UNIVERSITY OF RIJEKA
FACULTY OF PHILOSOPHY

DEPARTMENT OF INFORMATICS

UNDERGRADUATE AND GRADUATE CURRICULA

STUDY OF INFORMATICS - MAJOR

March, 2005

Table of Contents

UNDERGRADUATE MAJOR STUDY OF INFORMATICS

1. INTRODUCTION

A) REASONS FOR INITIATION OF STUDY

Presently, there is possible to study informatics at the University of Rijeka in fixed combination with some other disciplines (curriculum). By undergraduate major/minor study of informatics is possible to of study of informatics in free combination at the Faculty of Philosophy, University of Rijeka.

Department of Informatics exists at the Faculty of Philosophy since 1975. But, for all that time informatics can be studied in fixed combination with some other disciplines, mostly mathematics and pedagogy.

Adopted knowledge during the study should enable student successful in educational institutions (as assistant in education), specialized companies for informatics, or in business, economics and social organizations performing activities in informatics. Suggested undergraduate curriculum enables a formal base for continuing education in informatics and computer science.

Informatics subjects included in study can be found in curricula of the most European and USA faculty at the same or similar name. Basic themes included in most of curricula are: programming, operating systems, Internet, computer networks, multimedia, databases, architecture of computers etc.

During undergraduate study of informatics, students adopt basic knowledge from science fields that consists of basic knowledge from informatics (bases of digital technology and computer architectures, programming with algorithms and data structure, computer networks and Internet, databases, information systems, object oriented programming and programming for Internet, data modelling and processes modelling and multimedia applications), mathematics and pedagogy (basic subject needed for pedagogical work).

Basic subjects correspond with curricula at the Faculty of organization and informatics (FOI) in Varaždin and Faculty of electrical engineering and Computing (FER) in Zagreb, Faculty of electrical engineering in Ljubljana (FRI) and Karl-Franzens University in Graz.

B) PRESENTLY EXPERIENCE IN IMPLEMENTATION EQUIVALENT OR SIMILAR STUDIES

We believe there is a real need for studying of informatics in free combination at the University of Rijeka. By this study student can freely chose their future profile and expert knowledge.

C) UNCLOSE OF STUDY ACCORDING STUDENT MOVING

All subjects are planed as one semester subjects that enable dynamical change of subject's content. Students can be included in student exchange between Universities (in Croatia and/or

foreign) at any phase of the study. Students have to pass exams for all listened subjects, and exams are performed after every semester. Students who study at the Faculty of Philosophy continuously and don't participate in student's exchange can carry one subject at the next academic year.

D) OTHERS ELEMENTS AND DATA IMPORTANT FOR STUDY

Changes in informatics are very frequent and fast, so hardware and software and applied knowledge about them are changed in a short period of time. Because of that the curriculum is modelled to enable flexibility in performing the study. We believe that curriculum is starting base that we will change and adopt to change in informatics and follow general needs in social and economic area.

2. GENERAL PART

2.1. NAME OF STUDY:

Undergraduate major/minor study of informatics

2.2. CURRICULUM ORGANIZATIONS

University of Rijeka
Faculty of Philosophy,
Department for in informatics
Omladinska 14,
51000 Rijeka.

2.3. DURATION OF STUDY

Toward to suggest in the *Law of science activity in high education*, suggested curriculum of undergraduate study of informatics have 3 years duration (6 semesters).

2.4. CONDITION FOR REGISTRATION OF STUDY:

Candidate with finished four year secondary education have to pass classification exams to regsitrate study.

Registration in first academic year is performed in July and September, and registration for higher academic year is performed at the end of September or at the beginning of October according next conditions:

II year: students have not to pass one subject from I year of study

III year: students have not to pass one subject from I year of study if all subjects form I year are passed

2.5. BY UNDERGRADUATE STUDY OF INFORMATICS STUDENTS REACH COMPETENCE FOR PROFESSIONS:

- person engaged in organization of information classrooms in elementary and secondary schools.
- informatics' specialist capable for development of informatics' product for education's needs
- informatics' specialist capable for development of software product for economics and social needs

Students with finished undergraduate major/minor study of informatics can registrate to graduate major/minor study of informatics at the Faculty of Philosophy in Rijeka, graduate study of Informatology at the Philosophy faculty in Zagreb and graduate study of Mathematics and informatics at the Faculty of science and education in Split.

2.6. ACADEMIC TITLE AFTER FINISHED UNDERGRADUATE STUDY:

Baccalaureus/ Baccalaurea of informatics and second study subject.

3. Curricula Description

3.1. LIST OF OBLIGATORY AND ELECTIVE COURSES AND/OR MODULE

Year of study:	Course name:	ECTS points:	Number of hours:	CORE / ELECTIVE:
1	Fundamentals of Informatics 1	4	4	CORE
1	Mathematics for information technology students 1	4	4	CORE
1	Programming 1	4	4	CORE
1	Introduction to Digital Systems	4	2	CORE
1	Fundamentals of Informatics 2	4	4	CORE
1	Mathematics for information technology students 2	4	4	CORE
1	Programming 2	4	3	CORE
1	Computer organisation and Arhitecture	4	3	CORE
1	Physical Education 1	1	2	CORE
2	Mathematics for information technology students 3	4	4	CORE
2	Information System Analysis	4	3	CORE
2	Operating Systems 1	4	3	CORE
2	Object oriented programming	4	4	CORE
2	Probability and Statistic	4	3	CORE
2	Object Oriented Modeling	4	4	CORE
2	Operating Systems 2	4	3	CORE
2	Information System Design	4	3	CORE
2	Physical Education 2	1	2	CORE
3	Computer Network 1	4	4	CORE
3	Programming for the Internet 1	4	3	CORE
3	Formal Languages and Compilers	4	3	CORE
3	Multimedia Systems	4	3	CORE
3	Computer Network 2	4	4	CORE
3	Programming for the Internet 2	4	3	CORE
3	Final Exam	2		CORE
3	Computer Graphics	4	3	ELECTIVE
3	Object Programming Languages	4	4	ELECTIVE
3	Educational System Design	4	3	ELECTIVE
3	Information Systems	4	4	ELECTIVE
Total ECTS points:		106		

3.2. COURSE DESCRIPTION

Course code						
Course title	**FUNDAMENTALS OF INFORMATICS 1**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**I**
Course status	X	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30 + 0 + 30			
Course objectives						
acquisition of fundamental knowledge in Information Science, regardless the kind of high school educational profile, for efficiently using computers in practice and upgrading the knowledge, respectively for successfully following the courses on senior years of study. acquisition of knowledge about all parts of the information system and purposes for information system development						
Correspondence and correlation with the program						
The course program correlates with all future informatics courses and is a prerequisite for Fundamentals of Informatcs 2.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
Upon completion of course, students will be able to do the following: define and distinguish the elements of the computer system understaind and explain the terms of information and communication system develop and adjust documents for user needs based on literacy acquirement						
Course content						
DATA DESCRIPTION OF THE OBJECTIVE REALITY: concept of data, concept of information, modes of data recording, material data carrier, data configurations, information systems, data acquisition methods, information systems functions end elements, information and organizational system connection, relation between information and communication system, purview of information systems. COMPUTER AS PART OF INFORMATION SYSTEM: data processing development, historical review, appearance, purpose and units of computer, numerical notation, connection with organizational system. Functional model of the computer system.						
Modes of instruction (mark in bold)						
Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**		

Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students should actively participate in all forms of works, perform practical exercises and produce seminar papers. They should pass the preliminary exam as the prerequisite for the theoretical part of the exam, consisting of practical and oral part where the complete knowledge of the student is examined and evaluated. The continuous assessment is accomplished by monitoring the students work and activities.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	**Seminar paper** **0,5**	Experiment
Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	**Continuous assessment** **0,5**	Presentation	Practical work
Practical exam using computer **0,5**			

Comments:

On the practical exercises students should acquire the fundamentals of computer literacy as basis for future studying. The exercises are performed with the appropriate software (WINDOWS OS, Microsoft Office and using basic CARNet and Internet services).

Required literature

group of authors, *Poslovno računarstvo*, Znak, Zagreb, 1999.
Williama, K.B. , Stacey, S.C., Hutchinson, E.S., *Using Information Technology*, Richard D. Irvin Inc., 1995.

Recommended literature

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code							
Course title	**MATHEMATICS FOR INFORMATION TECHNOLOGY STUDENTS 1**						
General Information							
Program	**INFORMATICS - MAJOR**					Year	**I**
Course status	**X**	**Core**		Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload					4		
Hours/semester					30+0+30		
Course objectives							
The objective of the course is to teach students basic concepts and results of mathematics, especially mathematical structures and linear algebra and train to implement the acquired knowledge.							
Correspondence and correlation with the program							
The course correlates with other mathematics courses: Mathematics for IT students 2, Mathematics for IT students 3.							

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:

1. Correctly explain and analyze basic concept of mathematics structures and linear algebra in compliance with the course content.
2. Analyze and adequately implement techniques of linear algebra (matrix calculation, solving system of linear equations, ...) in compliance with the course content.

Course content

Set theory, set operations. The Cartesian product of sets. Most important binary relations. Equivalence relations. Partial ordering relations. Functions. Composition function. Inverse functions. Equivalent sets. Sets of numbers.

Concept of equation and solving equations as described with number of solutions and interval estimation of results of a polynomial equation: numerical procedures of bisection and secant with procedure errors.

Approximation using function, approximation using polynomial. Lagrange and Newton Lagrange interpolating polynomial approximation error.

Vector spaces. Linear dependence of vectors, bases and dimension o a vector space. Linear operator and matrices Matrix addition, matrix multiplication, rank of a matrix and inverses of matrices.

Determinants and determinant properties .Evaluation of determinants.

Systems of linear equations. Existence of solution. Solution of a system of linear equations. Gauss's algorithm.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0.5**	Seminar paper	Experiment
Written exam 1	Oral exam **1**	Essay	**Research work**
Project work	**Continuous assessment 0.5**	Presentation	Practical work

Comments:

Required literature

M. Sošić, M. Marinović, *Repetitorij s riješenim zadacima iz matematike*, Filozofski fakultet, Rijeka, 2004.
B. Divjak, T. Hunjak, *Matematika za informatičare,* TIVA, Fakultet organizacije i informatike, Varaždin, 2004.
B. Divjak, T. Hunjak, *Zbirka zadataka iz matematike,* TIVA, Fakultet organizacije i informatike, Varaždin, 2002.
S. Kurepa, *Uvod u matematiku: Skupovi-Strukture-brojevi*, Tehnička knjiga, Zagreb, 1984.

Recommended literature

S. Kurepa, *Uvod u linearnu algebru: vektori, matrice, grupe*, Školska knjiga, Zagreb, 1987.
V. P. Minorski, *Zbirka zadataka više matematike*, Tehnička knjiga, Zagreb, 1972.
N. Elezović, *Linearna algebra: Zbirka zadataka*, Element, Zagreb, 1995.
J. Murphy, D. Ridount, B. McShane, *Numerical Analysis, Algorithms and Computation*, John Wiley & Sons, New York 1988.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**PROGRAMMING 1**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**I**
Course status	**X**	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+30	

Course objectives

This course provides basic comprehension of approaches, concepts and methods in procedural programming and gives an introduction to modular program construction. The course covers topics including methods of algorithm development and implementation, using of language constructs in simple program coding and methods for code debugging. The course familiarises the student with commonly used algorithms, using the C++ programming language.

Correspondence and correlation with the program

Course program is in correlation with the programs of the courses: Programiranje 1.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The student should become familiar with the:
- basic operation of the programming environment and computer literacy.
- Boolean expressions, variable types and
memory storage.

The student should learn:
- how to develop an algorithm and implementation to compute a mathematical function.
- to convert a set of Mathematical statements into a C++ Boolean expression.
- to develop an algorithm using programming language selection constructs.
- to develop an algorithm and implementation that repeatedly executes a sequence of steps.
- to debug a simple program and remove all syntax errors and all logic errors.
- to use preprogrammed functions to implement an algorithm.
- to implement a hierarchical design using methods/functions.
- to properly document code to a given standard.
- to develop and write a program that uses one or more array structures to store information.
- to develop and write a program that uses simple data files to store and retrieve information.

Course content

Historical survey of programming languages. Procedural and object-oriented languages. General or multipurpose languages. Special-purpose languages.

The software development process. Developing programs interactively. Concepts of imperative, structured programming. The notion of the algorithm.

Syntax and semantix of C++. Types, values and declarations: Names. Declarations. Type definitions. Numeric data types. Logical types. Character types. Enumeration types. Expressions and statements: Expressions. Statements. Sequencing and control. Iterative statements.

Program structure: Procedural architecture. Alternative program architectures. Simple

algorithms for search and sort. Parameters. Functions. Structured data: Arrays. Records. Strings. Files.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	**Exercises**	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	**Laboratory work**	Tutorials	Field work

Comments:
Laboratory work will be done in a computer laboratory.

Student requirements

Students are expected to:
attend classes regularly
make necessary preparations for classes
do practical work
pass two midterm exams and a final exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0.25	**Class participation 0.5**	Seminar paper	Experiment
Written exam 1	Oral exam **1**	Essay	Research work
Project work	**Continuous assessment 0,5**	Presentation	**Practical work 0.75**

Comments:

Required literature

1. Julijan Šribar, Boris Motik:
Demistificirani C++, Dobro upoznajte protivnika da biste njime ovladali, Element, Zagreb, 2001.

Recommended literature

1. Jesse Liberty, Teach Yourself C++ in 24 Hours, SAMS, 1999.
2. Leslie B.Wilson and Robert G.Clark: Comparative Programming Languages, Third Edition, Addison-Wesley, 2001.

Quality assurance of course and/or module

Quality of the course will be monitored and measured through the success of examinations and through the anonymous inquiry reflecting students opinions regarding the course.

Course code						
Course title	**INTRODUCTION TO DIGITAL SYSTEMS**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**I**
Course status	X	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	15+0+15	

Course objectives

The aim of this course is to present the fundamental knowledge about digital systems and their functioning.

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The students will be introduced to basic terms in digital system design.

Course content

Information and number systems. Design of combinational logic. Boolean algebra basics. Truth tables. K Maps. Arithmetic Logic unit. Decoders. Multiplexers. Read Only memory. Sequential Devices. Flip-Flops. Combinations of Flip-Flops. Programmable Array Logic. Gate Arrays. Design of simple state machines.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

J. Župan, M. Tkalić, M. Kunštić. Logičko projektiranje digitalnih sustava. Školska knjiga Zagreb, 1995.
U. Peruško: Digitalna elektronika, Školska knjiga Zagreb, 1996.

Recommended literature

Palmer, D.E. Perlman. Introduction to Digital Systems. McGraw-Hill, 1993

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Course code						
Course title	**FUNDAMENTALS OF INFORMATICS 2**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**I**
Course status	X	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload					4	
Hours/semester					30 + 0 + 30	
Course objectives						
acquisition of knowledge about operating principles of the computer system, principles of design, development and maintaining the information system. purview and development trends of information technology.						
Correspondence and correlation with the program						
The course program correlates with all future informatics courses						

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completion of course, students will be able to do the following:
understaind and explain the operational principles of computer system
analyse and explain the development trends of information technology
develop and adjust presentations and use basic network services based on literacy acquirement

Course content

System software and programming: System software elements, operating system concept, types and functions of the operating system, programming languages generations, compiling, assembling, emulating, flowchart diagrams, programme developing methods, basic algorithms and logical structures.
COMMUNICATION SYSTEMS: components, the role of a computer in communication, technological aspects of networking, principles of data transmission in network, Internet, services review.
PURVIEW OF INFORMATION TECHNOLOGY: Electronic commerce, virtual enterprises, business decision support, computer as educational technology, computer supported business.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work
Comments:				

Student requirements

Students should actively participate in all forms of works, perform practical exercises and produce seminar papers. They should pass the preliminary exam as the prerequisite for the theoretical part of the exam, consisting of practical and oral part where the complete knowledge of the student is examined and evaluated. The continuous assessment is accomplished by monitoring the students work and activities.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	**Seminar paper** **0,5**	Experiment
Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	**Continuous assessment** **0,5**	Presentation	Practical work
Practical exam using computer **0,5**			

Comments:

On the practical exercises students should acquire the fundamentals of computer literacy as basis for future studying. The exercises are performed with the appropriate software (WINDOWS and LINUX OS, Microsoft Office, Open Source tools and using basic Internet services).

Required literature

group of authors, *Poslovno računarstvo*, Znak, Zagreb, 1999.
Williama, K.B. , Stacey, S.C., Hutchinson, E.S., *Using Information Technology*, Richard D. Irvin Inc., 1995.

Recommended literature

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code							
Course title	**MATHEMATICS FOR INFORMATION TECHNOLOGY STUDENTS 2**						
General Information							
Program	**INFORMATICS – MAJOR**					Year	**I**
Course status	**X**	**Core**		Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload						4	
Hours/semester						30+0+30	
Course objectives							
The objective of the course is to teach students basic concepts of mathematical analysis (limits, continuity, derivatives, integrals, sequences, series) and to train them to implement the acquired knowledge.							
Correspondence and correlation with the program							
The prerequisite for this course is Mathematics for IT students 1. It correlates with course Mathematics for IT students 3 and Probability and statistics.							

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:

1. Correctly explain and analyze basic concept of functions theory, numerical sequences, differential calculus and integral calculus.
2. Analyze and adequately implement techniques of mathematical analysis, differentiation techniques and integration of function of one variable.
3. Solving basic differential equations.

Course content

Real numbers. Complex numbers. Functions, classification of functions. Graphical representation of functions. Concept of sequences. Convergence of sequences.
Limits of sequences, operations with limits (sequences), limits of functions, operations with limits (functions). Continuous functions. Operations with continuous functions. Concept of derivation and differential. Basic differentiation rules. Some basic theorems on differential calculus.Tayler's and Maclairen's formula. Numerical differentiation procedure with procedure error using Taylor's series. Extreme values of functions of one variable.
Integral calculus. Primitive function and indefinite integral, basic properties of indefinite integrals. Basic integration methods. Relation between definite and indefinite Rieman's integral. Further properties of integrals. The trapezoidal rule. Simpson’s rule.
Differential equation. General solutions. Particular solution. Euler's and Runge-Kutt's solution to Cauchy's problem. Determining error in one step and series of step numerical procedures for solving differential equations.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0.5**	Seminar paper	Experiment
Written exam 1	Oral exam **1**	Essay	**Research work**
Project work	**Continuous assessment 0.5**	Presentation	Practical work

Comments:

Required literature

M. Sošić, M. Marinović, *Repetitorij s riješenim zadacima iz matematike*, Filozofski fakultet, Rijeka, 2004.
B. Divjak, T. Hunjak, *Matematika za informatičare,* TIVA, Fakultet organizacije i informatike, Varaždin, 2004.
B. Divjak, T. Hunjak, *Zbirka zadataka iz matematike,* TIVA, Fakultet organizacije i informatike, Varaždin, 2002.
4. S. Mardešić, *Matematička analiza u n-dimenzionalnom realnom prostoru*, I dio, Školska knjiga, Zagreb, 1988.

