<table>
<tr><td colspan="2">NAME OF THE COURSE</td><td colspan="5">FORENSICS AND SECURITY OF ARTIFICIAL INTELLIGENCE SYSTEM</td></tr>
<tr><td>Code</td><td>FZ286</td><td>Year of study</td><td colspan="4">2.</td></tr>
<tr><td>Course teacher</td><td>(Full) professor Josip Kasum</td><td>Credits (ECTS)</td><td colspan="4">3</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Marko Pilić, PhD</td><td rowspan="2">Type of instruction (number of hours)</td><td>L</td><td>S</td><td>E</td><td>F</td></tr>
<tr><td>15</td><td>0</td><td>15</td><td>0</td></tr>
<tr><td>Status of the course</td><td>Elective</td><td>Percentage of application of e-learning</td><td colspan="4"></td></tr>
<tr><td colspan="7">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="6">Mastering the usage of various engineering and scientific methods in forensic approaches to artificial intelligence systems.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="6">Requirements for course enrollment are defined by the Regulations at the University Department of Forensic Sciences and by the Regulations on Studies and System of Studies at the University of Split.</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="6">1. Introduction to an artificial intelligence systems.<br>2. Classify important elements of the artificial intelligence systems.<br>3. Confirm the working principles of artificial intelligence systems.<br>4. Using forensic methods, re-examine the work of artificial intelligence.<br>5. Using forensic methods, determine artificial intelligence system failure.<br>6. Classify forensic approaches to the decision-making process of artificial intelligence systems in different traffic systems.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6">Course content:<br>L1. Artificial Intelligence, Systematic Approach<br>L2. Classification of artificial intelligence<br>L3. Philosophical approach and artificial intelligence<br>L4. Data, information, great data<br>L5. Data mining systems<br>L6. Expert systems<br>L7. Neural networks, intelligent agents and classification<br>L8. Evolution in connection with computerization<br>L9. The work of artificial intelligence and forensic science<br>L10. Forensic research of artificial intelligence system faults<br>L11. Modern systems of artificial intelligence and general application<br>L12. Forensic approach to the analysis of the decision-making process of artificial intelligence systems in different transport systems<br>L13. Application of artificial intelligence system in land transport<br>L14. Application of artificial intelligence system in air traffic<br>L15. Application of artificial intelligence system in Maritime traffic<br>Exercise Content:<br>E1. Legal Basis of Artificial Intelligence. Systematic description of realistic artificial intelligence systems.<br>E2. Analysis of subsystems and elements of a selected artificial intelligence system.<br>E3. Working principles of selected artificial intelligence systems.<br>E4. Forensic analysis of selected artificial intelligence systems<br>E5. Artificial Intelligence System faults, Forensic Approach<br>E6. The process of deciding the code of selected artificial intelligence systems by forensic approach<br>E7. Exploration of data mining system based on data, information and large data<br>E8. Forensic analysis of the work of the selected expert system<br>E9. An example of the operation of neural networks<br>E10. Intelligent agents and application</td></tr>
</table>

| | |
|---|---|
| | E11. Interdisciplinarity, multidisciplinarity and transdiciplinarity in relation to artificial intelligence<br>E12. An example of modern systems of artificial intelligence with general application<br>E13. An example of artificial intelligence system in land traffic<br>E14. An example of artificial intelligence system in air traffic<br>E15. An example of artificial intelligence in maritime Traffic |

| | | |
|---|---|---|
| Format of instruction | ☒ lectures<br>☒ seminars and workshops<br>☐ exercises<br>☒ *on line* in entirety<br>☐ partial e-learning<br>☐ field work | ☐ independent assignments<br>☐ multimedia<br>☐ laboratory<br>☐ work with mentor<br>☐ (other) |

| | |
|---|---|
| Student responsibilities | **Obligations of full - time students**:<br>Lectures and exercises are obligatory for students and records of attendance are kept. In order to get a professors signature, students must attend a minimum of 70% of lectures and exercises. In case of insufficient number of arrivals, no signature will be given or the right to attend the exam. Students can not justify or replace the attendance with a regular note. Students who, due to illness or for some other justified reason, have not met the conditions for signature and are missing up to 20%, will be able to do so by consulting and developing additional tasks. All other students, ie those who have realized less than 50% of required attendance, are not eligible for a signature and are required to enroll in a college next year.<br>**Obligations of part - time students:**<br>Same as full - time. |

| Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)* | | | | | | |
|---|---|---|---|---|---|---|
| | Class attendance | 1 | Research | | Practical training | |
| | Experimental work | | Report | | Research paper | |
| | Essay | | Seminar essay | 1 | | |
| | Tests | | Oral exam | 1 | | |
| | Written exam | | Project | | | |

Grading and evaluating student work in class and at the final exam

| Grading elements | Success (min.%) | Percentege in grade (%) |
|---|---|---|
| Class attendance | 95 | 50 |
| Essay | | |

**Završna procjena**

| Verification indicators - final exam | Success (min.%) | Percentege in grade (%) |
|---|---|---|
| Previous activities (including all continuous check indicators) | **100** | 50 |
| Elementary concepts | **95** | 20 |
| Exam (written or oral) | **50** | 30 |

**Grading - minimum for passing the exam: 50%**

| Points (%) | Criteria | Grade |
|---|---|---|
| 0- 49 | Does not meet the minimum criteria | Insufficient (1) |
| 50-64 | Meets the Minimum Criteria) | Sufficient (2 |

| | | | |
|---|---|---|---|
| | 65-79 | Average success with noticeable shortcomings | Good (3) |
| | 80-89 | Above the average success with a few mistakes | Very good (4) |
| | 90-100 | Outstanding success | Excellent (5) |

| | Title | Number of copies in the library | Availability via other media |
|---|---|---|---|
| Required literature (available in the library and via other media) | Warwick K., *Artificial intelligence*, The basics, Routledge, 2012, New York<br><br>Luger, F. George, Artificial intelligence – structures and strategies for complex problem solving, 1989, sixth edition<br><br>Russell S., Norvig, P., Artificial Intelligence – A modern approach, 2016., England | | |
| | | | |
| | | | |
| | | | |
| Optional literature (at the time of submission of study programme proposal) | Artificial Intelligence for Europe<br>AI Act<br>Naval Artificial Intelligence | | |
| Quality assurance methods that ensure the acquisition of exit competences | • Analysis of the success of studying programme in all classes.<br>• Students survey on the quality of teachers and teaching process for each class.<br>• The exam conducted by the teacher examines all learning outcomes of the class. | | |
| Other (as the proposer wishes to add) | | | |