

COURSE TITLE		Developing intelligent web application (RIWA) – modul for students Object recognition			
Kod		Year	2020.-2024.		
Course instructor(s)	prof. dr.sc. Saša Mladenović doc. dr. sc. Goran Zaharija	The total expected number of hours including independent student work	60		
Collaborators	doc dr. sc. Divna Krpan	Teaching format (number of hours per course)	P 15	S	V 30 T
Course status	EDIT CodeSchool – ICT Županija extracurricular activity	The percentage of e-learning implementation	50%		
OPIS PREDMETA					
Course aims	The aim of the course is to introduce students to areas closely related to the digitalization and digital transformation of society and business. By using an approach from concrete to abstract, students go through all stages of designing and developing a web application that can recognize objects in images. The course is intended for upper primary school students. Selected technologies enable the development of web applications for desktops, tablets, and mobile devices. With available instructions and teacher assistance, students will design and develop a simple application using programming languages and tools suitable for their age group.				
Entry requirements for the course and necessary prior competencies:	Basic understanding of computer usage. Familiarity with internet browsing and software applications. Basic knowledge of programming concepts is beneficial but not mandatory.				
Expected learning outcomes at the course level (4-10 learning outcomes):	Upon completion of the program, students will be able to: <ol style="list-style-type: none"> 1. Explain the method of data representation in computers. 2. Describe what artificial intelligence is. 3. Argue about learning problems based on examples. 4. Apply tools to develop web applications for object recognition problem-solving. 5. List examples of intelligent systems for the digitalization and digital transformation of society. 				
Subject content elaborated in detail according to teaching terms	<ol style="list-style-type: none"> 1. Data and its representation in computers (formats, shapes, colors...) 2. Programming and data representation in computers 3. Image encoding (data, errors in data, validity check) 4. Problem-solving (example: how does temperature depend on altitude?) 5. Intelligence and computers (What does an intelligent machine or program mean?) 6. Tools that aid in the development of intelligent applications (How to create something complex easily?) 7. An application is as intelligent as we are good teachers (How do we teach computers? What to consider when collecting data?) 				

	<p>8. Recognition of fruits and vegetables (How to train the application based on examples?)</p> <p>9. Intelligence in web applications (How to use a trained system in an application that also works on a mobile phone?)</p> <p>10. How can we apply what we have learned to the digitalization and digital transformation of society? (Examples of intelligent systems application around us.)</p> <p>11. Competition/ Project presentation</p>
Types of teaching delivery:	<p>Lectures - hybrid</p> <p>Independent exercises</p> <p>Exercises with teacher support</p> <p>Homework</p>
Student responsibilities	Attendance and participation in lectures and exercises, active participation in class activities, completion of homework assignments, final project development, exam.
Monitoring student work (enter the share in ECTS points for each activity so that the total number of ECTS points corresponds to the credit value of the subject):	<p>Lectures: 1</p> <p>Laboratory exercises: 1</p> <p>Non-classroom work: 1</p> <p>Project: 2</p>
Assessment and evaluation of student work during the course and in the final presentation..	<p>Attendance/participation/engagement in class (20%)</p> <p>Assignments (40%)</p> <p>Self-assessment (40%)</p>
Literature	Teaching materials available on the e-learning portal, including solutions to selected tasks and additional literature.
Methods of quality monitoring ensuring the achievement of defined learning outcomes.	Student interviews, anonymous surveys, student success rates, self-analysis.
Other	Materials are available on the e-learning portal edit.dalmacija.hr to ensure the continuation of activities in conditions that do not allow in-person teaching.