Recommended literature

P. Javor, *Matematička analiza: Zbirka zadataka; teoremi i definicije, riješeni zadaci*, Školska knjiga, Zagreb 1990.
P. Javor, *Uvod u matematičku analizu*, Školska knjiga, Zagreb, 1992.
Y. Murphy, D. Ridout, B.McShane, *Numerical Analysis, Algorithms and Computation*, John

Wiley & Sons, New York, 1988.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code	
Course title	**PROGRAMMING 2**

General Information

Program	**INFORMATICS - MAJOR**				Year	**I**
Course status	**X**	**Core**		Elective		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

The course covers topics regarding advanced programming techniques including separate compilation, interface/implementation design and coding, dynamic memory allocation, pointer manipulation, and recursion. The aim of the course is qualification for development of more complex and more sophisticated programs.

Correspondence and correlation with the program

Course program is in correlation with the programs of the courses: Programming I.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The student should learn:
- how to design, code, test, debug, read, and analyse more complex programs.
- advanced programming techniques including separate compilation, interface/implementation design and coding, dynamic memory allocation, pointer manipulation, and recursion.
- how to use standard library, and preprocessor.
- the relationship between the operating system and the executing program, in particular the run-time support provided by the operating system to the program.
- how to use the components of typical program development environments including shells, editors, preprocessors, compilers, linkers and program/project managers.
- the difference between an algorithm and a program, and begin understanding what makes a good algorithm.

The student should develop a coherent style of programming.

Course content

Advanced programming techniques: separate compilation, interface/implementation design and coding, dynamic memory allocation, pointer manipulation, and recursion. Standard library. Preprocessor. Relationship between the operating system and the executing program. Run-time support provided by the operating system to the program. Components of typical program development environments: shells, editors, preprocessors, compilers, linkers and program/project managers. Development of a coherent style of programming.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	**Laboratory work**	Tutorials	Field work

Comments:
Laboratory work will be done in a computer laboratory.

Student requirements

Students are expected to:
attend classes regularly
make necessary preparations for classes
do practical work
pass a final exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0.25**	**Class participation** **0.5**	**Seminar paper** **1**	Experiment
Written exam	Oral exam **1**	Essay	Research work
Project work	**Continuous assessment** **0.5**	Presentation	**Practical work** **0.75**

Comments:
Prerequisite: Programming I

Required literature

1. Julijan Šribar, Boris Motik:
Demistificirani C++, Dobro upoznajte protivnika da biste njime ovladali, Element, Zagreb, 2001.

Recommended literature

1. Jesse Liberty, Teach Yourself C++ in 24 Hours, SAMS, 1999.
2. Leslie B.Wilson and Robert G.Clark: Comparative Programming Languages, Third Edition, Addison-Wesley, 2001.

Quality assurance of course and/or module

Quality of the course will be monitored and measured through the success of examinations and through the anonymous inquiry reflecting students opinions regarding the course.

Course code	
Course title	**COMPUTER ORGANIZATION AND ARCHITECTURE**

General Information

Program	**INFORMATICS - MAJOR**				Year	
Course status	**X**	**Core**		Elective		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

The aim of the course is to introduce basic computer stucture and organisation principles.

Correspondence and correlation with the program

The course corresponds to the course Introduction to Digital Systems.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The students will have basic knowledge of computer system architectures and organization.

Course content

History of Computers. Architecture of a simple microprocessor. The central processing unit. Arithmetic – logic unit. Instruction set. Addressing modes and formats. Von Neumann computer model. System Buses. Memories. Input/Output. Operating system support. Microprocessor programming.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if

necessary.			
Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work
Comments:			

Required literature

S. Ribarić. Naprednije arhitekture mikroprocesora, Element Zagreb, 1997.
S. Ribarić. Arhitekture računala RISC i CISC, Školska knjiga Zagreb, 1996.
W. Stallings. Computer Organization and Architecture, Prentice Hall, 2000.

Recommended literature

A.S. Tannenbaum, J. Goodman: Structured Computer Organisation, Prentice Hall, 1999.

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Course code	TZK					
Course title	**PHYSICAL EDUCATION 1**					
General Information						
Program	**INFORMATICS – MAJOR**				Year	**I**
Course status	**X**	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			1		1	
Hours/semester			0 + 0 + 30		0 + 0 + 30	
Course objectives						

The aims of this course are:
to improve students' state of health by regular kinesiological activities (to affect positively on anthropological characteristics);
to perfect and enlarge motor information in order to sustain and improve health (motor and functional abilities);
to stimulate students to develop permanent habits and needs of practicing kinesiological activities in everyday life and work, which can help them overcome intellectual efforts.

Correspondence and correlation with the program

Physical training corresponds directly with quality of life and efficiency of studies. This program correlates with kinesiological disciplines, with ecology, pedagogy and related public services. It completes students' professional competence in the process of contemporary changes and needs of the teachers training program.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Positive influence on students' anthropological characteristics (anthropometric characteristics, motor and functional abilities)

Course content

General preparations and specific exercises through various organizational work forms (with and without tools, with and without music).
Contents of athletics: running (short-distance running, middle-distance running, long-distance running), jumping.
Contents of swimming: nonswimmer training, swimming techniques – breast stroke, backstroke, the crawl.
Sports games: volleyball, basketball, five-a-side soccer/football (improvement of the technique and play).
Fitness: aerobics, step aerobics, exercises on gymnastics apparatus, yoga.
Mountaineering, walking.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
The planned program will be realized through exercises, and students' development and improvement through independent tasks, field work and testing.

Student requirements

Regular and active participation in selected teaching forms and testing.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,60	**Class participation 0,30**	Seminar paper	Experiment
Written exam	**Oral exam**	Essay	**Research work**
Project work	**Continuous assessment 0,10**	Presentation	Practical work

Comments:
Evidence of class attendance as well as continuous monitoring of students' results will affect on the development of students' state of health. Tests results can be evaluated on students' demand.

Required literature

Literature is not compulsory.

Recommended literature

In consultation with the teacher.

Quality assurance of course and/or module

Quality assurance of the course will be obtained by questionnaires, as well as by initial and final testing of students' anthropologichal characteristics (motor and functional abilities).

Course code							
Course title	**MATHEMATICS FOR INFORMATION TECHNOLOGY STUDENTS 3**						
General Information							
Program	**INFORMATICS - MAJOR**					Year	**II**
Course status	**X**	**Core**		Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload					4		
Hours/semester					30+0+30		
Course objectives							
The objective of the course is to introduce students with basic concepts and various techniques of discrete mathematics and make them competent to implement these.							
Correspondence and correlation with the program							
Prerequisites for this course are Mathematics for IT students 1 and Mathematics for IT students 2.							

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:
Performing various techniques in counting number of elements in finite sets and multisets.
Analyzing graphs, multigraphs, trees and respective matrices and adequate implementation of graphs in solving coupling and optimization problems.
Correctly explaining and analyzing concepts of partially ordered sets, networks and Boolean algebra, and implementing these in algorithms for networks and coding.

Course content

Basic concepts of counting number of elements in a finite sets. Ordered pairs, relations and functions.
Equivalence relations, distribution, partitions, multisets.
Partitions and Stirling numbers. Binominal theorem. Algebraic counting techniques. Inclusion and exclusion formula, generator of function. Recursive relations.
Graphs, tree, binary, B-tree, graph formula. Partially ordered sets. Path and cycle in graph. Counting paths in graphs. Boolean algebra and functions. Disjunctive normal form. Coupling and optimization. Trees and search. Algorithms in networks. Coding.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0.5**	Seminar paper	Experiment
Written exam **1**	Oral exam **1**	Essay	**Research work**
Project work	**Continuous assessment** **0.5**	Presentation	Practical work

Comments:

Required literature

D. Veljan, *Kombinatorika i diskretna matematika*, Algoritam, Zagreb, 2001.
D. Veljan, *Kombinatorika s teorijom grafova*, Školska knjiga, Zagreb, 1989.
P.Halmos, *Lectures on Boolean Algebras*, Princenton, Van Nostrad Company, 1968.

Recommended literature

N.Biggs, *Discrete Mathematics*, Clarendon Press, Oxford, 1989.
C.L.Liu, *Elements of Discrete Mathematics*, McGraw-Hill, New York, 1987.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**INFORMATION SYSTEMS ANALYSIS**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**II**
Course status	X	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30+0+15			
Course objectives						
- Introduce students to business system processes, respective analysis and process model design in order to make them capable to understand and divide complex system into relatively simple components, - Make students competent and independent in analyzing and interviewing user and producing process model, - Create design-oriented way of thinking, featured with high level of critical attitude towards obtained models.						
Correspondence and correlation with the program						
The course program correlates with course Information systems design.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
After completing course **Information systems analysis**, students are expected to be capable of: - Comprehensive "reading" of completed process models, - Interviewing users independently, analyzing business system processes and decomposeing them and producing a process model - Critically analyzing process models produced both by themselves and other people						
Course content						
Model process design, method for process modeling, activities in phases of data modeling development life cycle, structural analysis of system, business functions, business processes, existing - future system's condition, practicability, costs - benefits; Data flow diagram, process, types of process, data flow, data storage, external system. Recognition of processes and data flow. Decomposition, System context, hierarchical description of system, restrictions in process model, rule of preserving data flows, decomposition criteria; Model design process, interviewing, presentation of structural research; Means for presenting process logic; Means for presenting data storage structure. Main design, Project task, Conducting analysis in team, Recommendations for drawing, Methods: SAS, DTP, Actions diagram, Decision tree, Nassi-Schneiderman's diagram, decision tables, Warnier-Orr's diagram. How to develop IS in a company.						
Modes of instruction (mark in bold)						
Lectures	Seminars **and workshops**	Exercises	**Independent**	Multimedia		

			work	and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	**Field work**

Comments:
During exercises, students both independently and in teams model various processes. They have to choose a company to be dealt with in their seminar paper, interview users in the company and produce respective process model.

Student requirements

Students should actively participate in all forms of works, produce a seminar paper and pass the exam consisting of written and oral part.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,75**	**Seminar paper** **1**	Experiment
Written exam **0,5**	**Oral exam** **0,5**	Essay	Research work
Project work	**Continuous assessment** **0,25**	Presentation	Practical work

Comments:
Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities..

Required literature

Pavlić, M., Razvoj informacijskih sustava - projektiranje, praktična iskustva, metodologija, Znak, Zagreb, 1996.
Avison, D.E., Fitzgerald, G., Information System Development: Methodologies, Techniques and Tools, McGraw-Hill, London, 1995.

Recommended literature

Strahonja,V., Varga, M., Pavlić, M., Projektiranje informacijskih sustava, INA-INFO, Zagreb, 1992.
Peters L.: Advanced Structured Analysis and Design, Prentice-Hall International, Inc., Englewood Cliffs, 1988.
Yourdon, E.: Modern Structured Analysis, Prentice-Hall International, Inc., Englewood Cliffs, 1989.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**OPERATING SYSTEMS 1**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**II**
Course status	X	**Core**		Elective		

Credits and Teaching	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+15	

Course objectives

introduce students with basic concept in Operating systems
acceptance knowledge about basic concept of Operating system: processes, communication, data management, memory management,
preparing for advance using of Operating systems

Correspondence and correlation with the program

The course correlates with other computer architecture courses and computer network courses.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:
understand structure and principles of work for operating system
adopt knowledge included in "Course content".

Course content

Introduction in Operating system: development, structure
Process management: concurency, sincronization, delays, process scheduling
Memory management: virtual memory, paging, segmentation
Input/Output: priciples of Input/Output software and hardware
File systems: files, directories, file system implementation
Security

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	Class participation	Seminar paper	Experiment
Written exam **1**	**Oral exam** **2**	Essay	**Research work**
Project	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Tanenbaum A., Woodhull A., *Modern Operating systems, Desing & Implementation*, Prentice Hall, 1997.
Tanenbaum A., Woodhull A., *Operating systems, Desing & Implementation*, Prentice Hall, 1997.

Recommended literature

Stalling S., *Operating systems*, Macmillan, 1992
Silberschatz A., Galvin P. B., *Operating system concepts*, Addison Wesley, 1989.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**OBJECT ORIENTED PROGRAMMING**					
General Information						
Program	**INFORMATICS**				Year	**III**
Course status	**X**	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+30	

Course objectives

The main aim of this course is that students adopt concepts of object-oriented technology. Capacitate students for individual modeling, program and use object-oriented approach and methods in solving problems.

Correspondence and correlation with the program

The content of this course draws on those informatics courses that deal with information systems and programming (Programmimg 1, Programming 2).

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire:
basic operations of programming interface
logical expressions, type of variable and their memory storage
use of hiearhical design by function use
make program documentation
develop program with one or more memory storage field
develop program for storage and finding data in files

Course content

Object-oriented systems and development of programming support. Introduction to object-oriented programming with programming language C++. Definition and use of class. KOnstuctor and destructor. Global and static object. Using of basic system class and function. Function overcome. Overload of operators. Inheritance: type and use of inheritance. Class hierarchy. Object fileds. Function and class templates. Exception and exception management.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	**Exercises 2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0,7**	**Class participation** **0,3**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1,5**	Essay	Research work
Project work	**Continuous assessment** **0,5**	Presentation	Practical work

Comments:

Required literature

Liberty,J., *Teach Yourself C++ in 21 Days*, Third Edition, Sams Publishing, Indianapolis, 1999.

Motik, B., Šribar, J., *Demistificirani C++*, Element, Zagreb, 2001.

Recommended literature

Coad, P., North, D., Mayfield, M., *Object models, Strategies, Patterns and Applications*, Prentice Hall, Upper Sadle River, NJ, 1997.

Liberty,J., *C++ Unleashed*, Sams Publishing, Indianapolis, 2000.

Bjarne Stroustrup : The C++ Programming Language, Addison-Wesley, 2000.

Quality assurance of course and/or module

After the last lecture of the course students will be asked to fulfill a questionnaire about the quality of the lectures. At the end of each semester results of the exams will be analyzed.

Kod predmeta	
Naziv predmeta	**OBJEKTNO ORIJENTIRANO PROGRAMIRANJE**

Opći podaci

Studijski program	**Dvopredmetna informatika A**				Godina	**II**
Status kolegija	X	**Obvezatan**		Izborni		

Bodovna vrijednost i način izvođenja nastave

	Zimski semestar	Ljetni semestar
ECTS koeficijent opterećenja studenta	4	
Broj sati po semestru	30+0+30	

Ciljevi predmeta

Cilj ovog kolegija je da studenti usvoje pojmove objektno-orijentirane tehnologije. Na primjeru odabranog programskog jezika osposobiti studente da samostalno modeliraju, programiraju i koriste objektno-orijentirani pristup i metode u rješavanju problema.

Korespodentnost i korelativnost programa

Program kolegija je u korelaciji sa programima kolegija: Programiranje 1, Programiranje 2 i Algoritmi i strukture podataka.
Kolegij osigurava potrebno predznanje za navedene kolegije.

Očekivani ishodi (razvijanje općih i specifičnih kompetencija – znanja/vještina) za predmet i/ili modul

Studenti bi trebali usvojiti:
osnovne operacije programerskog okruženja i računalnu pismenost.
logičke izraze, tipove varijabli i pohranu u memorijski prostor.
Studenti trebaju naučiti:
koristiti standardne funkcije u izvedbi algoritma.
primijeniti hijerarhijski dizajn uporabom funkcija.
pravilno dokumentirati kod prema danom standardu.
razviti i napisati program koji koristi jedno ili više polja za pohranu podataka.
razviti i napisati program koji koristi jednostavnije datoteke za pohranu i traženje podataka.

Sadržaj predmeta

Objektno-orijentirani sustavi i razvoj programske podrške. Uvod u objektno-orijentirano programiranje sa programskim jezikom C++. Definiranje i uporaba klasa. Konstruktori i destruktori. Globalni i statički objekti. Uporaba osnovnih sistemskih klasa i funkcija. Nadjačavanje funkcija. Preopterećenje operatora. Nasljeđivanje: vrste i primjena nasljeđivanja. Hijerarhija klase. Polja objekata. Predlošci funkcija i klasa. Iznimke i upravljanje iznimkama.

Način izvođenja nastave i usvajanje znanja (označiti **masnim tiskom/boldom**)

Predavanja **2 sata**	**Seminari i radionice**	**Vježbe**	**Samostalni zadaci**	Multimedija i internet
Obrazovanje na daljinu	**Konzultacije**	**Laboratorij 2 sata**	Mentorski rad	Terenska nastava

Komentari:
Laboratorijske vježbe održavati će se u računalnom laboratoriju.

Obveze studenata

Od studenata se očekuje:

da redovno prisustvuju nastavi.
naprave potrebne pripreme se za nastavu.
izlože seminarski rad.
polože dva kolokvija i konačni ispit.

Praćenje i ocjenjivanje studenata
(označiti **masnim tiskom / boldom** samo relevantne kategorije i umjesto nultih vrijednosti unijeti odgovarajuće bodovne vrijednosti tako da ukupan broj bodova u različitim izabranim kategorijama odgovara ukupnoj bodovnoj vrijednosti kolegija; u slučaju potrebe upotrijebiti prazne rubrike za dopune)

Pohađanje nastave **1**	**Aktivnost u nastavi** **0.5**	Seminarski rad	Eksperimentalni rad
Pismeni ispit **1**	Usmeni ispit **1**	Esej	Istraživanje
Projekt	**Kontinuirana provjera znanja** **0.5**	Referat	Praktični rad

Komentari:

Obvezna literatura

Liberty,J., *Teach Yourself C++ in 21 Days*, Third Edition, Sams Publishing, Indianapolis, 1999.
Motik, B., Šribar, J., *Demistificirani C++*, Element, Zagreb, 2001.

