COURSE DESCRIPTION CARD - SYLLABUS

Course name
Internet-of-Things
Course

Field of study
Product Lifecycle Engineering
Area of study (specialization)

Level of study
Second-cycle studies
Form of study
full-time

Year/Semester
2/3
Profile of study
general academic
Course offered in
English
Requirements
elective

Number of hours

Lecture
15
Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars
15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
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Faculty of Mechanical Engineering

Piotrowo Street No 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Principles of product design. Principles of imperative programming languages. Principles of computer networks.

Course objective

The objective of the course is to familiarize the students with properties of products in Industry 4.0 concept.

Course-related learning outcomes

Knowledge

Understanding of key aspects of product in Industry 4.0. Awareness of advantages and disadvantages of products in Industry 4.0.

Skills

Principles of IoT product design, build, test and use.

Social competences

Elicitation of requirements for product with Industry 4.0 properties. Communication with other specialists during design, build, test and use of Industry 4.0 products.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: colloquium at the end of the course.

Project: assessment of the project results.

Programme content

Product in Industry 4.0 - general overview. Mobile devices. Location detection. Internet of Things (IoT) software and hardware platforms. Advanced human-machine interface. Big Data analytics and Cloud Computing. Digital Twin. Examples of applications of presented concepts in products.

Teaching methods

Lecture. Project.

Bibliography

Basic

SCHWAB, The Fourth Industrial Revolution, World Economic Forum 2016

STEPHENSON, Big Data Demystified: How to use big data, data science and AI to make better business decisions and gain competitive advantage, FT Publishing International 2018

Additional

Breakdown of average student's workload

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

1 delete or add other activities as appropriate