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
Introduction to cognitive science

Course

Field of study	Year/semester
Computing	1/2
Area of study (specialization)	Profile of study
Artificial Intelligence	general academic
Level of study	Course offered in
Second-cycle studies	Polish
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15		
Tutorials	Projects/seminars	
15		

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

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Faculty of Engineering Management
Rychlewskiego 2, Poznań

Responsible for the course/lecturer:

Prerequisites

The student has engineering skills, can work in a group, draws conclusions on the basis of scientific and research material

Course objective

To acquaint students with the available scope of knowledge about the mind and an attempt to understand a human being using knowledge from many fields and sources.

Course-related learning outcomes

Knowledge

The student defines the influence of fields such as phrenology, introspection, artificial intelligence and empirical theory of mind on cognition as a human mental activity. The student knows what the cognitive

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process is and how it affects the economic environment, including the activities of companies [K2st_W8] [K2st_W9]. The student knows how the human brain functions.

Skills

The student has the ability to use the following approaches: phrenology, introspection, artificial intelligence, empirical theory of mind to describe cognitive processes and use information and communication techniques used in the implementation of IT projects [K2st_U2]. The student is able to communicate in Polish using various techniques in the professional environment and in other environments [K2st_U11]. The student is able to use the knowledge in developing models of the functioning of the environment with the use of SI [K2st_U11] [K2st_U9].

Social competencies

The student knows and implements basic social norms and values. Works with the team. The student carries out tasks with commitment and according to the schedule [K2st_K4] [K2st_K2].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Passing the lectures: maximum mark 100 points (50 points from partial tests plus 50 points from the final test) Exercises: The classes will include: - cognitive game techniques; - brain research techniques (ET, EEG, BF); - cognitive research design techniques. Completion of exercises in teams: maximum grade 100 points (5 exercises, 20 points for each exercise) Grades: 2.0 - up to 50 points, 3.0 - from 51-60 points, 3.5 - from 61-70 points, 4.0 - from 71-80 points, 4.5 - from 81-90 points, 5.0 - from 91-100 points.

Programme content

1-2. What is and what is not cognitive science?

- Phrenology

- Introspection

- Artificial intelligence

- Empirical theory of mind

3. What is cognition? And what is it about?

4. How does the human brain function?

- Processing of information obtained by the senses (eye, smell, hearing, touch, taste)

- Stability and human emotionality

- Gaining knowledge and gaining experience

- Cognition and imagination

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5-6. Scientific models of cognition

7. The role of mathematics and cybernetics in learning about the world

Teaching methods

Lecture, presentation, discussion, group work.

Bibliography

Basic

1. Ohme, R. EMO sapiens harmonia emocji i rozumu.

2. Magrini, M. Mózg podręcznik użytkowanika

Additional

3. Klawiter, A. Formy aktywności umysłu. Ujęcia kognitywistyczne

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exams, project preparation)	45	1,5