Dopunska literatura

Coad, P., North, D., Mayfield, M., *Object models, Strategies, Patterns and Applications*, Prentice Hall, Upper Sadle River, NJ, 1997.
Motik, B., Šribar, J., *Demistificirani C++*, Element, Zagreb, 2001.
Liberty,J., *C++ Unleashed*, Sams Publishing, Indianapolis, 2000.
Bjarne Stroustrup : The C++ Programming Language, Addison-Wesley, 2000.

Način praćenja kvalitete i uspješnosti svakog predmeta i/ili modula

Kvaliteta kolegija će se pratiti i mjeriti kroz uspjeh na ispitima i putem anonimnih anketa koje odražavaju mišljenja studenata o kolegiju.

Course code							
Course title	**PROBABILITY AND STATISTICS**						
General Information							
Program	**INFORMATICS - MAJOR**					Year	**II**
Course status	**X**	**Core**		Elective			
Credits and Teaching							
				Winter semester		Summer semester	
ETCS credits / student workload						4	
Hours/semester						30 + 0 + 15	
Course objectives							
The objective of the course is to teach students basic concepts, results and methods of probability theory and train them to implement the acquired knowledge.							
Correspondence and correlation with the program							
Prerequisites for this course are Mathematics for IT students 1, Mathematics for IT students 2 and Mathematics for IT students 3. The course correlates with Operations research course.							
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)							
After completing the course and meeting requirements, students are expected to be capable of: 1. Correctly explaining and analyzing basic concepts of probability theory and statistics (probability, conditional probability, discrete distribution, continuous distribution, testing of statistical hypotheses). 2. Analyzing and adequately implementing the methods of probability theory and mathematical statistics. 3. Correctly explaining and analyzing special problems that may occur in terms of course content.							
Course content							
Probability. Concept of experiment, events. Conditional probability, independence of events, total probability, Bayes' formula. Random variables. Discrete probability distributions. Distribution functions for discrete random variables. Continuous probability distributions. Distribution functions for continuous random variables .Independent random variables. Change of variables. Probability distributions of function of random variables. The binomial distribution. The normal distribution. Relation between binomial and normal distribution. The Poisson distribution. Relation between the binomial and Poisson distributions. Relation between the Poisson distributions and normal distributions. The hypergeometric distribution. The uniform distribution. Random samples. Sample statistics. The sample mean. Sampling distribution of means. The sample variance. Sampling distribution of variances. Mean and dispersion of random sample and procedures for statistical intervals estimation. Statistical hypothesis. Test means, dispersion and distributions. Analysis of variance. Regression. The linear correlation coefficient. Generalized correlation coefficient. Rank correlation.							
Modes of instruction (mark in bold)							
Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the			

				Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0.5**	Seminar paper	Experiment
Written exam **1**	Oral exam **1**	Essay	**Research work**
Project work	**Continuous assessment** **0.5**	Presentation	Practical work

Comments:

Required literature

N. Sarapa, *Vjerojatnost i statistika*, Školska knjiga, Zagreb, 1993.
Ž. Pauše, *Uvod u matematičku statistiku*, Školska knjiga , Zagreb, 1993.
I. Pavlić, *Statistika*, Školska knjiga, Zagreb,1982.

Recommended literature

I. Šošić, V.Serdar, *Uvod u statistiku*, Školska knjiga, Zagreb, 1992.
M. Spiegel, *Statistics*, Schaum's Outline Series, McGraw-Hill Book Company, New York, 1975.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**OBJECT ORIENTED MODELING**					
General Information						
Program	**INFORMATICS**				Year	**III**
Course status	**X**	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+30

Course objectives

Cilj ovog kolegija je da studenti usvoje pojmove objektno-orijentirane tehnologije. Na primjeru jezika za modeliranje (UML) osposobiti studente da samostalno modeliraju i koriste objektno-orijentirani pristup i metode u rješavanju problema.

The main aim of this course is that students adopt concepts of object-oriented technology. Capacitate students for individual modeling, program and use object-oriented approach and methods in solving problems by using modeling language (UML).

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire:
adopt concepts of object-oriented technology,
using UML in modeling complex problems solutions based on object-oriented approach,

Course content

Object-oriented languages and methods for modeling. Role of UML. Introducing structure and UML component. Work with relations. Understanding aggregations, compositions, interface and realisations. Functional view: diagram of way of use. Work with static structure diagram: class diagrams and object diagrams. Description of dinamic behaviour, interaction: flow diagram and cooperations. Description of object's state change: state diagrams and activity diagram. Work with implementation diagrams: component diagram and disposition. Implementation of UML in development process. Connecting UML with C++.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. To present seminar work. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,5**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	**Continuous assessment** **0,5**	Presentation	Practical work

Comments:

Required literature

Booch,G.,Rumbaugh, J.,Jacobson I., *The Unified Modeling Language User Guide*, Addison Wesley, MA, 1998

Eriksson, H.E., Penker, M., *UML Toolkit*, Wiley Computer Publishing, NY, 1998.

Recommended literature

Booch,G.,Rumbaugh, J.,Jacobson I., *The Unified Modeling Language User Guide*, Addison Wesley, MA, 1998

Eriksson, H.E., Penker, M., *UML Toolkit*, Wiley Computer Publishing, NY, 1998.

Schmuller, J., *Teach Yourself UML in 24 Hours*, Third Edition, Sams Publishing, Indianapolis, 2004.

www.omg.org/uml/

Quality assurance of course and/or module

After the last lecture of the course students will be asked to fulfill a questionnaire about the quality of the lectures. At the end of each semester results of the exams will be analyzed.

Course code	
Course title	**OPERATING SYSTEM 2**

General Information

Program	**INFORMATICS - MAJOR**				Year	**II**
Course status	X	**Core**		**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

introduce students with basic concept in Distributed Operating systems
acceptance knowledge about basic concept of Distributed Operating system: processes, communication, data management, security and protection

Correspondence and correlation with the program

The course correlates with other computer architecture courses and computer network courses.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:
understand structure and principles of work for distributed operating system
adopt knowledge included in "Course content".

Course content

Parallel systems: synchronization and communication
Distributed Operating systems: message passing, remote procedure call, process communication
Data management in Distributed Operating systems: files and directories, file system implementation
Recovery form failure
Introduction in real time systems
Security and protection in distributed operating system

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of

particular topic.

Student requirements

Regular class attendance and active participation in learning process. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	Class participation	Seminar paper	Experiment
Written exam 1	**Oral exam 2**	Essay	**Research work**
Project	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Tanenbaum A., Woodhull A., *Modern Operating systems, Desing & Implementation*, Prentice Hall, 1997.
Tanenbaum A., Woodhull A., *Operating systems, Desing & Implementation*, Prentice Hall, 1997.

Recommended literature

Stalling S., *Operating systems*, Macmillan, 1992
Silberschatz A., Galvin P. B., *Operating system concepts*, Addison Wesley, 1989.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code	
Course title	**INFORMATION SYSTEMS DESIGN**

General Information

Program	**INFORMATICS - MAJOR**				Year	**II**
Course status	X	Core		**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

- Introducing students to documentation analysis and data model design procedures, for the purpose of organizing databases and preparation for application programming,
- Making student competent and independent in analyzing and interviewing users, producing data model and converting it into relational database scheme.
- Creating design-oriented way of thinking, featured with high level of critical attitude towards obtained models.

Correspondence and correlation with the program

The course program correlates with courses Information systems and Databases and it is preceded by course Information systems analysis.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing course **Information systems design**, students are expected to be capable of:

- Comprehensive "reading" of completed data models,
- Interviewing users independently, analyzing documentation and producing a data model
- Defining relational database scheme

Course content

System data modeling, methods for data modeling, activities in phases of data modeling development life cycle, analysis of data and documentation contents of a business system. Conceptual modeling, abstractions, entity-relations method, entities, relations, attributes, restrictions in model, cardinality of relation types, cardinality of attributes, key candidate of entity type, translation of data model obtained using entities-relations into relational data model; Analysis of document data and respective modeling, Independent and team modeling. Data dictionary. Detailed design. Modeling exercises.
Methods: Entities and relations, Structural chart, Relational method, Extended relational method.

Modes of instruction (mark in bold)

Lectures	Seminars **and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During exercises, students both independently and in teams model various documents

collected in the field (actual companies).

Student requirements

Students should actively participate in all forms of works, produce a seminar paper and pass the exam consisting of written and oral part.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,75**	**Seminar paper** **1**	Experiment
Written exam **0,5**	**Oral exam** **0,5**	Essay	Research work
Project work	**Continuous assessment** **0,25**	Presentation	Practical work

Comments:

Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.

Candidates must pass the Information systems analysis exam in order to register for the Information systems design exam.

Required literature

Kalpić, D., Fertalj, K., Projektiranje informacijskih sustava, FER, Zagreb, http://www.zpm.fer.hr/courses/pis/ , 09.02.2004. (15.10.2004).

Pavlić, M., Razvoj informacijskih sustava - projektiranje, praktična iskustva, metodologija, Znak, Zagreb, 1996.

Recommended literature

Strahonja,V., Varga, M., Pavlić,M., Projektiranje informacijskih sustava, INA-INFO, Zagreb, 1992.

Radovan, M., Projektiranje informacijskih sustava, Informator, Zagreb, 1993.

Tkalec, S., Relacijski model podataka, Informator, Zagreb, 1988.

Vetter, M.: Strategy for Data Modelling, Application and Enterprise-wide, John Wiley and sons, Chichester, 1987.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**PHYSICAL EDUCATION 2**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**II**
Course status	**X**	**Core**		Elective		

Credits and Teaching	Winter semester	Summer semester
ETCS credits / student workload	1	1
Hours/semester	0 + 0 + 30	0 + 0 + 30

Course objectives

The aims of this course are:
to improve students' state of health by regular kinesiological activities (to affect positively on anthropological characteristics);
to perfect and enlarge motor information in order to sustain and improve health (motor and functional abilities);
to stimulate students to develop permanent habits and needs of practicing kinesiological activities in everyday life and work, which can help them overcome intellectual efforts.

Correspondence and correlation with the program

Physical training corresponds directly with quality of life and efficiency of studies. This program correlates with kinesiological disciplines, with ecology, pedagogy and related public services. It completes students' professional competence in the process of contemporary changes and needs of the teachers training program.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Positive influence on students' anthropological characteristics (anthropometric characteristics, motor and functional abilities)

Course content

General preparations and specific exercises through various organizational work forms (with and without tools, with and without music).
Contents of athletics: running (short-distance running, middle-distance running, long-distance running), jumping.
Contents of swimming: nonswimmer training, swimming techniques – breast stroke, backstroke, the crawl.
Sports games: volleyball, basketball, five-a-side soccer/football (improvement of the technique and play).
Fitness: aerobics, step aerobics, exercises on gymnastics apparatus, yoga.
Mountaineering, walking.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
The planned program will be realized through exercises, and students' development and improvement through independent tasks, field work and testing.

Student requirements

Regular and active participation in selected teaching forms and testing.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,60	**Class participation 0,30**	Seminar paper	Experiment
Written exam	**Oral exam**	Essay	**Research work**
Project work	**Continuous assessment 0,10**	Presentation	Practical work

Comments:
Evidence of class attendance as well as continuous monitoring of students' results will affect on the development of students' state of health. Tests results can be evaluated on students' demand.

Required literature

Literature is not compulsory.

Recommended literature

In consultation with the teacher.

Quality assurance of course and/or module

Quality assurance of the course will be obtained by questionnaires, as well as by initial and final testing of students' anthropologichal characteristics (motor and functional abilities).

Course code						
Course title	**COMPUTER NETWORKS 1**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**III**
Course status	**X**	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30+0+30			

Course objectives

The aim of this course is to present the fundamental knowledge about computer networks and about computer communication systems. In the course are presented technological basics and fundamental principles of the functioning of computer network of various types and extents. This course studies technological and structural features of the computer networks, which form the basis for the presentation of the organizational, security and application elements that follow in the framework of the course "Computer networks 2".

Correspondence and correlation with the program

In this course is presented the basic knowledge of the computer networks. The content of this course draws on those informatics courses that deal with information systems, computer architecture and computer programming.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire the basic knowledge of architecture and structure of the computer networks and of the computer communication systems. Students have to get acquainted with the technological basics and principles of functioning of the computers networks of various kinds and extents, as specified in the "Course content" below.

Course content

Computer networks: basic structures, principles of functioning, and forms of use. The extents of networks and the technologies of data transmission. Layers and protocols of the network systems. Referential models: the OSI and the Internet model. Network standards.

The physical layer of the network. Elements of the physical layer and data transmission media. Terrestrial transmission systems, systems of wireless transmission, and mobile communications. Throughput, latency, resource sharing.

Elements of the data link layer. Reliability of transmission: detecting and correcting errors. Control of the intensity of flow. Local area networks (LANs): Ethernet and Token ring; extended LANs; FDDI network.

Elements of the network layer. Virtual circuits switching and packets switching. Methods of routing, forwarding, and congestion control. Interconnecting different networks.

The network layer of the Internet. IP protocol and packet. The address space of the Internet. The transport layer. End-to-end protocols. Controlling the intensity of data flow; methods of preventing congestion. Sharing resources and securing a quality of connections. Transport layer of the Internet (UDP, TCP protocols). Real-time communications.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	Seminar paper	Experiment
Written exam 2	**Oral exam 2**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Radovan, M.: *Computer Networks*, 2004. (digital course material, 287 pages; the material is renewed every year; in Croatian language).

Peterson, L. L., Davie, B. S.: *Computer Networks: A System Approach, 3rd Edition*, Morgan Kaufmann Publishers, 2003.

Tanenbaum, A. S.: *Computer Networks, 4th Edition*, Prentice Hall, 2003.

Recommended literature

Kurose, F. J., Ross, W. K.: *Computer Networking: A Top-Down Approach Featuring the Internet*, Pearson Addison Wesley, 2003.

Glass, K. M.: *Beginning PHP, Apache, MySQL Web Development*, Hungry Minds Inc, 2004.

Quality assurance of course and/or module

Course code							
Course title	**PROGRAMMING FOR THE INTERNET 1**						
General Information							
Program	**UNFORMATICS - MAJOR**					Year	**III**
Course status	**X**	**Core**		Elective			
Credits and Teaching							
			Winter semester		Summer semester		
ETCS credits / student workload			4				
Hours/semester			30+0+15				

Course objectives

The main aim of this course is to introduce students into the principles and effects of the server-side web programming, using the script language PHP. Students have to acquire the fundamental knowledge of programming in the language PHP, so that they become able to write scripts and develop simple web applications. The presentation of the language PHP, together with the relational system MySQL, continues in the course "Programming for the Internet 2" which follows.

Correspondence and correlation with the program

The content of this course draws on those informatics courses that deal with information systems, with programming, and with data bases, and it directly uses and extends the knowledge presented in the courses "Computer networks 1" and "Computer networks 2".

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire the basic knowledge about the principles and possibilities of the server-side web programming, using the script language PHP, as specified in the "Course content" below. Students have to acquire the basic knowledge of programming in the language PHP, so that they can write scripts and develop simple web applications.

Course content

Introduction to the programming related to the Internet and to the system of web pages: WWW, HTML, HTTP. Script languages and web servers: principles, possibilities and effects of the server-side web programming.

Basics of the script languages: data structures and basic operations (processes). Elements of the language PHP: data types, variables, constants, expressions, operators, comments; controlling the flow of data and processes: conditions and loops. Working with textual strings and data arrays.

HTML and PHP: embedding of the PHP code into a HTML file; accessing the variables of HTML forms. Accessing and using files. Interactive communication. Working with data files: creation, basic operations and interactions.

Modularity of the software and the multiple use of PHP code. Shaping and writing

functions, passing the parameters to the functions and returning the results of their execution. Using the library of functions.

Object programming in the language PHP: defining and using classes and constructors; creating attributes and methods; property inheritance and overriding the methods.

Working with date and time. Controlling sessions; working with cookies. PHP and basic operations in the language SQL. Some basic network functions and protocols.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	Seminar paper	Experiment
Written exam 2	Oral exam **2**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Radovan, M.: *Programming for the Internet*, 2004. (digital course material, 220 pages; the material is renewed every year; in Croatian language).

Welling, L., Thompson, L.: *PHP and MySQL Web Development*, Sams Publishing, 2005.

Glass, K. M.: *Beginning PHP, Apache, MySQL Web Development*, Hungry Minds Inc, 2004.

Recommended literature

Ullman, L.: *PHP and MySQL for Dynamic Web Sites*, Peachpit Press, 2003.

Lane, D., Williams, E. H.: *Web Database Applications with PHP and MySQL*, O'Reilly & Associates, 2002.

http://www.php.net

Quality assurance of course and/or module

Course code	
Course title	**FORMAL LANGUAGES AND COMPILERS**

General Information

Program	**INFORMATICS - MAJOR**				Year	**III**
Course status	X	**Core**		Elective		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+15	

Course objectives

The course objective is to introduce students to automata theory, formal languages and grammars.

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The students will have basic knowledge about automata and formal languages.

Course content

Preliminaries. Strings, alphabeths and languages. Graphs and trees. Relations.

Regular expessions, languages and grammars. The deterministic finite automata. The non-deterministic finite automata. The epsilon non-deterministic finite automata. Finite automata with output. The Automata transformation.. Grammars simplification. Derivation tree.

Pushdown automata. Context free languages and grammars. The properties of context free languages. Computable languages. The Turing machines. The Turing machine model. Church's hypothesis.

Recursive and recursively enumerable languages. Deterministic Context-Free languages. The Chomsky Hierarchy.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

S. Srbljić. Jezični procesori 1, Element, Zagreb, 2002.

J. E. Hopcroft, J. D. Ullman. Introduction to Automata Theory, Languages and Computation, Addison-Wesley, 1979.

Recommended literature

M. Spiser, Introduction to the Theory of Computation, Brooks Cole, 1st edition, 1996.

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Course code						
Course title	**MULTIMEDIA SYSTEMS**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**III**
Course status	X	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		15 + 0 + 30

Course objectives

In the context of the course the students acquire the fundamental knowledge about the digitalization of single media (graphics, text, sound, animation, and video) and assemblage of these media into multimedia project.

