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
Management of Information Systems in Industry 4.0

Course

Field of study	Year/Semester
Engineering Management	1/2
Area of study (specialization)	Profile of study
Managing Enterprise of the Future	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)
10		
Tutorials	Projects/seminars	
	10	

Number of credit points
2

Lecturers

Responsible for the course/lecturer:

Pd.D., Eng. Michał Trziszka

Mail to: michal.trziszka@put.poznan.pl

Faculty of Engineering Management

ul. J. Rychlewskiego 2, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites
Basic knowledge of Industry 4.0

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

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

Course objective

The aim of the course is to present the IT systems used by Industry 4.0 and the possibilities of managing them.

Course-related learning outcomes

Knowledge

The student defines the principles of design, implementation and management of integrated information systems within the concept of Industry 4.0, with particular emphasis on cloud solutions and intra-enterprise communication [P7S_WG_02].

The student explains the methods and tools used to model information processes in an enterprise from the perspective of Industry 4.0, including virtualization and VPS servers [P7S_WG_05].

The student characterizes the architecture and management of IT infrastructure in networked organizations, including the impact of virtual business units on operational efficiency [P7S_WG_06].

The student describes modern systems, facilities and technical devices used in information systems and their impact on business organizations in Industry 4.0 [P7S_WG_10].

Skills

The student applies knowledge of information systems to create strategies for managing data and technology infrastructure in the context of Industry 4.0 [P7S_UW_01].

The student conducts critical analysis and optimization of existing IT systems, identifying the potential to improve them using the latest cloud solutions [P7S_UW_04].

The student plans and implements IT solutions, such as cloud computing, to increase the flexibility and scalability of business operations [P7S_UW_09].

Social competences

The student integrates multidisciplinary technical, business and operational aspects to effectively manage IT systems in Industry 4.0 enterprises [P7S_KK_01].

The student analyzes cause-effect relationships in the area of information systems and sets priorities in solving complex IT problems [P7S_KK_02].

The student plans and manages IT projects, taking into account the strategic goals of the company in terms of innovation and competitiveness in the market of Industry 4.0 [P7S_KO_03].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge acquired during the lecture is verified by one colloquium at the last lecture. The test consists of 10-15 questions (test and open), variously scored. Passing threshold: 50% of points. Final issues on the basis of which questions are prepared will be sent to students by e-mail using the university e-mail system.

POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

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

During exercises, students work in groups on specific topics, which they present in the form of a multimedia presentation. For each of the 7 tasks students receive grades (7 grades). The final grade is the average of these 7 ratings. The content of the tasks is related to the subject, and the scope of tasks includes lecture issues.

Programme content

1. Discussion of Industry 4.0 as a modern concept.

2. Presenting IT solutions for intra-company communication.

3. Cloud solutions - solution review and operation overview.

4. Implementation of cloud computing in the enterprise - virtualization, VPS servers for Public and Private Cloud.

5. Cloud computing management using Public Cloud.

Teaching methods

Lecture: multimedia presentation, illustrated with examples on the board.

Project: lecturers - multimedia presentation, students - multimedia and graphic presentation (poster), short lecture, lecture

Bibliography

Basic

Scrum. O zwinnym zarzadzaniu projektami, Chrapko Mariusz, Helion, 2014

Czwarta rewolucja przemysłowa Schwab Klaus, Wydawnictwo Emka, 2018

Additional

The Scrum Fieldbook: Faster performance. Better results. Starting now.J.J. Sutherland , 2019;

The Fourth Industrial Revolution, Schwab Klaus, 2017

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	20	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	30	1,0

---

[1] delete or add other activities as appropriate