Study program	Level of the study program		First cycle
	Study program name		Physics and Informatics Education
Course name	METHODS OF TEACHING INFORMATICS I		

Course ID	Semester	Course status	ECTS credits	L+E
EDU390	VI	MANDATORY	6	3+2

Lecturer	
Aims and intended learning outcomes	The aim of this course is to introduce students to the modern approaches in organizing and delivering informatics lessons. The course aims to provide students – future informatics teachers with necessary knowledge and skills to identify student interests, abilities and difficulties, as well as to prepare them to work with advanced students and with students with difficulties in learning informatics. In this course, students will be enabled, through their own, independent work, to recognize students' interests and capabilities.

Course content

- Introduction. Basic questions of methodology - organization of classes, teaching aids and procedures for preparing and conducting classes.
- Problems in informatics teaching. A comprehensive presentation of the teaching content of informatics and division into thematic units.
- Planning of teaching material and sequence of execution. Structure and types of lessons. Teaching procedures. Animating students. Principles of didactic theory and their application in informatics teaching. Cybernetic methods. Heuristic, programmatic and problem teaching. Analysis and synthesis, analogy, algorithmic approach to problem solving. Adaptation of computer content and available teaching materials to the psychology and age of students.
- The connection between teaching content, aids and methods of teaching. The ability of teachers to monitor rapid changes in teaching content and teaching methods. Literature for class preparation. The computer as a teaching tool. Software tools for preparing, displaying and distributing teaching content and monitoring success. Internet technology in teaching informatics.
- Adaptation of methodical and didactic principles to teaching areas of informatics. Preparation of teaching materials on a computer with the ability to display with the help of a presentation tool or a suitable program environment.
- Theoretical introduction, deepening of knowledge, examples, problems and solutions are the basis of processing all teaching areas of informatics. Computer systems. Computer networks and the Internet. Presentation of the basics of logic, computer structure and information in a computer with analog models and simulation programs. Algorithmic way of thinking.
- A programming language of the appropriate level of complexity. Program solutions to simple problems via computer. Individual or team use of computers in solving complete problems.

Student workload (hours)		Grading	
Lectures and Exercises	75	Assessment method	Points
Exam preparation	75	Midterm exam	5
		Homework	5
		Project	40
		Seminar	5
Total	150	Final exam	45
		Total	100

Literature

[1] V. Galešev i dr., Informatika i računarstvo: metodički priručnik za nastavnike, SysPrint, Zagreb, 2006.
[2] Kosta Voskresenski, Metodika nastave informatike
[3] Dragana Glušac, Metodika nastave inforematike
[4] L. Cassel, R.Reis, Informatics Curricula and Teaching Methods, Kluwer Academic Publishers,2003.
[5] M. Pavleković, Metodika nastave matematike s informatikom I i II, Element, Zagreb, 1997.
[6] G. Martinović, Recenzirani nastavni materijali za osnovne i srednje škole

Remarks