Correspondence and correlation with the program

The course program correlates with the courses Computer Networks and Computer Graphics. The course is a prerequisite for the course Hypermedia Systems in Education.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completion of course, students will be able to do the following:
define and distinguish the concepts of multimedia, hypermedia and hypertext
develop simple multimedia forms: images, sound, animation, and video clips
design multimedia for WWW

Course content

Definition of multimedia, historical overview, usage of multimedia and hypermedia, multimedia hardware and software. Multimedia computer networks.
Using text in multimedia. Computers and text: producing text, fonts and character sets. Hypertext and elements of hypertextual user interfaces. Text for the Web.
Images: types, the process of digitalization, color schemas, image file formats, image compression. Graphics for the Web.
Sound: MIDI and digital audio, preparing digital audio sound (music and speech), audio file formats, sound compression. Sound for the Web.
Animation: types, basic principles and techniques of animation, animation file formats, creating animations. Animation for the Web.
Video: analog and digital video standards, video and computers, video file formats and compression. Video for the Web, streaming video.
WWW multimedia standards (SMIL - Synchronized Multimedia Integration Language). Relation between HTML, XML and SMIL.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During exercises the students should acquire editing multimedia elements and development of simple multimedia forms by using appropriate software tools for producing images, sound, animation, and video.

Student requirements

Students should actively participate in all forms of works, perform practical exercises and produce seminar papers. They should pass the exam consisting of practical and oral part. The practical part of the exam regards the exercises by using computer. This practical exam and seminar papers are the prerequisite for the oral part of the exam where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,5	**Class participation 0,5**	**Seminar paper 1**	Experiment
Written exam	**Oral exam 1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work
Practical exam using computer 1			

Comments:

Required literature

Vaughan, T. (2001). Multimedia : Making It Work, Berkeley: McGraw-Hill Osborne Media.
WWW learning materials for the course *Multimedia systems*

Recommended literature

Rosenborg, Green, Hester, Knowles, & Wirsching, (1993). A Guide To Multimedia. Carmel, Indiana: New Riders Publishing.
Ružić, F. (1994). Multimedija. Zagreb: Klik.
Cox N., Manley, C.T., & Chea F. (1995). LAN Times Guide to Multimedia Networking.

Berkeley: Osborne McGraw-Hill.
Niederst, J. (2001). Learning Web Design: A Beginner's Guide to HTML, Graphics, and Beyond. O'Reilly.
Application programes' tutorilas

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**COMPUTER NETWORKS 2**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**III**
Course status	**x**	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload					4	
Hours/semester					30+0+30	

Course objectives

This curse is a continuation of the course "Computer networks 1". The aims of the course are: (1) to present the methods of recording of the contents of various kinds, the methods of data compression and the transmission protocols; (2) to present the basic elements of the protection of secrecy and integrity of contents, and of the authenticity of communicators in computer networks; (3) to present the main network services of the application level. In the framework of the exercises, students have to learn to use the main network services and the language HTML.

Correspondence and correlation with the program

In this course it is continued with the presentation of the basic knowledge of the computer networks and communication systems. The content of this course draws on those courses that deal with information systems, computer architecture and computer programming, and it directly extends the content of the course "Computer networks 1".

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire the basic knowledge about the methods of recording of the information contents of various kinds, about the methods of data compression and about the transmission protocols. They have to get acquainted with the basic methods of the protection of secrecy and integrity of contents, and of the authenticity of communicators in computer networks, as well as with the network services of the application level, as specified in the "Course content" below. In the framework of the exercises, students have to learn to use the main network services and the language HTML.

Course content

Digital recording of the information contents: principles and methods. Basic formats and protocols: GIF, JPEG, MPEG, MP3. Compressing the digital records, with and without the loss of the information contents: principles and the ways of use.

Compression and transmission: on-line transmission (video-conferencing). ITU-T network standards (H-series).

Security and protection. Protecting the secrecy of contents, protecting the integrity of

messages, establishing the identity of communicators: principles, protocols (algorithms) and methods of work. Protocols DES, RSA, MR5. Systems PEM, PGP, TLS. "Reliable third side"; firewall, proxy, filters.

The application layer. The Internet applications (services) and their protocols. Domain name system (DNS), electronic mail system (SMTP), web page system (HTTP), multimedial and interactive applications (VIP, VIC).

Controlling the functioning of a compound computer network. Administration and optimization; a system for managing of the functioning of computer network (SNMP).

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	Seminar paper	Experiment
Written exam 2	**Oral exam 2**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Radovan, M.: *Computer Networks*, 2004. (digital course material, 287 pages; the material is renewed every year; in Croatian language).

Peterson, L. L., Davie, B. S.: *Computer Networks: A System Approach, 3rd Edition*, Morgan Kaufmann Publishers, 2003.

Tanenbaum, A. S.: *Computer Networks, 4th Edition*, Prentice Hall, 2003.

Recommended literature

Kurose, F. J., Ross, W. K.: *Computer Networking: A Top-Down Approach Featuring the Internet*, Pearson Addison Wesley, 2003.

Glass, K. M.: *Beginning PHP, Apache, MySQL Web Development*, Hungry Minds Inc, 2004.

Quality assurance of course and/or module

Course code						
Course title	**PROGRAMMING FOR THE INTERNET 2**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**III**
Course status	**X**	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

This course continues with the presentation of the language PHP the basics of which were presented in the course "Programming for the Internet 1". The aim of this course is to present further elements and possibilities of the system PHP, especially the methods of its connecting with the relational data base system MySQL (and with the language SQL) in the context of the development of the dynamic web applications. The course also presents the basics of the similar systems ASP and JSP, and gives a comparative presentation of the specific features of these three technologies.

Correspondence and correlation with the program

The content of this course draws on those courses that deal with information systems, with computer networks, with programming, and with data bases, and it directly uses and extends the knowledge presented in the course "Programming for the Internet 1".

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire knowledge about the further possibilities of the system PHP, especially about the methods of its connecting with the relational data base system MySQL (and with the language SQL) in the framework of the development of the dynamic web applications, as specified in the "Course content" below. Students have also to get an insight into the basics of the similar systems such as the systems ASP and JSP.

Course content

The language PHP and the system MySQL: an introductory presentation. The relational data model: defining data types; primary, secondary and outer key; indexing. The basic principles of data modelling. Creating data base and creating tables.

Basics of the language SQL. Statement SELECT and its clauses. Creating compound SQL expressions (commands). Methods of working with the data base. Transactions. The Internet and the communication with the data base. The amount of data and the efficiency of the network applications. Handling the time for the execution of the data base operations (Script Timeout).

Security and protection of the data base and transactions: user identification; assigning

specific privileges to the users; limiting the access and operations. Protecting the data base integrity.

Structuring and shaping of the PHP and SQL code. Error handling; structural errors, syntactic errors, logical errors, errors in the execution of applications. Testing, methods of searching and correcting errors (tracing and debugging). Using prototypes and documenting the code.

Protocols SMPT, FTP and NNTP, and web programming. Dominant systems for the development of the dynamic web applications: PHP, ASP, JSP; a comparative presentation of the specific features, advantages and limitations of these three systems (technologies).

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	Seminar paper	Experiment
Written exam 2	**Oral exam 2**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Radovan, M.: *Programming for the Internet*, 2004. (digital course material, 220 pages; the material is renewed every year; in Croatian language).

Welling, L., Thompson, L.: *PHP and MySQL Web Development*, Sams Publishing, 2005.

Glass, K. M.: *Beginning PHP, Apache, MySQL Web Development*, Hungry Minds Inc, 2004.

Recommended literature

Ullman, L.: *PHP and MySQL for Dynamic Web Sites*, Peachpit Press, 2003.

Lane, D., Williams, E. H.: *Web Database Applications with PHP and MySQL*, O'Reilly & Associates, 2002.

Mellor, B. R.: *ASP: Learning by Example*, Franklin Beedle & Associates, 2001.

Bergsten, H.: *Java Server Pages*, O'Reilly & Associates, 2000.

http://www.php.net

Quality assurance of course and/or module

Course code	
Course title	**COMPUTER GRAPHICS**

General Information

Program	**INFORMATICS - MAJOR**				Year	**III**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	15 + 0 + 30	

Course objectives

In the context of this course the students acquire the basic knowledge on 2D and 3D graphics, drawing techniques, rendering and animation.
They are getting familiar with process of modelling and creating graphical objects and animation with particular software tools.

Correspondence and correlation with the program

The program is in correlation with the Multimedia Systems course.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completion of course, students will be able to do the following:
identify and distinguish between basics types and elements of the computer graphics
acquire the modelling techniques and development of 2D and 3D graphics and animation by using appropriate design software.

Course content

Computer graphics- synthesis, image processing- analysis. Hardware and software resources.

Lightness and photometry, photorealism. Virtual Reality, colour diagrams, colour models. Simulation of the elements transparency and natural techniques.

2D and 3D bitmapped graphics. Filling the surfaces, slicing the lines and polygons. Representing the objects, approximation and visualization of the curves and surfaces. Drawing techniques – outlines, working with objects, typography, filling and stroking, special effects.

Geometrical transformations. Linking vector graphic and bitmapped graphics. Animation-interactive animation. Comparative algorithms. Rendering, illumination and working with the textures.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**

Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the exercises the students should acquire modelling techniquesare and development of 2D and 3D graphics and animation by using appropriate design software.

Student requirements

Students should actively participate in all forms of works and perform practical exercises. Each student should produce individual or teamwork seminar paper and pass the exam consisting of practical and oral part.
The practical part of the exam regards the exercises by using computer. This practical exam and seminar paper are the prerequisite for the oral part of the exam where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 1**	**Seminar paper 1**	Experiment
Written exam	**Oral exam 0,5**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work
Practical exam using computer 0,5			

Comments:

Required literature

Michael O'Rourke, *Principles of Three-Dimensional Computer Animation : Modeling, Rendering, and Animating With 3d Computer Graphics,* W. W. Norton & Company, Inc., 1998.

Recommended literature

Michael E. Mortenson , *Mathematics for Computer Graphics Applications : An Introduction to the Mathematics and Geometry of Cad/Cam,* Geometric Modeling, Scientific visualization, Industrial Press 2nd edition, 1999.
Norman Ladouceur, *Inside Pro/Surface: Moving from Solid Modeling to Surface Design*, OnWord Press, 1997.
Tomas Moller, Eric Haines, *Real-Time Rendering,* A K Peters Ltd 1st edition, 1999.
James D. Foley, et al, *Computer Graphics : Principles and Practice, Second Edition,* Addison-Wesley Pub Co, New York, 1999.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code							
Course title	**OBJECT PROGRAMMING LANGUAGES**						
General Information							
Program	**INFORMATICS – MAJOR**					Year	**III**
Course status		Core	X	Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload					4		
Hours/semester					30+0+30		

Course objectives

The aim of this course is to introduce students into the methods, possibilities and aims of programming in the object-oriented programming language Java. In the course is presented the knowledge which is required for developing independent applicative programs of various kinds, and especially for the development of the interactive network application with the use of the Java applets and servlets.

Correspondence and correlation with the program

The content of this course draws on those informatics courses which deal with programming and with data bases; the course explicitly uses and extends the knowledge presented in the courses which deal with the computer networks and with the programming for the Internet.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to acquire the basic knowledge of the principles and possibilities of programming in the object-oriented programming language Java, as specified in the "Course content" below. Students must especially get acquainted with the ways of developing and with the possibilities of using applets and servlets, so that they become able to develop interactive web applications.

Course content

The programming language Java: standard applications, applets and servlets. Platform independence and code mobility (bytecode). Basic elements of the language Java: data types, variables, expressions, operators; controlling the flow of processes and data: conditions and loops. Structural features of the language Java.

Classes, constructors, and methods. Creating and shaping classes, methods and objects in Java. Using system classes and methods; inheritance and overriding; importing classes and packets. Exceptions: types of exceptions and exception handling. Data flow and work with files; input and output data flows: definitions and the ways of use.

Creating applets: the life cycle and the use of applets. Creating communication interfaces. Interactive communication: textual fields and arrays, selection lists, buttons. Shaping graphical interfaces. Events handling and mouse operation. Programming threads and multi-thread programming. The program threads and applets. Animation.

Servlets: principles and methods of their development. The life cycle of servlets. The aims and possibilities of using servlets. Applets, servlets, and interactive web applications. Security and protection: scopes and ways of protection; controlling the operations of applets and servlets.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	Exercises **2 hours**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	Seminar paper	Experiment
Written exam 2	Oral exam **2**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Eckel, B.: *Thinking in Java 3rd Edition*, Prentice Hall, 2003.

Arnold, K., Gosling, J., Holmes, D.: *The Java(TM) Programming Language (3rd Edition)*, Addison-Wesley Professional, 2000.

Bergsten, H.: *Java Server Pages*, O'Reilly & Associates, 2000.

Recommended literature

Lemay, L., Cadenhead, R.: *Sams Teach Yourself Java 2 in 21 Days, Professional*

Reference Edition, Sams, 2001.

Campione, M., Walrath, K., Huml, A.: *The Java(TM) Tutorial: A Short Course on the Basics (3rd Edition)*, Addison-Wesley Professional, 2000.

Quality assurance of course and/or module

Course code	
Course title	**EDUCATIONAL SYSTEM DESIGN**

General Information

Program	**INFORMATICS - MAJOR**				Year	**III**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		15+0+30

Course objectives

introduce students with basic concept in designing of Educational systems
acceptance knowledge about basic concept of designing Educational systems and evaluation of such systems
acceptance knowledge about proper election of media, structure of user interface and integrated artificial intelligence in chosen software tools

Correspondence and correlation with the program

The course correlates with other educational courses and computer network courses.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:
understand principles and methods in design of educational system
adopt knowledge included in "Course content".
make simple educational system

Course content

Educational software support: definition and aims
Information systems in education and their classification
Analysis and projecting software support in educational
Methods and tool for analysis, projecting and building software support in educational
Methods for evaluation of software support in educational
EPSS – systems

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of

particular topic.

Student requirements

Regular class attendance and active participation in learning process. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	Class participation	Seminar paper	Experiment
Written exam 1	**Oral exam 2**	Essay	Research work
Project	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Dills, C.R., Ramiszovski, T., ed., *Instructional Development Paradigms,* Educational Technology Publications, Englewood Cliffs, NJ, 1997.

Jonnasen, D.H., *Computers in the Classroom: Mindtools for Critical Thinking*, Merill, Englewood Cliffs, NJ, 1996.

Recommended literature

Gery, G.J., *Electronic Performance Support Systems-How and Why to remake the Workspace Through the strategic application of Technology*, Weiengarten Publication, Boston, MA, 1991.

Collins, D., *Designing object-oriented user interfaces*, Benjamin Cummings, Redwood City, CA, 1995.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**INFORMATION SYSTEMS**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**III**
Course status		Core	X	**Elective**		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+30

Course objectives

- Defining basic concepts in respect to information systems (IS), their development, application, types, authors and users
- Motivating students for further work in the field of IS development,
- Taking part in researches on conditions of IS in organizations.

Correspondence and correlation with the program

The course program correlates with courses Information systems analysis, Information systems design, Software Engineering and it is preceded by course Information systems design.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements in respect to course **Information system,** students are expected to be capable of:

- Analyzing company operations
- Defining company's IS architecture
- Defining application subsystems and their relations

Course content

System theory, organization theory, business system, information system, information technology, management and decision making, models, impact of introducing information technology on organization and individuals, centralization-decentralization, dialogue human-program, database, IS planning, problems in IS development, users, program languages, information technology engineering, 4GL, programming standardization, documenting.
Role of IS and information technology in organizations, business strategies and their impact on IS and information technology, comprehension of present situation, strategies of business information system, application management, technological infrastructure and investment planning, protection of IS.
Quality, ISO 9000, Quality management documentation, quality rules of procedure, quality of software product, configuration management, verification, validation, testing of software product.
Models, stages of life cycle, methodologies, IS development methodology, Methods, ISAC, HIPO, SADT, SDM, prototype, interview, SEI-CMM, ESPRIT-BOOTSTRAP.
Information technology center, information technology staff, information project management, manager's characteristics, management and control of team, communication.
Provision of computers. Problems in IS. Drawing up of questionnaire for researching conditions in IS.

Modes of instruction (mark in bold)

Lectures	Seminars **and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
Students will be presented with various IS, both with their internal structure and input/output interface

Student requirements

Students should actively participate in all forms of works, produce a seminar paper and pass the exam consisting of written and oral part.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	Class participation **0,75**	Seminar paper **1**	Experiment
Written exam 0,5	Oral exam **0,5**	Essay	**Research work**
Project work	Continuous assessment **0,25**	Presentation	**Practical work**

Comments:
Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.
Candidates must pass the Information systems design exam in order to register for the Information systems exam.

Required literature

Kalpić, D., Fertalj, K.: Projektiranje informacijskih sustava, FER, Zagreb, http://www.zpm.fer.hr/courses/pis/ , 09.02.2004. (15.10.2004).
Avison, D.E., Fitzgerald, G.: Information System Development: Methodologies, Techniques and Tools, McGraw-Hill, London, 1995.
Srića, V., Treven, S., Pavlić, M.: Menedžer i informacijski sustavi, Poslovna knjiga, Zagreb, 1994.
Strahonja,V., Varga, M., Pavlić, M.: Projektiranje informacijskih sustava, INA-INFO, Zagreb, 1992.

