Nazwa w jęz. angielskim: Computational Intelligence in studies of engineering, science and nature
Nazwa w języku polskim: Computational Intelligence w studiach nauk inżynieryjno-technicznych

Dane dotyczące zajęć:
Information on course:

Jednostka oferująca: Wydział Budownictwa // dr hab. inż. Ryszard Walentyński, prof. PŚ
Course offered by: Faculty of Civil Engineering // dr hab. inż. Ryszard Walentyński, prof. PŚ

Język wykładowy:

angielski

Language:

English

Strona WWW:
Course homepage:

Skrócony opis:

Short description:

The purpose of the lecture is to familiarize students of various faculties with high-level IT tools to collect and analyze various technical and scientific issues. Computational intelligence (CI) covers a wide spectrum of topics, such as symbolic and numerical computing, neural networks, natural language interpretation, and many more. The course is designed to help students use the available tools effectively and increase the efficiency with which to acquire the knowledge and skills necessary for their field of study and professional work. The course will be carried out remotely (ZOOM platform).

Opis:

Description:

Lecture:

1. Wolfram|Alpha
2. Wolfram Mathematica
3. Wolfram Cloud
4. Learning and computational Resources
5. Wolfram U
6. Mathematica on Raspberry Pi
7. Large Language Model in Wolfram Language
8. Selected Artificial Intelligence tools with Wolfram Language
9. Selected fields of application in learning and research

Lecture:

- **full-time studies: 30 h**
- **part-time studies: 18 h**

Number of ECTS credits: 2

Literatura:

Bibliography:

1. Stephen Wolfram, An Elementary Introduction to the Wolfram Language, https://WolframCloud.com
2. Wolfram U, Open courses for students and professionals, https://www.wolfram.com/wolfram-u/
3. Wolfram|Alpha, https://www.wolframalpha.com/

Efekty uczenia się:

Learning outcomes:

Knowledge: K1A_W10, K2A_W15, Comprehends and grasps the fundamental challenges of contemporary civilization with respect to the advancements in science and technology. Skills: K1A_U15, K2A_U11, Is capable of autonomously planning and executing their lifelong learning endeavors. Social competences: K1A_K03, K2A_K01, Possess the ability to critically assess the knowledge and material acquired, acknowledge the significance of such knowledge in addressing cognitive and practical challenges, and seek consultation from experts when encountering difficulties in independently resolving issues.
Metody i kryteria oceniania:
Assessment methods and assessment criteria:
Lecture Attendance on at least 70% lectures.

Przynależność do grup przedmiotów w cyklach:
Element of course groups in various terms:

Opis grupy przedmiotów Course group description	Cykl pocz. First term	Cykl kon. Last term
przedmioty obieralne studia stacjonarne i niestacjonarne stopień studiów – dowolny kierunek studiów – dowolny, semestr dowolny elective courses full-time and part-time studies degree - any field of study - any semester - any	2022/2023	

Fully comprehends and thoroughly grasps the profound and intricate challenges that define contemporary civilization, especially as they relate to the extraordinary and relentless advancements in science and technology.

Understands the complex challenges of modern civilization, particularly in relation to ongoing advances in science and technology.

Comprehends the intricate challenges facing contemporary civilization, particularly with regard to the continuous advancements in science and technology.

Comprehends the intricate challenges facing contemporary civilization. This is particularly true with regard to the continuous advancements in science and technology.

Comprehends the intricate challenges facing contemporary civilization, particularly concerning the continuous advancements in science and technology.