<table>
<tr><td>NAME OF THE COURSE</td><td colspan="5">Object oriented programming</td></tr>
<tr><td>Code</td><td>PMID30</td><td>Year of study</td><td colspan="3">GU-1
GU-2
UGU-2</td></tr>
<tr><td>Course teacher</td><td>izv. prof.dr. sc. Saša Mladenović</td><td>Credits (ECTS)</td><td colspan="3">6,0</td></tr>
<tr><td rowspan="2">Associate teachers</td><td rowspan="2">Dino Nejašmić mag. educ. math.
pred. Divna Krpan
dr. sc. Goran Zaharija</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>30</td><td></td><td>30</td><td></td></tr>
<tr><td>Status of the course</td><td></td><td>Percentage of application of e-learning</td><td colspan="3">25%</td></tr>
<tr><td colspan="6">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="5">This course is designed as an entry level programming course for students who have prior programming experience.
This course introduces the concepts of object-oriented programming to students with a background in the procedural paradigm.
The course begins with a brief review of control structures and data types with emphasis on structured data types and array processing.
It then moves on to introduce the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design.
Other topics include an overview of programming language principles. At the end all of the above mentioned concepts should be used to create a simple computer game.</td></tr>
<tr><td>Course enrolment requirements and entry competences required for the course</td><td colspan="5">Students who do not have prior programming experience or who are not confident in their programming ability should complete some introductory programming course offered at the faculty prior to undertaking this course.</td></tr>
<tr><td>Learning outcomes expected at the level of the course (4 to 10 learning outcomes)</td><td colspan="5">Be able to design simple object-oriented (OO) project using an OO design paradigm and supporting software tools.
Be able to implement an OO model in a high-level OO language using objects, classes, inheritance, arrays, conditionals and iteration.
Be conversant with effective documentation, layout, debugging and testing.
Explain the benefits of object oriented design and the types of systems in which it is an appropriate methodology.
Apply good programming style and understand the impact of style on developing and maintaining programs. Be able to justify programming style choices.
Design and implement a suitable GUI for the front-end of an event driven object oriented program.</td></tr>
<tr><td>Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="5">Introductory concepts about information systems
Basic concepts in object oriented programming
Decomposition
Using methods
Using advanced methods
Using classes and objects
Inheritance
Midterm exam
Game engine for 2D computer game
Example of game development using game engine
Exception handling
Events</td></tr>
</table>

	Delegates Graphical user interface controls Project presentation
Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ on line in entirety ☒ partial e-learning ☐ field work ☒ independent assignments ☐ multimedia ☒ laboratory ☐ work with mentor ☒ homework assignments
Student responsibilities	Lecture and laboratory attendance, active participation in course activities, homework and project realization, final exam.

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)*

Name	Ects	Name	Ects	Name	Ects
Class attendance	2	Research		Experimental work	
Oral exam	0.5	Report		Homework assignments	
Seminar essay		Essay			
Tests	0.5	Practical training	1		
Written exam	0.5	Project	1.5		

Grading and evaluating student work in class and at the final exam	Attendance/Participation (20%) Project (40%) Final/Oral Exam (40%)

Required literature (available in the library and via other media)

Title	Number of copies in the library	Availability via other media
Programiranje C# 4.0 Ian Griffiths, MaZhew Adams i Jesse Liberty (2011) (HRV)	10	
Programming C# 4.0 - Building Windows, Web, and RIA Applications for the .NET 4.0 Framework, Ian Griffiths, Matthew Adams, Jesse Liberty, O'Reilly Media (2010) (ENG)	0	

Optional literature (at the time of submission of study programme proposal)	Related Research Papers
Quality assurance methods that ensure the acquisition of exit competences	Student discussion, anonymous student evaluation questionnaire, student success rate, self-assessment
Other (as the proposer wishes to add)	