Recommended literature

Srića, V.: Uvod u sistemski inženjering, Informator, Zagreb, 1988.
Kovačič. A., Vintar, M.: Načrtovanje in gradnja informacijskih sistemov, DZS, Ljubljana, 1994.
Simon, J. C.: Introduction to Information Systems, John Wiley and sons, New York, 2001.
Fisher, A. S.: CASE Using Software Development Tools, John Wiley and sons, New York,

1988.
Tudor, G., Srića, V.: Menedžer i pobjednički tim, MEP Consult&CROMAN, Zagreb, 1996.
Panian, Ž.: Kontrola i revizija informacijskih sustava, Sinergija-nakladništvo d.o.o., Zagreb, 2001.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

3.3. STRUCTURE OF STUDY, RHYTHM OF STUDY , STUDENT'S OBLIGATIONS

I. YEAR OF STUDY								
	I. semestar hours/week			II. semestar hours/week			Total hours	ECTS points
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Fundamentals of Informatics 1	2	-	2				60	4
Mathematics for information technology students 1	2	-	2				60	4
Programming 1	2	-	2				60	4
Introduction to Digital Systems	1	-	1				30	4
Fundamentals of Informatics 2				2	-	2	60	4
Mathematics for information technology students 2				2	-	2	60	4
Programming 2				2	-	1	45	4
Computer organisation and Arhitecture				2	-	1	45	4
Physical Education 1	-	-	2	-	-	2	60	1
B segment	10			10				**22**
C segment (elective)	2			2				**4**
Hourse of Informatics:	**7**	**-**	**7**	**8**		**6**		**32**
TOTAL HOURSE:	**26**			**26**				**60**

II. YEAR OF STUDY								
	III. semestar hours/week			**IV. semestar hours/week**			**Total hours**	**ECTS points**
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Mathematics for information technology students 3	2	-	2				60	4
Information System Analysis	2	-	1				45	4
Operaing Systems 1	2	-	1				45	4
Object oriented programming	2	-	2				60	4
Probability and Statistic				2	-	1	45	4
Object Oriented Modeling				2	-	2	60	4
Operating Systems 2				2	-	1	45	4
Information System Design				2	-	1	45	4
Physical Education 2	-	-	2	-	-	2	60	1
B segment	10			10				**22**
C segment (elective)	2			2				**4**
Hourse of Informatics:	**8**	**-**	**6**	**8**		**5**		**32**
TOTAL HOURSE:	**26**			**25**				**60**

III. YEAR OF STUDY								
	V. semestar hours/week			VI. semestar hours/week			Total hours	ECTS points
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Computer Network 1	2	-	2				60	4
Programming for the Internet 1	2	-	1				45	4
Formal Languages and Compilers	2	-	1				45	4
Multimedia Systems				2	-	1	45	4
Computer Network 2				2	-	2	60	4
Programming for the Internet 2				2	-	1	45	4
Final Exam								2
B segment	8			8				
C segment (elective)	7			7				
Hourse of Informatics:	**6**	**-**	**4**	**6**		**4**		**26**
TOTAL HOURSE:	**25**			**25**				**60**

ELECTIVE COURSES								
	V. semestar sati/tjedan			VI. semestar sati/tjedan			Ukupno sati	ECTS Bodovi
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Computer Graphics	1	-	2				45	4
Object Programming Languages	2	-	2				60	4
Educational System Design				1	-	2	45	4
Information Systems				2	-	2	60	4

3.4. POPIS PREDMETA I/ILI MODULA KOJE STUDENTI MOGU IZABRATI S DRUGIH STUDIJA

3.5. POPIS PREDMETA I/ILI MODULA KOJI SE MOGU IZVODITI NA STRANOM JEZIKU

R. br.	Naziv kolegija	Strani jezik
1.	Osnove digitalne tehnike	engleski
2.	Programiranje 1	engleski
3.	Arhitektura i organizacija računala	engleski
4.	Računalne mreže 1	engleski
5.	Računalne mreže 2	engleski
6.	Programiranje za Internet1	engleski
7.	Programiranje za Internet 2	engleski

3.6. KRITERIJI I UVJETI PRIJENOSA ECTS-BODOVA

Prema Zakonu o znanstvenoj djelatnosti i visokom obrazovanju (NN 123/03, NN 198/03, NN 105/04 i NN 174/04) Članak 75. stavak 2., kriteriji i uvjeti prijenosa ECTS bodova između različitih studija biti će propisani općim aktom visokog učilišta, odnosno ugovorima između visokih učilišta.

3.7. NAČIN ZAVRŠETKA STUDIJA

U skladu sa Zakonom o znanstvenoj djelatnosti i visokom obrazovanju (NN 123/03, NN 198/03, NN 105/04 i NN 174/04) Članak 83. stavak 1., 2. i 9., preddiplomski studij Informatike završava polaganjem svih odslušanih ispita te izradom završnog rada.

Diplomski studij Informatike završava polaganje svih odslušanih ispita, izradom diplomskog rada i polaganjem diplomskog ispita u skladu sa studijskim programom.
Završetkom preddiplomskog studija Informatike, diplomskog studij Informatike student stječe odgovarajući akademski naziv (točka 2.8.) te sva prava koja mu uz taj naziv pripadaju.

3.8 UVJETI POD KOJIMA STUDENTI KOJI SU PREKINULI STUDIJ ILI SU IZGUBILI PRAVO STUDIRANJA NA JEDNOM STUDIJSKOM PROGRAMU MOGU NASTAVITI STUDIJ

U slučaju kada studenti prekinu studij ili su izgubili pravo studiranja na jednom od studijskih programa žele nastaviti započeti studij ili se prebaciti na neki drugi studij, uvjeti koje moraju ispuniti će se određivati za svako studenta ponaosob, u ovisnosti o tome zašto su prekinuli studij (osobna odluka ili gubitak prava studiranja), koje su kolegije odslušali i položili i odnos tih kolegija prema kolegijima na studiju na kojem žele nastaviti studiranje ili na koji se žele prebaciti.

Odobrenje i uvjete donosi stručno povjerenstvo nositelja studija na temelju Zakona o znanstvenoj djelatnosti i visokom obrazovanju, te važećih Statuta i Pravilnika o studiranju na Filozofskom fakultetu Sveučilišta u Rijeci. Pokretanje postupka za izdavanje dozvole za nastavak studiranja pokreće ECTS koordinator nositelja studija na temelju molbe studenta.

4. UVJETI IZVOĐENJA STUDIJA

4.1. MJESTA IZVOĐENJA STUDIJSKOG PROGRAMA

Predloženi studijski programi će se izvoditi u prostorima Filozofskog fakulteta u Rijeci. Prema planovima preustroja Sveučilišta u Rijeci, u narednih je nekoliko godina planirano preseljenje svih studijskih programa u Sveučilišni Kampus na Trsatu te će se nakon preseljenja studijski program izvoditi u prostorima Sveučilišnog Kampusa na Trsatu.

4.2. PODACI O PROSTORU I OPREMA PREDVIĐENA ZA IZVOĐENJE STUDIJA

Odsjek za informatiku ima svoje specifične prostore i opremu u okviru Filozofskog fakulteta u Rijeci. To su slijedeći prostori i sljedeća oprema:

- jedna učionica univerzalne namjene kapaciteta 36 mjesta s opremom za nastavu,
- jedna učionica – praktikum za informatiku,
- praktikum informatike sa 12 PC računala,
- jedna radna prostorija tajnice Odsjeka s potrebnom opremom (namještaj, PC računalo itd.),
- tri kabineta nastavnika Odsjeka za informatiku s potrebnom opremom.

Prema planovima za izgradnju Sveučilišnog Kampusa na Trsatu, za potrebe Sveučilišnog odjela za informatiku planira se ukupan prostor od 3000 m^2 unutar kojega će se, za potrebe izvođenja predloženih studijskih programa, uz ostalo nalaziti:

- 20 radnih soba za profesore,
- 10 radnih sobe za nastavnike u suradničkim zvanjima,
- 3 radne sobe za stručnog suradnika za računalne aplikacije, tajnicu i pročelnika Odsjeka,
- 1 prostorija za sastanke i prezentacije,
- 7 učionica za studente (6 za cca 30 studenata i 1 za cca 60 studenata),
- 2 učionice s računalima namijenjene studentima,
- 8 praktikuma predmeta struke,
- 1 knjižnica Odsjeka s čitaonicom.

Postojanje i uporaba standardnih nastavnih pomagala, kao što su: školska ploča, grafoskop, demonstracijska sredstva, didaktički plakati i drugo se podrazumijevaju.

4.3. IMENA NASTAVNIKA I BROJ SURADNIKA

R. br.	Naziv kolegija	Nositelj kolegija
1.	Osnove informatike 1	dr. sc. Mario Radovan, dr. sc. Željko Hutinski
2.	Matematika za informatičare 1	dr. sc. Marija Marinović
3.	Programiranje 1	dr. sc. Maja Matetić
4.	Osnove digitalne tehnike	dr. sc. Ivo Ipšić
5.	Osnove informatike 2	dr. sc. Nataša Hoić-Božić, dr. sc. Željko Hutinski
6.	Matematika za informatičare 2	dr. sc. Marija Marinović
7.	Programiranje 2	dr. sc. Maja Matetić
8.	Arhitektura i organizacija računala	dr. sc. Ivo Ipšić
9.	Tjelesni odgoj	Veno Đonlić
10.	Matematika za informatičare 3	dr. sc. Marija Marinović
11.	Analiza informacijskih sustava	dr.sc. Mile Pavlić
12.	Operacijski sustavi 1	dr. sc. Božidar Kovačić
13.	Multimedijski sustavi	dr. sc. Nataša Hoić-Božić
14.	Vjerojatnost i statistika	dr.sc. Cvjetan Jardas
15.	Objektno orijentirano programiranje	dr.sc. Velimir Topolovec
16.	Operacijski sustavi 2	dr. sc. Božidar Kovačić
17.	Projektiranje informacijskih sustava	dr.sc. Mile Pavlić
18.	Informacijski sustavi	dr.sc. Mile Pavlić
19.	Računalne mreže 1	dr. sc. Mario Radovan
20.	Programiranje za Internet 1	dr. sc. Mario Radovan
21.	Formalni jezici i jezični procesori	dr. sc. Ivo Ipšić
22.	Programiranje za Internet 2	dr. sc. Mario Radovan
23.	Računalne mreže 2	dr. sc. Mario Radovan
24.	Objektno orijentirano modeliranje	dr.sc. Velimir Topolovec
25.	Računalna grafika	dr. sc. Nataša Hoić-Božić
26.	Projektiranje obrazovnih sustava	dr. sc. Božidar Kovačić
27.	Objektni programski jezici	dr.sc. Matjaž Gams

4.4. PODACI O ANGAŽIRANIM NASTAVNICIMA

Ime i prezime nositelja	Mario Radovan
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Zvanje nositelja kolegija	Redoviti profesor u trajnom zvanju
Datum zadnjeg izbora u zvanje	23.09.2004. godine

Kratki životopis

Mario Radovan je diplomirao računarstvo, magistrirao operacijska istraživanja, a doktorirao informacijske znanosti. Objavio je je 55 znanstvenih radova u Hrvatskoj i inozemstvu, među kojima i tri knjige: *Programiranje u Prologu, Projektiranje informacijskih sistema*, i *Baza podataka: Relacijski pristup i SQL*. U zvanje redovitog profesora informacijskih znanosti izabran je 1999. godine ("Baze podataka", "Komunikacijski sustavi i društvo") a redovitim profesorom u trajnom zvanju postao je 2004. godine ("Računalne mreže", "Komunikacijski sustavi i društvo"). Predavao je ili predaje više predmeta: "Projektiranje informacijskih sustava", "Baze podataka i komunikacijski sustavi", "Komunikacijski sustavi i društvo", "Računalne mreže", "Programiranje za Internet", "Informacijska tehnologija i društvo". Studijske godine 1985/86. gostovao je na Sveučilištu u Lisabonu (Portugal), a studijsku godinu 1997/98. proveo je na Sveučilištu Berkeley (California) kao gostujući znanstvenik i dobitnik Fulbright Senior stipendije.

Popis **relevantnih** radova za izvođenje nastave

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2. svake godine)
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4. Radovan, M.: *Informacijska tehnologija i društvo*, 2004. (digitalna skripta, 144 stranice;
5. skripta se obnavlja svake godine)
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20. Radovan, M.: *Programiranje u Prologu*, Informator, Zagreb, 1987., 1988., 1990; knjiga, 159 stranica. (Hrvatski)

Ostale kvalifikacije za izvođenje nastave

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Zvanje nositelja kolegija	Izvanredni profesor; znanstveni savjetnik
Datum zadnjeg izbora u zvanje	14.01.2003. godine

Kratki životopis

Prof. dr. sc. Matjaž Gams je izvanredni profesor računarskih znanosti i informatike na Sveučilištu u Ljubljani, i znanstveni savjetnik na Institutu "Jožef Štefan" u Ljubljani, Slovenija. Predaje više predmeta iz područja računarskih znanosti na dodiplomskom i poslijediplomskom studiju Fakulteta računarstva i informatike i Ekonomskog fakulteta Sveučilišta u Ljubljani. Njegova istraživačka djelatnost obuhvaća područje metoda i tehnika programiranja, umjetne inteligencije, inteligentnih sustava, inteligentnih agenata, strojnog učenja i kognitivne znanosti. Lista njegovih objavljenih radova sadrži preko 250 jedinica, od kojih je 50 objavljeno u znanstvenim časopisima. Prof. Gams obnaša dužnost predstojnika Odjela za inteligentne sustave. Bio je i član upravnog odbora Instituta "Jožef Štefan" i predsjednik nekoliko društava; suosnivač je Tehničke akademije Slovenije i Društva za umjetnu inteligenciju i kognitivne znanosti Slovenije. Sada obnaša dužnost dopredsjednika ACM Slovenije i tajnika Tehničke akademije Slovenije. Bio je na čelu nekoliko većih primijenjenih projekata u Sloveniji vezanih uz uporabu ekspertnih sustava i Interneta. Urednik je u nekoliko međunarodnih časopisa, i izvršni je urednik znanstvenog časopisa "Informatica". Prof. Gams sudjeluje u raznim znanstvenim aktivnostima u Hrvatskoj; sudjelovao je na mnogim skupovima, a bio je i član uređivačkih odbora znanstvenih skupova u Hrvatskoj.

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Ostale kvalifikacije za izvođenje nastave

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Zvanje nositelja kolegija	Izv. profesor
Datum zadnjeg izbora u zvanje	Srpanj 2003.

Kratki životopis

Ivo Ipšić rodio se 23. srpnja 1963. godine u Rijeci, gdje je i završio gimnaziju. Diplomirao je 1988. godine na Elektrotehničkom fakultetu u Ljubljani, smjer automatika. Iste godine zaposlio se je na istom fakultetu kao znanstveni novak. Magistrirao je 1991. godine, a doktorirao u travnju 1996. godine na Elektrotehničkom fakultetu u Ljubljani. Od 1998. godine radi kao docent na Filozofskom fakultetu u Rijeci. Predaje kolegije «Građa računala» i «Formalni jezici i jezični procesori» na Odsjeku za informatiku. Na Tehničkom fakultetu u Rijeci od 1999. godine predaje kolegije «Primjena računala I» i «Primjena računala II» na sveučilišnom studije elektrotehnike. Voditelj je znanstvenoistraživačkog projekta «Komunikacija čovjek-stroj» (009012) i hrvatsko – slovenskog bilateralnog projekta «Dvojezična baza govornih uzoraka». U 2000. godini vodio je informatički projekt «Interaktivni nastavni informacijski sustav – INIS». U sklopu znanstvenoistraživačkog rada objavio je kao autor ili koautor 40 znanstvenih radova.

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Ostale kvalifikacije za izvođenje nastave

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Zvanje nositelja kolegija	Red. profesor
Datum zadnjeg izbora u zvanje	1990

Kratki životopis

Nikola Pavešić se je rodio 7. prosinca 1946. godine u Rijeci. 1965. godine je maturirao na prirodoslovnom-matematičkom odjelu II Gimnazije u Rijeci. 1965. g. se je upisao na Fakulteto za elektrotehniko u Ljubljani. Na zavodu za elektroniko je diplomirao 20. svibnja 1970. Na istom fakultetu je upisao i magistarski studij, kojega je završio u travnju 1973. . Za magistarski rad je 1974. godine primio nagradu "Mario Osana". 1976. g. je obranio doktorsku disertaciju pod nazivom "Kodiranje informacij za razpoznavalne sisteme" i stekao stupanj doktora elektrotehničkih znanosti. Za taj je rad 1976. godine dobio nagradu"Vratislava Bedjaniča". 1982. godine je dobitnik skupne nagrade Sklada Borisa Kidriča za rad "Mikroprocesorski analizator EKG signalov", godine 1996. je dobitnik nagrade Vidmar za pedagoški rad na Fakultetu za elektrotehniko Univerze u Ljubljani.
1970. godine se je zaposlio na Fakultetu za elektrotehniko, gdje je danas redovni profesor, predstojnik Katedre za sisteme, avtomatiko i kibernetiko i predstojnik Laboratorija za umetno zaznavanje, sisteme in kibernetiko.
Područje njegovog znanstveno istraživačkog rada obuhvaća područje raspoznavanja uzoraka, obrade slika, raspoznavanje i razumijevanje govora i teorija informacije. Iz tih područja je kao autor ili suautor objavio 150 članaka i referata te 4 knjige.
Dr. Nikola Pavešić je član: The Institute of Electrical and Electronic Engineers, Elektrotehniške zveze Slovenije (zaslužni član), Slovenskega društva za razpoznavanje vzorcev (prvi predsjednik) i Slovenskega društva za medicinsko in biološko tehniko. Član je više uredničkih odbora tehničkih časopisa.

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Kratki životopis

MILE PAVLIĆ rođen 10.04.1956. godine u Lovasu u općini Vukovar. Završio dodiplomski studij Fizika s matematikom na Pedagoškom fakultetu u Rijeci 1980. godine
Ima 23 godine radnog iskustva, a u tom razdoblju bio je uposlen na slijedećim poslovima:

- Asistent za fiziku u Institutu Ruđer Bošković 1980. do 1982.
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- Projektant i direktor INFO centra u RiAdria banci d.d. Rijeka od 1989. do 1993.
- Nastavnik na Odsjeku za informatiku na Filozofskom fakultetu u Rijeci od 1993. do danas.

Objavio je ukupno 6 knjiga i 4 skripte.
Primio je priznanje i zlatnu značku za postignute zapažene rezultate u primjeni, širenju i unapređenju informatičke djelatnosti u Hrvatskoj 1987. godine.
Hrvatska informatička zajednica dodijelila mu je «Plaketu informatike '93» za širenje i unapređenje informatičke struke.

Popis **relevantnih** radova za izvođenje nastave

KNJIGE:

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2. Pavlić, M., "Sistem analiza i modeliranje podataka", Naučna knjiga, Beograd, 1990. 5 poglavlja, 256 stranica, 68 slika, 16 tablica.
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6. Pavlić, M., "Razvoj informacijskih sustava - projektiranje, praktična iskustva, metodologija", Znak" Zagreb, 1996., 4 poglavlja i dodatak, 361 stranica, 205 slika, 93 tablice.

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Dr. sc. Mile Pavlić je od 1989. do 1993. godine predavao na Filozofskom fakultetu u Rijeci na Odsjeku za informatiku kolegije: «Obrada signala i modeliranje», «Struktura i organizacija podataka» i «Projektiranje informacijskih sustava» na studijskoj grupi «Matematika i informatika».

Od 1993. godine do danas predaje predmete: «Informacijski sustavi», «Modeliranje podataka», «Modeliranje procesa» i «Baze podataka», te se izborio za povećanje broja sati informatike s 28% na 50% u okviru dvopredmetnog studija informatike s ostalim smjerovima i slobodnim kombinacijama dvopredmetnog studija. Pokretač je uvođenja jednopredmetne studijske grupe «Informatika» s ciljem obrazovanja studenata (koji ne moraju biti samo profesori informatike) sposobnih za razvoj softvera za potrebe gospodarstva. Oblikovao i unaprijedio nastavu za predmete: «Informacijski sustavi», «Modeliranje podataka i procesa», «Baze podataka i CASE alati», «Informacijski sustav organizacije», «Analiza i modeliranje informacijskih sustava».

