Study program: Information Technology

Course title: ARTIFICIAL INTELLIGENCE

Teacher(s): Danijela G. Milošević, Vladimir M. Mladenović

Course status: mandatory

Number of ECTS credits: 6

Prerequisite courses: none

Course objectives

Familiarization with the basic concepts and areas of Artificial Intelligence. Acquaintance with typical methods of application, acquired experiences, recognized advantages and disadvantages of the considered methods and techniques. Acquiring practical skills in applying the considered methods and techniques.

Learning outcomes

The student will be able to recognize the possibilities of applying artificial intelligence and ways of solving it through algorithms from different areas of artificial intelligence that he has mastered.

Content of the course

Theoretical teaching

Fundamentals of artificial intelligence. Intelligent agents. Modeling and knowledge representation; Solving problems (searching the space of solutions); Rule-based reasoning; Artificial intelligence languages and related tools. Supervised and unsupervised machine learning; Neural networks; Analysis and understanding of the text; Semantic-based approaches for searching and extracting information/knowledge; Applications of artificial intelligence methods and techniques.

Practical teaching

The knowledge acquired during lectures is applied in exercises through the implementation of a project that includes the application of the considered methods and techniques of artificial intelligence.

Literature

[1] Artificial Intelligence Technology, Huawei Technologies Co., Springer, Official Textbooks for Huawei ICT Academy, ISBN 978-981-19-2878-9, 2023

[2] Gareth James at al., An Introduction to Statistical Learning with Applications in R, Springer, 2017, ISBN 978-1-4614-7137-0

[3] Milan Milosavljević, Veštačka inteligencija, Univerzitet Singidunum, 2015, ISBN 978-86-7912-590-3

[4] Predrag Janičić, Mladen Nikolić, Veštačka inteligencija, Matematički fakultet, Beograd, 2023.

[5] Charu C. Aggarwal Artificial Intelligence: A Textbook, 2021, Springer, ISBN 978-3030723569

Number of active classes: 4	**Theoretical teaching: 2**	**Practical teaching: 2**

Teaching methods

Lectures and exercises based on the model of interactive teaching (teaching methods: popular lecture, discussion, practical work methods, workshops); active forms of learning: verbal meaningful receptive learning, discovery learning, cooperative learning, practical learning.

Evaluation of knowledge (maximum number of points 100)

Pre-exam obligations	**Points**	**Final exam**	**Points**
Activities during teaching process	10	Final exam (written):	
Practical teaching	40	Final exam (oral):	30
Colloquium	20		