POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Designing of business applications

Course

Field of study	Year/Semester
Computing	1/2
Area of study (specialization)	Profile of study
Information Technology in Business Processes	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	18	
Tutorials	Projects/seminars	

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

Arkadiusz Zimniak, PhD

email:Arkadiusz.Zimniak@cs.put.poznan.pl

Responsible for the course/lecturer:

Rafał Różycki, PhD

email: Rafal.Rozycki@cs.put.poznan.pl

Prerequisites

Learning outcomes of first-cycle studies as defined in the Resolution of the Senate of the PP

A student starting this course should have basic knowledge of the principles of the organization and modelling of business processess. Should have the ability to programm in any programming language. Should have the ability to obtain information from the indicated sources (including English-speaking - at the basic level of language knowledge). They should also understand the need to expand their competences / be ready to cooperate within the team.

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. Provide students with knowledge about possible methods of designing new and adapting existing applications for the needs of small and medium-sized enterprises

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2. Developing students' basic skills in creating applications supporting and automating business processes.

3. Shaping students' skills to use tools supporting the functioning of the company.

Course-related learning outcomes

Knowledge

has advanced and in-depth knowledge of broadly understood information systems, theoretical foundations of their construction, as well as methods, tools and programming environments used for their implementation (K2st_W1)

has extensive knowledge of the principles of choosen programming tools (K2st_W3)

Has a structured, theoretically founded general knowledge of the functioning of business processes (K2st_W4)

has theoretically founded detailed knowledge related to selected issues in the field of computer science, such as: workflow tools, the use of computing clouds (K2st_W5)

has knowledge of development trends and the most important new achievements in computer science and in selected related scientific disciplines (K2st_W6)

Skills

can - when formulating and solving engineering tasks - integrate knowledge from various areas of computer science (including business process modeling and programming tools) (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 (K2st_U8)

can assess the usefulness of methods and tools for solving an engineering task consisting in building an application supporting the business process, including the limitations of these methods and tools (K2st_U9)

is able to - in accordance with a given specification, taking into account non-technical aspects - design a complex application using appropriate methods, techniques and tools, including adapting existing or developing new tools for this purpose (K2st_U11)

Social competences

understands that in computer science, knowledge and skills very quickly become obsolete (K2st_K1)

understands the importance of using the latest knowledge in the field of computer science in solving practical issues in the area of business operations (K2st_K2)

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

- assessment of knowledge and skills demonstrated in the written exam in the form of a multiple-choice test, tasks and open questions. The exam 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 prepared during the classes;

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:

Cloud computing concept; tools and services available in the cloud.

Low-code platforms and their use to support business processes.

Modification tools for ERP-class integrated management systems

The use of artificial intelligence methods in business processes

Laboratory classes are conducted in the form of eight 2-hour exercises, held in the laboratory. Classes are carried out by students independently. The laboratory program covers the following topics:

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Selection and use of cloud computing services on the example of Microsoft Azure.

Low-code programming

Modifications of the ERP system

Use of artificial intelligence tools.

Teaching methods

1. lecture: multimedia presentation, demonstration of the use of available tools.

2. laboratory exercises: practical use of available tools to improve business processes

Bibliography

Basic

1. User and technical documentation of selected environments.

Additional

1. Goodfellow, I., Bengio, Y., Courville, A., Deep learning: systemy uczące się. Wydawnictwo Naukowe

PWN, 2018.

Breakdown of average student's workload

	Hours	ECTS
Total workload	102	4,0
Classes requiring direct contact with the teacher	34	1,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	68	2,5

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[1] delete or add other activities as appropriate