Za «Modeliranje podataka i procesa» je napisao udžbenik. Monografija «Razvoj informacijskih sustava» koristi se kao udžbenik na više dodiplomskih i poslijediplomskih studija, te kao udžbenik za usavršavanje projektanata i programera u centrima za razvoj softvera u raznim organizacijama.

Bio je pročelnik Odsjeka za informatiku na Filozofskom fakultetu u Rijeci od 1995. do 1998. godine

Na Filozofskom fakultetu Sveučilišta u Rijeci osnovao je «Katedru za informacijske sustave», čiji je predstojnik.

U području projektiranja informacijskih sustava i metoda informatičkog inženjeringa održava od 1986. do danas seminare za potrebe gospodarstva kao dopunsko obrazovanje odraslih. Kao dopunsko obrazovanje odraslih održavao je seminare za specijalizaciju korištenja metoda informatičkog inženjeringa od 1986. do 1993. godine. Grupu seminara pod nazivom: Uvod u projektiranje informacijskih sustava, Konceptualno modeliranje, Modeliranje procesa, Projektiranje programa, Praksa projektiranja; održao je za preko 1000 polaznika iz poduzeća: HRT, PLIVA, HOO, HIZ, MORH, HPT, Bilokalnik, Varaždinska banka, Filozofski fakultet, PULSAR – Split, INTEGRA – GROUP – Zagreb, TEMPO – Zagreb, Poslovni software – Split, Brodogradilište «3.maj», Zavod za informatiku hrvatske, AD Plastik – Split, Ministarstvo rada i socijalne skrbi, Privredna banka, Hrvatska banka za obnovu i razvitak, SYS, Petrokemija Kutina i dr.

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Kratki životopis

Rođen je 1941. godine u Mariji Bistrici. Nakon gimnazije završava Prirodoslovno-matematički fakultet u Zagrebu (struka: Matematika, diplomski rad: "Algebre i teorija apstraktnih automata"). 1980. godine je na Sveučilištu u Zagrebu obranio doktorsku disertaciju pod naslovom: "Klaster analiza, algoritmi i aplikacije na procese rasta i razvoja" i stekao *doktorat društvenih znanosti iz područja organizacijskih i informacijskih znanosti.*

Znanstveno-nastavnu karijeru na Sveučilištu započeo je 1977.godine. Krajem 1980 boravio je na školovanju u Berlinu iz područja statističkih metoda i simulacije. U 1981. godini boravio je u Parizu u Nacionalnom institutu za istraživanje informatike i automatike (INRIA), a u 1983. boravio je u Institutu za statistiku i demografiju Sveučilišta u Napulju (ISDUN) gdje je radio na problemima analize podataka, a posebno na algoritmima klasteriranja. Od 1991. godine zaposlen je kao znanstveni savjetnik u Institutu informacijskih znanosti u Zagrebu (prije: Referalni Centar Sveučilišta u Zagrebu). Od 1992-1995 direktor je Instituta informacijskih znanosti u Zagrebu. U školskoj godini 1997/98 gostujući je profesor Fakulteta za organizacijske vede u Kranju, Univerziteta u Mariboru, gdje izvodi predavanja iz predmeta: **Izabrana poglavlja iz informacijske tehnologije.**

1998. godine izabran je u trajno zvanje redovitog profesora na Filozofskom fakultetu Sveučilišta u Rijeci, gdje predaje predmete: Objektno orijentirano programiranje, Objektno orijentirano modeliranje, Inteligentni sustavi 1, Inteligentni sustavi 2, Sustavi za potporu odlučivanju.

Objavio je više od 90. znanstvenih i stručnih radova u domaćim i stranim časopisima i aktivno sudjelovao u radu brojnih domaćih i međunarodnih skupova i projekata.

Sada je puni član :

američkog udruženja AAAI (American Association for Artificial Intelligence)

američkog udruženja ACM (Association for Computing Machinery)

američkog udruženja IEEE (The Institute of Electrical and Electronic Engineers)

Popis **relevantnih** radova za izvođenje nastave

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27. V.Topolovec, J. Mezak, N. Hoić-Božić: *Računalom podržano kolaborativno učenje: uloga nastavnika i učenika,* Proceedings of International scientific colloquium "The Teacher and Modern Educational Tehnology", Opatija, 1999, pp.754-766.
28. V.Topolovec, V.Rosić: *Kolaborativna pedagogija i informacijska tehnologija,* Proceedings of International scientific colloquium "The Teacher and Modern Educational Tehnology", Opatija, 1999, pp.780-790.
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Marija Marinović (r. Gojak) diplomirala je matematiku i fiziku, magistrirala je operacijska istraživanja na Ekonomskom fakultetu Univerze v Ljubljani (1985.), a akademski stupanj doktora informacijskih znanosti stekla je također na Ekonomskom fakultetu Univerze v Ljubljani (1988.).Objavila je 42 znanstvena rada u Hrvatskoj i inozemstvu, te jedan sveučilišni udžbenik *Repetitorij s riješenim zadacima iz matematike*.(u koautorstvu). U zvanje redovitog profesora informacijskih znanosti izabrana je 2004. godine. Predavala je ili predaje više predmeta: Operacijska istraživanja, Uvod u računala, Optimizacija, Osnove informatike i Matematika za informatičare 1, 2 i 3.
Na Filozofskom fakultetu u Rijeci bila je pročelnik Odsjeka za informatiku u dva mandata. Od 1. listopada 2002. godine obnaša funkciju prodekanice za poslovne odnose Filozofskoga fakulteta u Rijeci.

Popis **relevantnih** radova za izvođenje nastave

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15. Milena Sošić, Marija Marinović: *Repetitorij s riješenim zadacima iz matematike*, Sveučilište u Rijeci, Filozofski fakultet, 2004., str. 370, ISBN 953-6104-42-3.

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Kratki životopis

Nataša Hoić-Božić rođena je 1967. godine u Rijeci. gdje je završila osnovnu i srednju školu te 1990. godine studij matematike i informatike na Pedagoškom fakultetu.
Magistrirala je računarstvo na Fakulteti za računalništvo in informatiku Sveučilišta u Ljubljani 1997. i doktorirala računarstvo 2002. na Fakultetu elektrotehnike i računarstva Sveučilišta u Zagrebu (doktorska tema: "Prilagodljiva hipermedijska programska potpora za učenje.")
Nakon završetka studija dvije godine je radila kao projektant informacijskih sustava.
Od 1992. godine zaposlena je na Filozofskom fakultetu u Rijeci na kojemu je danas docent u Odsjeku za informatiku.
Predaje kolegije "Metodika nastave informatike“, "Multimedijski sustavi“, "Seminar iz hipermedije“ na studijima Matematike i informatike i Informatike. Kao asistent izvodila je vježbe za kolegij "Računalne mreže". Na stručnom studiju elektrotehnike Tehničkog fakulteta u Rijeci predaje kolegij "Računarske mreže“.
Kao znanstvena novakinja sudjelovala je na istraživačkim projektima uz potporu Ministarstva znanosti i tehnologije "Inovacije u nastavi pomoću računala (1993-1997)” i "Kvaliteta visokoškolske nastave (1997-2000)" te kao suradnik na projektu "Adaptivna hipermedijska programska potpora za učenje (2002-2003)." Istraživač je na projektu "Računalna potpora obrazovanju (2003-)" te voditelj projekta "Metodika nastave informatike online (2004-)."
Stipendije za istraživanje dodijeljene su joj za projekt "Razvoj obrazovnih WWW hipermedijskih aplikacija (1996-1997)" od strane Open Society Insitute, Hrvatska te za istraživanje "Transforming Information into Knowledge: Online Courses in Education (1998-2000)" od Research Support Scheme of the Open Society Support Foundation.
Također je kao član projektnog tima sudjelovala na više projekata koje je pokrenula Hrvatska akademska i istraživačka mreža CARNet. Polaznik je programa "E-learning Management" CARNet E-learning akademije (ELA).
Glavni predmet njezine znanstvene i stručne djelatnosti uključuje e-obrazovanje ili korištenje računalnih tehnologija, posebno računalnih mreža (Interneta) i hipermedije, u obrazovanju.
Sudjelovala je na više domaćih i stranih skupova, te objavila veći broj znanstvenih i stručnih radova.

Popis relevantnih radova za izvođenje kolegija

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14. N. Hoić-Božić, J. Ledić, J. Mezak, *Evaluating the Use of World Wide Web Courseware in Student Teachers' Education: a Case from Croatia,* Proceedings of Society for Information Technology and Teacher Education, SITE 2000, San Diego, Califonia, February 8-12, 2000, pp. 1894-1899

Ostale kvalifikacije za izvođenje nastave kolegija

Izrada online skripti za kolegije, znanstveni i stručni radovi i sudjelovanje na skupovima, kao i istraživački projekti te projekti u organizaciji CARNet-a iz područja kolegija.

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Kratki životopis

Maja Matetić je diplomirala matematiku i fiziku na Filozofskom fakultetu u Rijeci, Sveučilište u Rijeci 1988. godine. Magistrirala je na području računarskih i informacijskih znanosti na Fakultetu računarstva i informatike na Sveučilištu u Ljubljani, Slovenija, 1995. godine. Doktorirala je na području računarskih znanosti na Fakultetu elektrotehnike i računarstva na Sveučilištu u Zagrebu, 2002. godine. Od 2004. godine Maja Matetić je docent računarskih znanosti na Odsjeku informatike Filozofskog fakulteta u Rijeci. Područje njezinog rada trenutno uključuje predstavljanje i otkrivanje znanja, kvalitativno predstavljanje i zaključivanje, strojno učenje i njihovu primjenu. Maja Matetić je autor ukupno 16 radova predstavljenih na međunarodnim skupovima ili objavljenih u međunarodnim časopisima.

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8. Maja Matetić: "Qualitative Modeling of Object Behaviour in the Dynamic Vision System", *Proceedings of the conference MIPRO 2001*, Opatija, 2001,vol.CBSE+CTS+CIS, pp.14-19
9. Maja Matetić: "How to Constrain Qualitative Simulation?", *Proceedings of the Sixth Electrotechnical and Computer Science Conference, ERK'97*, Portorož, Slovenija, 25-

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10. Maja Matetić: “Developments Towards Constraining Qualitative Simulation”, *Proceedings of the conference MIPRO’97*, Opatija, 1997, vol. CTS and CIS, pp.3-13—3-16
11. Maja Matetić: “MARK - A simulation system for parameter estimation in simulation of dynamic systems”, *Proceedings of the conference MIPRO’96*, Opatija, 1996, vol. CIS, pp.2-45—2-50
12. Maja Matetić: “MARK - A Simulation System for Parameter Estimation in Simulation of Ecological Processes”, *The 12th International Conference on Case Method Research and Case Method Application: Environmental Problem Solving - From Cases and Experiments to Concepts, Knowledge, Tools and Motivations*, Maribor, Slovenia, November 12-15, 1995, Rainer Hampp Verlag, München, Mering, 1997
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14. Maja Matetić: “Kvalitativna analiza dinamičkih sustava pomoću ‘inteligentne’ numeričke simulacije”, *Zbornik konferencije MIPRO’95, Opatija, 1995*, vol. MIS, pp. 3-55—3-60
15. Maja Matetić: "Kombinacija kvalitativne i numeričke simulacije dinamičnih sustava s primjenom u izradi programa za učenje", *Zbornik konferencije MIPRO'94*, Opatija, 1994, vol. MIS, pp. 3-32--3-37
16. Marina Čičin-Šain, Jasminka Lesica, Maja Rahelić (Matetić): "How to start teaching informatics?", *Education and Application of Computer Technology, Third book biennial meeting of the Community of Mediterranean Universities on Microcomputers and their applications - Sant Feliu de Guixols, Spain, September 10-14, 1990, pp. 501-511*

Ostale kvalifikacije za izvođenje nastave kolegija

Nastavna djelatnost
Dodiplomska nastava

1) Programiranje I, predavanja i vježbe, programski jezici C i C++, od 1995
2) Ekspertni sustavi, predavanja i vježbe, programski jezik Prolog, od 2002
3) Računarski praktikum I, vježbe, programski jezik C++, od 1995
4) Od 1989. do 1995. Maja Matetić održava vježbe iz programskih jezika: BASIC, FORTRAN i PASCAL (Osnove informatike, Programski jezici I, Praktikum I).

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Kratki životopis

Rodio sam se 8. siječnja 1968. godine u Ogulinu. Osnovnu i srednju školu sam pohađao u Ogulinu.

Nakon završene srednje škole 1986. godine upisao sam elektrotehnički studij na Vojno tehničkoj akademiji u Zagrebu, smjer elektronika, specijalnost telekomunikacije. Diplomirao sam 11. 7. 1991. godine, a prosjek ocjena svih položenih ispita iznosi 8,23.

Nakon završenog studija, zapolio sam se u rujnu 1992. u "Srednjoj školi" u Ogulinu kao profesor informatike i matematike. U ožujku 1993. godine upisao sam postdiplomski magistarski studij na Fakultetu elektrotehnike i računarstva, smjer Elektrotehnika, smjer Telekomunikacije i informatika. Magistarski rad pod naslovom "Primjena teorije automata u razvoju programskog sustava za vrednovanje učenja" obranio sam u rujnu 1996. godine. Povjereni mentor bio je prof. dr. sc. Zoran Skočir.

U rujnu 1996. godine zaposlio sam se na Pedagoškom fakultetu (danas Filozofski fakultet) na Odsjeku za informatiku u svojstvu asistenta, gdje radim sve do sada. Doktorski studij upisao sam u ožujku 1997. godine na Fakultetu elektrotehnike i računarstva u Zagrebu. Povjereni mentor za izradu doktorske disertacije je prof. dr. sc. Zoran Skočir. Doktorsku disertaciju pod naslovom "Sustav učenja na daljinu zasnovan na dijalogu" obranio sam 8. studenoga 2002. godine.

Božidar Kovačić publicirao je sedam radova na domaćim i međunarodnim konferencijama: "MIPRO" Rijeka, "ERK" Portorož, "ICT 2000." Bukurešt, "EUROCON 2003" Ljubljana i "SoftCOM 2003" Split. Uključen je u dva projekta orijentirana na primjenu računala u edukaciji i razvoju sustava za učenje na daljinu.

Istraživač sam na projektu "Komunikacija čovjek-stroj" (stara šifra projekta: 0009033, nova šifra projekta: 0009012), iz područja računarstva, kojeg financira Ministarstvo znanosti i tehnologije Republike Hrvatske. Područje mog znanstveno-istraživačkog rada trenutno primjena novih tehnologija u rješavanju problema učenja na daljinu.

Popis relevantnih radova za izvođenje kolegija

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2. **Kovačić, B.**: "Application of Dialogue Realized by Distance Learning System Based On Dialogue", *Proceedings of the Conference MIPRO 2003, section Computers in Education*, pp. 46 – 49, Opatija, 2003. (ISBN 953-6042-97-5)
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5. **Kovačić, B.**, ***Z. Skočir***: "Programski sustav za vrednovanje učenja", *Zbornik radova*

savjetovanja Računala u telekomunikacijama (CTE) MIPRO 97, pp. 2.163-2.168., Opatija, 1997. (ISBN 953-6042-41-X)

Ostale kvalifikacije za izvođenje nastave kolegija

Imam iskustvo na izvođenju edukacije učenika, studenata i odraslih iz područja informatike stečenog izvođenjem informatičkih tečajeva. U okviru izrade magistarskog i doktorskog rada izradio sam softverske sustave za edukaciju i vrednovanje znanja.

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Kratki životopis

Rođena 1973. godine u Rijeci, gdje i danas živi. Nakon matematičke gimnazije, 1997. godine diplomirala na Pedagoškom fakultetu u Rijeci, smjer matematika-informatika, a 2001. godine magistrirala na Filozofskom fakultetu u Zagrebu, studij Informacijskih znanosti i stekla naziv magistra informacijskih znanosti. Godine 2002. upisala doktorski studij Računarskih znanosti na Fakultetu elektronike i računalstva u Zagrebu.

Od 1998. godine radi na Filozofskom fakultetu u Rijeci na Odsjeku za Informatiku, najprije kao vanjski suradnik, a zatim u redovnom radnom odnosu kao asistent na kolegijima OO modeliranje i programiranje (C++), Računarski praktikum (Java), Ekspertni sustavi, Inteligentni sustavi, Operacijska istraživanja, Matematika i drugim, za studijske grupe Matematika i informatika i Informatika.

Sudjeluje na istraživačkim projektima uz potporu Ministarstva znanosti i tehnologije: Metodologija razvoja informacijskih sustava (gl. istraživač doc. dr.sc. Mile Pavlić), Eksperiment u konstruiranju fizičkih modela i koncepcija (gl. istraživač izv. prof. dr.sc. Rajka Jurdana-Šepić) i Komunikacija čovjek-stroj (gl. istraživač izv. prof.. dr.sc. Ivo Ipšić).

Tijekom niz godina mentor na općinskim i županijskim takmičenjima, te član povjerenstva PGŽ za natjecanje i smotru radova iz informatike za osnovne i srednje škole.

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3. Ivašić-Kos M., Pavlić M., Poščić P.: Whole-part relationship in UML and OML, 11th DAAAM INTERNATIONAL SYMPOSIUM, "Intelligent Manufacturing & Automation: Man-Machine-Nature", Opatija 2000, str. 199-200.
4. Poščić P., Pavlić M., Ivašić-Kos M.: Comparison of MIRIS and SSADM Methodology, 11th DAAAM INTERNATIONAL SYMPOSIUM, "Intelligent Manufacturing & Automation: Man-Machine-Nature", Opatija 2000
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7. Poščić P., Pavlić M., Ivašić-Kos M.: Method of Comparing Methodologies', 11th

International Conference on Information and Intelligent Systems IIS 2000, Sveučilište u Zagrebu Fakultet organizacije i informatike u Varaždinu, Varaždin 2000, str. 15.

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9. Ivašić M., Pavlić M.: Approaches for building interface agents, 8 th Electrotechnical and Computer Science Conference - ERK'99, Slovenska sekcija IEEE, Portorož 1999, Slovenija, Vol. B, str. 183-186.

