SYLLABUS

Name: ***Cloud Platforms (AEIAu-DS>SM1CP25)***
Name in Polish:
Name in English: ***Cloud Platforms***

Information on course:

Course offered by department: Faculty of Automatic Control, Electronics and Computer Science
Course for department: Silesian University of Technology

Default type of course examination report:

EGZ

Language:

English

Short description:

Students will learn about concepts related to cloud computing, its architecture, models, platforms, interoperability, and programming solutions operating in the cloud for various applications. Problems solved with the help of cloud computing will be presented. Students will be familiarized with service models and deployment models of cloud computing as well as selected services of selected public cloud platforms.

Description:

ECTS: 3
Total workload: 75 hours (40 contact hours, 35 students' own work hours)
Forms of contact hours:
Lecture 15h
Laboratory 15h
Other (reports revision): 10h
Students' own work: preparation for tests, reviewing materials, preparation of reports, preparation for classes, elaboration of measurement results

Lecture:
1. Cloud computing, abstraction and virtualization
2. Data centers
3. Cloud architecture
4. Cloud programming models
5. Scalable calculations
6. Spaces of data storage in the cloud
7. Cloud computing platforms
8. Selected cloud computing platform services (including storage, compute, database, content delivery, networking)

Lab:
1) Working with core architecture services and security
2) Storing application data on the cloud

Bibliography:

T. Erl, R. Puttini (2013) Cloud Computing: Concepts, Technology & Architecture. Prentice Hall; 1 edition (May 20, 2013)
P. Mell (2011) SP 800-145 document, The NIST Definition of Cloud Computing, CSRC

Learning outcomes:

Knowledge: student knows and understands
basic notions in the area of cloud computing (post-lecture test, oral talk) - K2A_W15
the role of data centers, availability zones, regions, and other elements of global cloud infrastructure in modern IT systems (post-lecture test, oral talk) - K2A_W06
available platforms of computational cloud and can verify their usefulness for developing advanced IT systems (post-lecture test, oral talk) - K2A_W07

Skills: student can
elaborate computer program or application working in the chosen cloud platform (laboratory report) - K2A_U01
use advanced tools for developing applications for cloud computing (laboratory report) - K2A_U16
administer cloud resources (laboratory report) - K2A_U06

Assessment methods and assessment criteria:

Lecture
A series of short quizzes after lectures, or an oral exam.
Passing criteria: minimum 60% of correct answers

Lab
Lab attendance and assessment min. 3 for the exercise done, passing all exercises with a positive grade (min. 3).

The syllabus is valid from academic year 2025/26 and its content cannot be changed during the semester.

Course credits in various terms:

<without a specific program>

Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	3	2025/2026-L	