information distribution, stakeholder expectations management, work progress reporting. Risk management: risk definition in project management, project risk management planning, identification of risk factors, qualitative risk analysis, quantitative risk analysis, risk response planning, risk monitoring and control, risk matrix, FMEA method. Supply management: purchasing planning, purchasing execution, purchasing administration, closing purchases. Project management tools, including MS Project.

Project management of ERP Microsoft Dynamics 365 class system implementation using Microsoft Dynamics Sure Step: tools and methodology overview. A case study of an ERP class system implementation project in a sample company with the use of SureStep: pre-implementation diagnosis project, project management in the Analysis, Design, Solution Development, Commissioning phase.

Laboratory classes are conducted in the form of four 4-hour exercises, taking place in the laboratory, preceded by students doing homework, introducing them to the subject of laboratory classes. Exercises are carried out independently and in groups. The laboratory program covers the following topics:

Getting to know Microsoft Dynamics Sure Step, a tool supporting the management of the ERP system implementation project: Getting acquainted with the case study of the implementation of the Microsoft Dynamics 365 system. Analysis of the requirements and scope of the project - preparation of a list of functional and non-functional requirements. Preparation of the project card. Analysis of possible implementation options. Cost analysis. Getting acquainted with the results of detailed workshops on functional analyzes in individual areas of the enterprise. Updating the requirements sheet and adjustments. Development of a solution design. Analysis and update of the status report. Preparation of requests for changes to the project.



Teaching methods

1. lecture: multimedia presentation, solving problems based on the materials provided, demonstration, discussion.
2. laboratory exercises: case study and task solving, practical exercises, discussion, team work, workshops.

Bibliography

Basic

1. Zarządzanie projektami informatycznymi, M. Flasiński, PWN, Warszawa, 2006

Additional

1. Zarządzanie projektami informatycznymi, Z.Szyjewski, PLACET, 2001
2. Zarządzanie projektami IT, J. Phillips, Helion 2005
3. Implementowanie Microsoft Dynamics AX 2012 za pomocą Sure Step 2012, Dunkinson Keith, Birch Andrew, APN Promise 2013
4. A Guide to the Project Management Body of Knowledge (PMBOK Guide), Project Mangement Institute, 200

Breakdown of average student's workload

	Hours	ECTS
Total workload	98	4,0
Classes requiring direct contact with the teacher	36	1,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	62	2,5

¹ delete or add other activities as appropriate