POZNAN UNIVERSITY OF TECHNOLOGY

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Modern technologies in the IT industry applications [N2Inf1>NTI]

Course

Field of study	Year/Semester
Computing	1/2
Area of study (specialization)	Profile of study
Advanced Internet Technologies	general academic
Level of study	Course offered in
second-cycle	Polish
Form of study	Requirements
part-time	compulsory

Number of hours

Lecture	Laboratory classes	Other
16	0	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

A student starting this subject should have basic knowledge of technology websites, project management and computer system security. Should have the ability to solve basic design problems IT systems and their implementation, as well as the ability to obtain information from the indicated ones sources. The student should have the ability to use external programming APIs. He should also understand the need to expand his competences and be ready to take them cooperation within the team. Moreover, in terms of social competences, the student must present such attitudes as honesty, responsibility, perseverance, cognitive curiosity, creativity, culture personal, respect for other people, ability to work in a group.

Course objective

1. Providing students with basic knowledge about modern technologies widely used understood IT industry, with particular emphasis on applications and cloud computing computing, modern user interfaces, testing and security models. 2. Developing students' ability to self-educate and integrate knowledge from various areas computer science. 3. Shaping quality awareness necessary in IT projects - the student will was aware of the importance of quality management in IT.

Course-related learning outcomes

Knowledge:
has knowledge of development trends and technologies used in the IT industry (K2st_W4)
has knowledge of the processes occurring in the life cycle of IT systems (K2st_W5)
has basic knowledge of running a business in the IT industry (K2st_W9)

Skills:
is able to integrate knowledge from various sources when formulating and solving engineering tasks
IT areas (K2st_U5)
is able to assess the usefulness and possibility of using new achievements (methods and tools) and new ones
IT products (K2st_U6)
is able to assess the usefulness of methods and tools used to solve an engineering task,
involving the construction or assessment of an IT system (K2st_U9)
is able to critically analyze existing technical solutions and propose them
improvements (K2st_U8)
is able to determine the directions of further learning and implement the self-education process (K2st_U16)

Social competence:
understands that in IT knowledge and skills become obsolete very quickly (K2st_K1)
understands the importance of using the latest IT knowledge in solving solutions
research and practical problems (K2st_K2)

Methods for verifying learning outcomes and assessment criteria
Learning outcomes presented above are verified as follows:

The learning outcomes presented above are verified in the following way:
- based on answers provided during lectures;
- assessment of knowledge and skills acquired during lectures based on knowledge tests
conducted during the last lecture - a test consisting of a set of single-shot questions
choice.
- the condition for receiving a positive grade is to obtain at least 50% points.

Programme content

This series of lectures includes representatives of companies that are members of the Faculty's Employers' Council
IT and Telecommunications PP present technologies, technical solutions, environments and tools
programming used in the broadly understood IT industry. It is also presented
research issues undertaken in these companies.
Examples of lecture topics are presented below - they change each academic year:
1. Architecture of high-throughput web systems on the example of Wikia.
2. Using tools to detect threats and advanced network attacks.
3. Outsourcing of services – added value or work complexity?
4. Performance of web applications.
5. Standards for building a modern Data Processing Center.
6. Big Data, streaming data, analysis and storage in the cloud.
7. Testing.
8. Practical examples of using the IaaS (infrastructure as a service) platform to build services
business on the example of Google Cloud Engine.

Course topics

Teaching methods

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

Bibliography

Basic
1. http://specificationbyexample.com
2. http://dannorth.net/whats-in-a-story/
3. http://www.sastqb.org.za/index.php?option=com_content&view=article&id=13&Itemid=18
4. https://www.cio.com/article/2439495/outsourcing-outsourcing-definition-and-solutions.html
5. Microsoft Azure, https://docs.microsoft.com/en-us/azure/
6. Scrum, https://www.scrum.org/
7. Docker, https://www.docker.com/
8. Microservices, https://martinfowler.com/articles/microservices.html
9. Big Data - Definition, Importance, Examples & Tools, https://www.rd-alliance.org/group/big-data-ig-data-development-ig/wiki/big-data-definition-importance-examples-tools
10. Google Cloud, https://cloud.google.com/docs
Supplementary

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	16	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	9	0,50