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Kratki životopis

Rođena sam 25. siječnja 1972. godine u Rijeci, gdje i danas živim. Nakon završene srednje škole, matematičko-informatičkog usmjerenja diplomirala sam 1995. godine na Pedagoškom fakultetu u Rijeci, smjer matematika-informatika. Poslijediplomski studij na Fakultetu organizacije i informatike u Varaždinu, završila sam 2001. godine, obranivši magistarski rad pod naslovom *Analiza uporabljivosti metodika projektiranja informacijskih sustava.* Time sam stekla naziv magistra informacijskih znanosti.

Od 1995. radim kao asistent na Odsjeku za informatiku Filozofskog fakulteta u Rijeci, te sudjelujem na istraživačkom projektu uz potporu Ministarstva znanosti i tehnologije *Metodologija razvoja informacijskih sustava (voditelj dr.sc. Mile Pavlić).* Sudjelujem i u nastavi održavajući vježbe i seminare iz različitih informatičkih kolegija (Osnove informatike, Baze podataka, Modeliranje podataka, Modeliranje procesa, Informacijski sustavi) na studijskim grupama Matematika i informatika i Informatika.

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Popis **relevantnih** radova

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3. Poščić P., Pavlić M., Ivašić-Kos M.: **' Usporedba objektnih modela u metodikama IDEA i IDEF 4'**, CASE 14, Opatija, 2002
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6. Ivašić-Kos M., Pavlić M., Poščić P.: **' Dijagrami UML-a '**, CASE 13, Opatija, 2001.
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9. Poščić P., Pavlić M., Ivašić-Kos M.: **' Method of Comparing Methodologies'**, 11th International Conference on Information and Intelligent Systems IIS 2000, Varaždin, 2000.
10. Ivašić-Kos M., Pavlić M., Poščić P.: **' Relationships in OO languages: UML and OML'**, 11th International Conference on Information and Intelligent Systems IIS 2000, Varaždin,

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11. Ivašić-Kos M., Pavlić M., Poščić P.: **' Whole-part relationship '**, 9th Electrotechnical and Computer Science Conference ERK'00, Portorož, Slovenija, 2000.
12. Poščić P., Pavlić M., Ivašić-Kos M**.: ' Usporedba metodika za projektiranje informacijskih sustava '**, CASE 12, Opatija, 2000.
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14. Pavlić M., Zamlić I., Poščić P.: **' Dijagram konteksta modela podataka '**, CASE 12, Opatija, 2000.
15. Pavlić M., Poščić P., Ivašić M.: **'Objektno orijentirana analiza u metodici IDEA'**, CASE 10, Opatija, 1998.
16. Pavlić M., Poščić P.: **'Kvalitetno obrazovanje projektanata informacijskih sustava'**, Međunarodni znanstveni kolokvij: Kvaliteta u odgoju i obrazovanju, Zbornik radova, Rijeka, 1998.

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Kratki životopis

Rođena sam 27. travnja 1970 u Rijeci, gdje sam i završila osnovnu školu. Maturirala sam na I. riječkoj gimnaziji 1988. godine smjer matematika - informatika.
1988. g. upisujem se na Fakultet infomatike i računarstva u Ljubljani. 1993. g. branim diplomski rad s temom iz područja informatike - sustavi za pomoć u odlučivanju (Decision Support Systems). Diplomu sam nostrificirala na Fakultetu elektotehnike i računarstva u Zagrebu.
1994. g. zapošljavam se u slovenskom zavodu za zdravstveno osiguranje, u centru za informatiku kao programer - projektant informacijskih sustava. 1997. g. postajem savjetnik za izgradnju informacijskih sustava i vodim opsežan projekt na području dobrovoljnih osiguranja.
Uz rad 1996. g. upisujem postdiplomski studij informatike (Informacijsko-upravljalske vede) na Ekonomskom fakultetu u Ljubljani. Krajem 1999. godine branim magistarski rad s temom "Modeliranje sistema za nadzor potrošnje lijekova", u kojem obrađujem područje podrške poslovnom odlučivanju na principima skladištenja podataka. Istovrijednost magiterija je priznata na Ekonomskom fakultetu u Zagrebu.
U akademskoj godini 2000./2001. započinjem rad na Ekonomskom fakultetu u Rijeci, kao stručni suradnik za kolegije Poslovna kibernetika i Menedžment informacijskih sustava.
Od 2002. zaposlena sam kao znanstveni novak na Filozofskom fakultetu u Rijeci, na Odsjeku za informatiku, gdje sam u travnju 2002. izabrana u zvanje asistenta.
Uključena sam u izvođenje nastave na Odsjeku za informatiku te na Odsjeku za kroatistiku Filozofskog fakulteta u Rijeci, gdje izvodim vježbe za kolegije: Formalni jezici i jezični procesori, Osnove digitalne tehnike, Digitalna obrada signala te Osnove informatike za kroatiste.
Posjedujem aktivno znanje slovenskog, engleskog i njemačkog te pasivno znanje talijanskog jezika.

Popis relevantnih radova za izvođenje kolegija

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2. Martinčić-Ipšić, Sanda, Žibert, Janez, Ipšić, Ivo, Mihelič, France. A *Bilingual Spoken Dialog System for Slovenian and Croatian Weather Forecasts*. Zajc, Baldomir, (ed.), Tkalčič, Marko, (ed.). EUROCON 2003 Conference: Computer as a tool, Ljubljana, Slovenia, September 22-24, 2003: proceedings, IEEE Region 8, Slovenian section IEEE, proceedings. Vol. B, p. 140-143.
3. Martinčić-Ipšić, Sanda, Žibert, Janez, Ipšić, Ivo, Mihelič, France, Nikola, Pavešić. *Bilingual Speech Recognition for Weather Information Retrieval Dialog System*. Matoušek, Vaclav, (ed.), Mautner, Pavel, (ed.). 6th International Conference on Text, Speech and Dialogue, TSD 2003, Česke Budejovice, Czech Republic, September 8-12, 2003: proceedings, Lecture notes in computer science, Lecture notes in artificial intelligence, vol.

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4. Žibert, Janez, Martinčić-Ipšić, Sanda, Melita, Hajdinjak, Ipšić, Ivo, Mihelič, France. Development of a *Bilingual Spoken Dialog System for Weather Information Retrieval*. (ed.), (ed.). 8th European Conference on Speech Communication and Technology, September 1-4, 2003, Geneva, Switzerland. EUROSPEECH ´03. proceedings. ISCA. Vol. 1, p. 1917-1920.

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6. Martinčić-Ipšić, Sanda, Ipšić, Ivo. *VEPRAD: A Croatian Speech Database of Weather Forecasts.* Budin, Leo (ed.), Lužar-Stiffler, Vesna., (ed.), Bekić, Zoran, (ed.). Hljuz-Dobrić, Vesna., (ed.). 25th International Conference on Information Technology Interfaces, June 16-19, 2003, Cavtat, Croatia. ITI 2003. proceedings. SRCE University Computing Centre, University of Zagreb, vol. 1, p. 321-326.

7. Martinčić – Ipšić, Sanda, Žibert, Janez, Ipšić, Ivo, Mihelič, France. *Speech Recognition of Slovenian and Croatian Weather Forecasts*, Gros, Jerneja, (ed.), Erjavec, Tomaž, (ed.). 5th International Conference on Information Society IS´2002: Language Technologies, October 14-15. 2002, Ljubljana. Slovenija, proceedings. Vol. B. p. 106-110.

8. Mihelič, France, Ipšić, Ivo, Žibert, Janez, Martinčić – Ipšić, Sanda. *Development of SLO-CRO Bilingual Speech Databse*, Rožić, Nikola, (ed.), Begušić, Dinko, (ed.). 10th International Conference on Software, Telecommunications & Computer Networks, SoftCOM 2002. October 8-11. 2002, Split-Venice-Ancona-Dubrovnik. Croatia, Italy, proceedings. Vol. 1. p. 577-581.

9. Martinčić-Ipšić, Sanda, Ipšić, Ivo. *Interactive Teachware - INIS*, Čičin-Šain, Marina, (ed), ragojlović, Pavle, (ed.), Sunde, Jadranka, (ed.), Turčić Prstačić, Ivana, (ed.). 25. MIPRO 2002, May, 20-24.Opatija, Croatia, 2002. proceedings. vol. CE. p. 30-32.

10. Martinčić, Sanda. *Dimenzijski model podatkovnega skladišča za spremljanje porabe zdravil*, Baldomir, Zajc, (ed.). 8th Electrotehnical and Computer Science Conference ERK'99, september 1999, Portorož, Slovenija, Ljubljana: IEEE Region 8, Slovenia section IEEE, 1999, proceedings. Vol. B, p. 89-92.

Ostale kvalifikacije za izvođenje nastave kolegija

Ime i prezime suradnika	Ana Kaić
Email:	akaic@pefri.hr
Web stranice:	
Ustanova suradnika	Filozofski fakultet u Rijeci
Zvanje	Mlađi asistent
Datum zadnjeg izbora u zvanje	26.03.2002

Kratki životopis

Ana Kaić rođena je 1978. godine u Rijeci. Godine 1997. završila je prirodoslovno-matematičku gimnaziju u Rijeci. Diplomirala je na Filozofskom fakultetu u Rijeci u listopadu 2001. godine, smjer matematika i informatika.

U studenom 2001. godine zaposlila se na Filozofskom fakultetu u Rijeci na Odsjeku za informatiku kao znanstveni novak. Iste godine upisuje poslijediplomski znanstveni magistarski studij "Informacijske znanosti" na Fakultetu organizacije i informatike u Varaždinu, Sveučilišta u Zagrebu.

Sudjeluje na istraživačkom projektu Metodologija razvoja informacijskih sustava (voditelj dr.sc. Mile Pavlić).

Popis **relevantnih** radova

1. Kaić A., Pavlić M., Dobrović Ž., Čandrlić S., Ostojić J*: Rast i razvoj integralnog informacijskog sustava*, Zbornik "CASE15 - Metode i alati za razvoj poslovnih i informacijskih sustava", Opatija: Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003., 5-11
2. Pavlić M., Kaić A., Dobrović Ž., Čandrlić S., Ostojić J. *Physical Design of Information Systems Integration Process*, 14th DAAAM International Symposium: Intelligent Manufacturing & Automation: Focus on Reconstruction and Development", Sarajevo, 2003.
3. Pavlić M., Kaić A., Dobrović Ž., Čandrlić S., Ostojić J. *Design Phase of Information Systems Integration Process*, Proceedings of the 25th International Conference on Information Technology Interfaces, Cavtat, 2003., 143-148.
4. Pavlić M., Kaić A., Dobrović Ž: *Information Systems Integration Process: Data Perspective,* Proceedings of the 14th International Conference International Conference on Information and Intelligent Systems IIS 2003, Varaždin, 2003., 9-15
5. Poščić P., Pavlić M., Kaić, A: '*Mjerenje produktivnosti u razvoju programskog proizvoda*', Zbornik "CASE16 - Metode i alati za razvoj poslovnih i informacijskih sustava", Opatija: Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003., 5-11
6. Poščić P., Pavlić M., Kaić, A: 'Softwareski inženjering', Zbornik "CASE16 - Metode i alati za razvoj poslovnih i informacijskih sustava", Opatija: Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003.

Ime i prezime suradnika	Sanja Čandrlić
Email:	sanjac@pefri.hr
Web stranice:	
Ustanova suradnika	Filozofski fakultet u Rijeci
Zvanje	Asistent
Datum zadnjeg izbora u zvanje	26.03.2002

Kratki životopis

Završila Osnovnu školu Jurja Klovića u Triblju, općina Vinodolska, a zatim opći smjer Prve riječke hrvatske gimnazije u Rijeci. Na Filozofskom fakultetu u Rijeci diplomirala matematiku i informatiku. Studira na poslijediplomskom studiju informacijskih znanosti, smjer opća informatologija na Filozofskom fakultetu u Zagrebu.
Sudjeluje u nastavi iz više kolegija na Odsjeku za informatiku Filozofskog fakulteta u Rijeci. Radi kao znanstveni novak na projektu Metodologija razvoja informacijskih sustava.

Popis **relevantnih** radova

1. Ostojić, Josip; Pavlić, Mile; Čandrlić, Sanja. Primjena metodike "MIRIS" u prodaji osiguranja // *Zbornik radova 5. međunarodnog simpozija Informacijska i komunikacijska tehnologija i osiguranje* / Milijević, Nikola (ur.). Rovinj : TECTUS, 2004. 65-69 (međunarodna recenzija, stručni rad).
2. Čandrlić, Sanja; Golem, Marko, Pavlić, Mile; Zamlić, Igor; Kaić, Ana**.** Network development of applications // *Annals of DAAAM for 2003 & Proceedings of the 14th International DAAAM Symposium* / Katalinić, B. (ur.). Vienna, Austria: DAAAM International Vienna, 2003. 079-080 (međunarodna recenzija, znanstveni rad).
3. Pavlić, Mile; Kaić, Ana; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Physical design of information systems integration process // *Annals of DAAAM for 2003 & Proceedings of the 14th International DAAAM Symposium* / Katalinić, B. (ur.). Vienna : DAAAM International Vienna, 2003. 347-348 (međunarodna recenzija, znanstveni rad).
4. Pavlić, Mile; Kaić, Ana; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Faza dizajna procesa integracije informacijskih sustava // *Proceedings of the 25th International Conference on Information Technology Interfaces ITI 2003* / Budin, Leo (ur.). Cavtat : SRCE University Computing Centre, 2003. 143-148 (međunarodna recenzija, znanstveni rad).
5. Kaić, Ana; Pavlić, Mile; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Rast i razvoj integralnog informacijskog sustava // *Zbornik "CASE15 - Metode i alati za razvoj poslovnih i informacijskih sustava"*. Opatija : Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003. 5-11 (stručni rad).
6. Zamlić, Igor; Golem, Marko; Čandrlić, Sanja; Kaić, Ana; Pavlić, Mile. Mrežni razvoj aplikacije pomoću Buildera // *Zbornik "CASE15 - Metode i alati za razvoj poslovnih i informacijskih sustava"*. Opatija : Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003. 23-27 (stručni rad).
7. Pavlić, Mile; Sok, Antun; Ivašić, Marina; Poščić, Patrizia; Čandrlić, Sanja. Softverski inženjering, 2004 (stručni rad).

Ime i prezime suradnika	Igor Jugo
Email:	ijugo@pefri.hr
Web stranice:	www.pefri.hr/~ijugo
Ustanova suradnika	Sveučilište u Rijeci, Filozofski fakultet u Rijeci, Odsjek informatika, Omladinska 14, 51000 Rijeka, Hrvatska
Zvanje	asistent
Datum zadnjeg izbora u zvanje	10.3.2004. godine

Kratki životopis

Igor Jugo je diplomirao 2003. godine na Filozofskom fakultetu Sveučilišta u Rijeci stekavši naziv profesora pedagogije i informatike. Od 2004. godine radi na Filozofskom fakultetu u Rijeci, na Odsjeku za informatiku, kao asistent na predmetima "Računalne mreže", "Programiranje za Internet" i "Kominikacijski sustavi i društvo". Godine 2004. upisao je poslijediplomski znanstveni studij Informacijskih znanosti na Fakultetu organizacije i informatike u Varaždinu. Kao student, i prije zaposlenja na Fakultetu, radio je u informatičkim centrima gdje je predavao više softverskih alata i aplikacija (Office, Macromedia, izrada web stranica). Radio na održavanju računalnih mreža i bio voditelj razvoja web aplikacija temeljnih na ASP, ASP.NET i MS SQL Server platformi. Nosioc je certifikata Macromedia Certified Professional, i Macromedia Certified Instructor.

Relevantni radovi

1. Jugo, I., Radovan, M.: 'Developing Dynamic Web Applications', in Proceedings of the *15th International Conference on Information and Intelligent Systems*, Varaždin, Croatia, September 22-24, 2004, pp. 101-110. (Engleski)
2. Jugo,I.,Radovan,M., 'An analysis of excptions handling in PHP and ASP.NET', (rad u pripremi za objavu).

4.5. POPIS NASTAVNIH RADILIŠTA ZA PROVOĐENJE PRAKTIČNE NASTAVE

Nastavna praksa studenata iz sadržaja informatike izvodi se u OŠ "Brajda" i „Kozala" Rijeka, i Gimnaziji "Andrija Mohorovičić" Rijeka, te u „Kemijsko-grafička škola" Rijeka..

4.6. OPTIMALAN BROJ STUDENATA KOJI SE MOGU UPISATI

Prostorni, materijalno–tehnički (broj i opremljenost praktikuma) i kadrovski uvjeti su takvi da omogućuju upis optimalnog broja od 30 studenata**.**

4.7. PROCJENA TROŠKOVA STUDIJA PO STUDENTU

Procjena troškova studija po studentu zasnovana je na pretpostavci da bi za svaki studij trebalo biti zaposleno najmanje osam nastavnika u zvanju docenta ili višem. Na temelju ovakve pretpostavke slijedi izračun:

- Za tri godine (Preddiplomski studij Politehnike):

  8 x1,90 (koef.) = 15,20 x 4.414,42 (osn.) = 67.099,19 x 1,15 (admin.-tehn. osoblje) = 77.164,07 x 1,172 (dopr.na pl.) = 90. 436,41 x 12 (broj mj.) = 1.085.236,92 x 1,10 (mat. tr.) = 1.093.760,62 : 75 (broj stud.) = **15.916,79 kuna po studentu.**

- Za dvije godine (Diplomski studij Politehnike i Fizike i Diplomski studij Politehnike i Informatike):

  5,4 (broj nast.) x 1,90= 10,26 x 4.414,42 = 45291,95 x 1,15 = 52.085,75 x 12 = 625.029,00 x 1,172 = 732. 533,99 x 1,10 = 805.787,39 : 50 = **16.115,75 kuna po studentu.**

4.8. NAČIN PRAĆENJA KVALITETE I USPJEŠNOSTI IZVEDBE STUDIJSKOG PROGRAMA

Praćenje kvalitete i uspješnosti izvođenja predloženog Preddiplomskog studija Informatike te predloženog Diplomskih studija Informatike provoditi će se u skladu s Pravilnikom o mjerilima i kriterijima za vrednovanje kvalite-te i učinkovitosti visokih učilišta i studijskih programa (NN 9/05) posebno uvažavajući metode propisane Člankom 4. stavak 7. koje su namijenjene unutarnjim mehanizmima osiguranja kvalitete na visokim učilištima.

Tijekom izvođenja predloženih studijskih programa provoditi će se kontinuirana samoevalua-cija koja će se temeljiti na rezultatima dobivenim kroz:

- anonimne ankete među studentima provođene na kraju svakog semestra u okviru svakog pojedinog kolegija te studija u cjelini,

- analizu rezultata polaganja ispita tijekom zimskih, ljetnih i jesenskih ispitnih rokova,

- analizu upisa studenata na više godine studija (omjeri redovno upisanih studenata, uvjetno upisanih studenata i studenata koji ponavljaju godinu),

- kontaktiranje studenata nakon završetka studija radi uočavanja postojanja eventualnih pro-blema na tržištu rada koji se mogu preduhitriti kroz korekcije u procesu studiranja te za koje bi bilo moguće bolje pripremiti studente tijekom studiranja.

Kroz navedene metode samoevaluacije uočiti će se eventualni problemi koji mogu uzrokovati nekvalitetno, neefikasno ili predugo studiranje pojedinih studenata te će se, uz konzultiranje studenata, identificirati njihovi uzroci te poduzeti neophodni koraci za njihovo uklanjanje.

Također, s ciljem podizanja razine kvalitete predloženih studija, kontinuirano će se raditi na usavršavanju sveučilišnih nastavnika koji u izvođenju predloženih studija sudjeluju, te će se provoditi i godišnja interna evaluacija nastavnog osoblja.

S ciljem poboljšanja količine i kvalitete udžbeničke literature koja bi studentima tijekom studiranja trebala biti dostupna, nastavničko će se osoblje poticati na izdavačku djelatnost te će se osiguravati neophodna financijska podrška u skladu s mogućnostima Filozofskog fakulteta u Rijeci, odnosno, nakon preustroja Sveučilišta u Rijeci, u skladu s mogućnostima Sveučilišnog odjela za informatiku.

5. OSTALE NAPOMENE

5.1. Suglasnosti ostalih suradnika.

Za izvođenje kolegija na dvopredmetnom preddiplomskom studiju informatike skupljene su suglasnosti:

dr. sc. Matjaž Gams
dr.sc. Željko Hutinski

GRADUATE MAJOR STUDY OF INFORMATICS

A) REASONS FOR INITIATION OF STUDY

Presently, there is possible to study informatics at the University of Rijeka in fixed combination with some other disciplines (curriculum). By graduate major/minor study of informatics is possible to of study of informatics in free combination at the Faculty of Philosophy, University of Rijeka.

Department of Informatics exists at the Faculty of Philosophy since 1975. But, for all that time informatics can be studied in fixed combination with some other disciplines, mostly mathematics and pedagogy.

Adopted knowledge during the study should enable student successful in educational institutions (as assistant in education), specialized companies for informatics, or in business, economics and social organizations performing activities in informatics.

Informatics subjects included in study can be found in curricula of the most European and USA faculty at the same or similar name. Basic themes included in most of curricula are: programming, operating systems, Internet, computer networks, multimedia, databases, architecture of computers etc.

At the undergraduate major/minor of informatics, students adopt basic knowledge from science field that consists of basic knowledge from informatics and mathematics. Graduate major/minor study in duration of two years enables student's adoption of specialist knowledge. Except basic subjects, student can choose some subject at free will. Students have to write a diploma work at the last semester.

Basic subjects correspond with curricula at the Faculty of organization and informatics (FOI) in Varaždin and Faculty of electrical engineering and Computing (FER) in Zagreb, Faculty of electrical engineering in Ljubljana (FRI) and Karl-Franzens University in Graz.

B) PRESENTLY EXPERIENCE IN IMPLEMENTATION EQUIVALENT OR SIMILAR STUDIES

We believe there is a real need for studying of informatics in free combination at the University of Rijeka. By this study student can freely chose their future profile and expert knowledge.

C) UNCLOSE OF STUDY ACCORDING STUDENT MOVING

All subjects are planed as one semester subjects that enable dynamical change of subject's content. Students can be included in student exchange between Universities (in Croatia and/or foreign) at any phase of the study. Students have to pass exams for all listened subjects, and exams are performed after every semester. Students who study at the Faculty of Philosophy continuously and don't participate in student's exchange can carry one subject at the next academic year.

D) OTHERS ELEMENTS AND DATA IMPORTANT FOR STUDY

Changes in informatics are very frequent and fast, so hardware and software and applied knowledge about them are changed in a short period of time. Because of that the curriculum is modelled to enable flexibility in performing the study. We believe that curriculum is starting base that we will change and adopt to change in informatics and follow general needs in social and economic area.

2. GENERAL PART

2.1. NAME OF STUDY:

Graduate major/minor study of informatics

2.2 CURRICULUM ORGANIZATIONS:

University of Rijeka
Faculty of Philosophy,
Department for in informatics
Omladinska 14,
51000 Rijeka.

2.3. DURATION OF STUDY:

Toward to suggest in the *Law of science activity in high education*, suggested curriculum of graduate study of informatics have 2 years (4 semesters).

2.4. CONDITION FOR REGISTRATION OF STUDY:

Candidate with finished undergraduate major/minor study of informatics at the Faculty of Philosophy, undergraduate study of Informatology at the Philosophy faculty in Zagreb and undergraduate study of Mathematics and informatics at the Faculty of science and education in Split can regsitrate study.

Registration in first academic year is performed in July and September, and registration for higher academic year is performed at the end of September or at the beginning of October according next conditions:

V year: students have not to pass one subject from IV year of study

2.5. BY GRADUATE MAJOR/MINOR STUDY OF INFORMATICS STUDENTS REACH COMPETENCE FOR PROFESSIONS:

- professor of informatics in elementary education who can prepare complex informatics' contents to pupils' level
- professor of informatics in secondary education who prepares students for their call or continuation of education
- person engaged in organization of information classrooms in elementary and secondary schools
- informatics' specialist capable for development of informatics' product for education's needs

- informatics' specialist capable for development of software product for economics and social needs
- Informatics as a specialist at the two fields who isn't high education expert for informatics.
- administration of computers systems (network servers, information systems, databases)

Undergraduate studies that satisfy or partially satisfy condition to attend graduate study of informatics are:

- undergraduate study of Informatology at the Philosophy faculty in Zagreb
- undergraduate study of Mathematics and informatics at the Faculty of science and education in Split.

2.6. ACADEMIC TITLE AFTER FINISHED STUDY:

Magistar/magistre of education for informatics and second subject of study.

3. Curricula Description

3.1. LIST OF OBLIGATORY AND ELECTIVE COURSES AND/OR MODULE

Year of study:	Course name:	ECTS points:	Number of hours:	CORE / ELECTIVE:
4	Databases	4	4	CORE
4	Inteligent Systems	4	4	CORE
4	Digital Signal Processing	4	3	CORE
4	Teaching Methods In Information Science	4	4	CORE
4	Expert Systems	4	3	ELECTIVE
4	Operational Research	4	3	ELECTIVE
4	Hypermedia Systems In Education	4	4	ELECTIVE
4	Information Technology and Society	4	3	ELECTIVE
5	Decision Support Systems	4	4	CORE
5	Software Engineering	4	4	CORE
5	IS Strategic Planning	4	4	CORE
5	Diploma Work	4	3	CORE
5	System Theory	4	3	ELECTIVE
5	System Simulation	4	3	ELECTIVE
5	Planning And Management Of Information Technology Projects	4	3	ELECTIVE
5	Natural Language Processing	4	3	ELECTIVE
Total ECTS points:		64		

Core and elective teaching module course:

VII. semestar		
EDUKACIJSKI KOLEGIJI		
Developmental psychology	**3 ECTS**	**2 sata (1+0+1)**
Didactics	**5 ECTS**	**4 sata (2+0+2)**
Electice course	**2 ECTS**	**2 sata**
(Students take one course to reach 2 ECTS points)		
Sociology of Education	2 ECTS	2 sata
Educational Psychology	2 ECTS	2 sata
Communication skills	2 ECTS	2 sata
Psychology of Parenting	2 ECTS	2 sata
Computer in Teaching	2 ECTS	2 sata
Pedagogy and Social Context	2 ECTS	2 sata

VIII. semestar		
EDUKACIJSKI KOLEGIJI		
Psychology of Education	**5 ECTS**	**4 sata (2+0+2)**
Teacher's Upbringing and Educational Strategies	**3 ECTS**	**2 sata (1+0+1)**
Elective Course	**2 ECTS**	**2 sata**
(Studenti biraju **jedan** od ponuđenih kolegija da bi ostvarili **2 boda**)		
Psychology of Pupils with Special Needs	2 ECTS	2 sata
Effective Learning Methods	2 ECTS	2 sata
Rhetoric	2 ECTS	2 sata
Children Violence Prevention	2 ECTS	2 sata
Introduction to Educational Policy Analysis	2 ECTS	2 sata
Quality Assurance in School	2 ECTS	2 sata
School Management	2 ECTS	2 sata

3.2. COURSE DESCRIPTION

Course code						
Course title	**DATABASES**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**IV**
Course status	X	Core		**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30+0+30			
Course objectives						
- Introduce students to basic concepts of database theory with emphasize on relational databases - Make students competent for independent work with relational databases (SQL)						
Correspondence and correlation with the program						
The course program correlates with the following courses: Data modeling, Process modeling, Information systems and it is a prerequisite for course Databases.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
After completing the course and meeting requirements in respect to course **Introduction to Databases,** students are expected to be capable of: - Defining and updating relational database (SQL) - Conducting relational algebra operation in relational database model - access database using various program tools						
Course content						
Introduction to databases. Database concepts. Relational data model. Relational algebra. Operations in relational model. Non-procedural languages for processing relational database – SQL. Integrity rules in relational data model. Concept of nul value and incomplete information. Elements of dependency theory. Normalization; Normal forms. Temporal databases. Introduction to object-relational database. Basic of physical organization, B-tree, R-trees.						
Modes of instruction (mark in bold)						
Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet		
Distance learning	Consultations	Laboratory work	Tutorials	Field work		
Comments: During exercises, students are introduced to relational database - Oracle SQL. Students are prepared to independently produce an application along with drawing up and producing a relational database.						

Student requirements

Students should actively participate in all forms of works, pass the exam consisting of written and oral part. During exercises, students shall produce a complete works, thus proving their capabilities in using software independently.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,75**	Seminar paper	Experiment
Written exam **0,5**	**Oral exam** **0,5**	Essay	Research work
Project work	**Continuous assessment** **0,25**	Presentation	**Practical work** **1**

Comments:

Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.

Required literature

M .Varga: Baze podataka; konceptualno, logičko i fizičko modeliranje podataka, DRIP, Zagreb, 1994.
M. Radovan: Baza podataka - relacijski pristup i SQL, Informator, Zagreb, 1993.
S. Tkalac: Relacijski model podataka, DRIP, Zagreb, 1992.

Recommended literature

D. Maier: The Theory of Relational Databases, Computer Science Press, Rockville, 1983.
P. Atzeni, V. De Antonellis: Relational Database Theory; The Benjamin/Cummings Publ. Co., 1993.
A.U. Tansel et.al.: Temporal Databases, The Benjamin/Cummings Publ. Co., 1993.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**INTELIGENT SYSTEMS I**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**IV**
Course status	**X**	Core		**Elective**		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+30	

Course objectives

The aim of this course is to study concepts and algorithms in artificial intelligence and to apply these methods to problem solving. Topics covered include intelligent agents, problem solving, planning, and machine learning.

Correspondence and correlation with the program

Course program is in correlation with the program of the course Inteligent systems II.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

A student should
- have an understanding of search, logic based knowledge representation, of issues in planning and learning.
- have an understanding of the limitations of current symbolic AI paradigm.
- have knowledge of search and be able to select appropriate search paradigms for appropriate problems.
- have knowledge of Bayes' Rule and its use.
- be able to design a simple agent system.

Course content

History and philosophical foundations. Intelligent Agents. Propositional and Predicate Logic. Programming in Prolog. AI Techniques for Problem Solving and Planning: Implementing AI Algorithms in Prolog. Searching. Constraint Satisfaction. Planning Algorithms. Reasoning: Logical Agents. Probabilistic reasoning. Bayesian networks. Machine Learning Techniques: Artificial Neural Networks. Genetic Algorithms and Genetic Programming. Symbolic Machine Learning Techniques. Natural Language Processing. Multi-Agent Systems.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students are expected to:

attend classes regularly
make necessary preparations for classes
do practical work
present seminar paper
pass the exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0.25	**Class participation 0.5**	**Seminar paper 1.25**	Experiment
Written exam 0,5	Oral exam **0.5**	Essay	Research work
Project work	Continuous assessment	**Presentation 0.5**	**Practical work 0,5**

Comments:

Required literature

1. Russell, S., Norvig, P., *Artificial Inteligence: A Modern Approach*, Prentice Hall, Englewood Cliffs, NJ, 1995.
2. Ivan Bratko, Prolog Programming for Artificial Intelligence, Addison Wesley, 2000

Recommended literature

Rich, E., Knight, K., *Artificial Inteligence*, McGraw-Hill, New York, NY, 1991.
Winston, H.P., *Artificial Inteligence 3rd Edition*, Addison-Wesley, Reading, MA, 1992.
Tracy, K.W., Bouthorn, P., *Object-oriented Artificial Inteligence using C++*, W.H. Freeman, 1997,
Norvig, P., *Paradigms of AI programming: Case Studies in Common Lisp*, Morgan-Kauffman, Los Altos, CA, 1992.

Quality assurance of course and/or module

Quality of the course will be monitored and measured through the success of examinations and through the anonymous inquiry reflecting students opinions regarding the course.

Course code	
Course title	**DIGITAL SIGNAL PROCESSING**

General Information

Program	**INFORMATICS – MAJOR**				Year	**IV**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

The purpose of the course is to introduce students with basic principles of digital dignal processing.

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Course content

Signal classification. Matematical model. The Fourier Transform.
Stohastic signals. Corerelation. Covariance.
Ergodic signals. Stationary signals.
Spectrum. Discrete Fourier Transform.
The sampling theorem.
Digital filter design. The Fast Fourier Transform.
Speeech signal processing. Video signal processsing.
Signal compression algorithms.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

L.R. Rabiner. Theory and Application of Digital Signal Processing. Prentice-Hall, 1975.
L.R. Rabiner, R. W. Schafer: Digital Processing of Speech Signals, Prentice Hall; 1 edition, 1978.

Recommended literature

A. V. Oppenheim, R. W.Schafer, J. R. Buck: Discrete-Time Signal Processing, Prentice Hall, Englewood Cliffs, 2 edition ,1999.
S. K. Mitra: Digital Signal Processing: a Computer-Based Approach, McGraw-Hill Co. Inc. New York, 1998.

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Course code						
Course title	**TEACHING METHODS IN INFORMATION SCIENCE**					
General Information						
Program	**INFORMATICS – MAJOR**				Year	**IV**
Course status	X	**Core**		Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30+0+30			
Course objectives						
In the context of this course the students, as future teachers in schools, learn how to plan, prepare, implement and evaluate various teaching and learning approaches for different Information Science subject matters. They are introduced to basic knowledge about e-learning in general and distance learning. The students are trained to use the information and communication technology (ICT) in education.						
Correspondence and correlation with the program						
The program is correspondent to the programs of other educational courses and informatics courses.						

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completion of course, students will be able to do the following:
identify and implement various teaching methods for different Information Science courses in primary and secondary schools
analyze teaching plans and programmes in primary and secondary schools
define the specific types and structures of lessons regarding the different Information Science courses
preparing and implementing the class in primary and secondary school by using computer technology
identify various types of ICT and approaches for using them in Information Science teaching in primary and secondary schools
explain what is e-learning and distinguish different types of e-learning
analyze approaches for using ICT and types of e-learning in order to choose the best of them in real situation in schools
identify various types of online communication in education, reflect on their characteristics for using in primary and secondary schools and implement some basic types

Course content

Relations of methodology of information science and pedagogy. Characteristics of informatics as a science and as a subject in schools. Methods for developing creativity and for introducing hypermedia in education. Teaching and learning methods that utilize computer technology.

Didactical principles in teaching information science courses. Training the students to configure and maintain the computer classrooms in schools.
Analyses of information science teaching plans and programmes in primary and secondary schools. The examples of specific types and structures of lessons regarding the different Information Science courses. Preparation for the class, planning, examination, and assessment. Using educational technology. Computer-based evaluation and assessment. School administration.
The main principles of planning, preparing, implementing and evaluating teaching and learning in the context of Information Science courses in primary and secondary schools.
E-learning and distance learning: definitions, advantages and disadvantages, types, technologies and methods. Recommendations for teaching, learning and communication in online courses. Synchronous and asynchronous computer-mediated communication (CMC): an overview of tools and their usage in education.
Using ICT in education in classes and online education. The role of information science teacher for enhancing the class by utilizing ICT.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	**Tutorials**	Field work

Comments:
During exercises the students are prepared for teaching practice at schools. They participate in the modeling of situations from the school and use ICT for teaching. The students analyze e-learning courses and programmes on WWW.
A part of the course is implemented online in order to give the students an example of such learning approach.

Student requirements

Students should actively participate in all forms of works, perform practical exercises and produce seminar papers. In the context of the course the students conduct the teaching practice at schools. They should pass the oral exam.
Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.
The seminar papers and practice at schools are the prerequisite for the oral part of the exam where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,5	**Class participation 0,5**	**Seminar paper 1**	Experiment
Written exam	Oral exam	Essay	Research work

	0,5		
Project work	**Continuous assessment 0,5**	Presentation	Practical work
Practice at school 1			
Comments:			

Required literature

Gugić, Seršić, Hrpka, Musser, Mirković, Bagarić (1999). *Priručnik metodike za nastavu računalstva i informatike*. Vinkovci: PENTIUM.
Textbooks for elementary and secondary schools
WWW learning materials for the course
Horton, W. (2000). Designing Web-Based Training. New York: John Wiley & Sons, Inc

Recommended literature

Čičin-Šain, M. (1990). *Kompjutorska početnica*. Zagreb: Školska knjiga.
Harris, J. (1995). *Way of the Ferret: finding and using educational resources on the Internet*, Second Edition. Oregon: International Society for Technology in Education (ISTE).

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code	
Course title	**EXPERT SYSTEMS**

General Information

Program	**INFORMATICS – MAJOR**				Year	**IV**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+15	

Course objectives

The course is meant to educate students about expert systems theory and programming. The course presents current methodologies and techniques of expert systems in detail. This course looks at knowledge representation and inference, problem solving and designing expert systems for a variety of applications. The course will concentrate on underlying principles illustrated by examples drawn from well known expert systems.

Correspondence and correlation with the program

Course program is in correlation with the program of the course Inteligentni sustavi (Inteligent systems).

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The student should learn:
- basic concepts of knowledge representation and aquisition of knowledge
- to implement methods of inference and reasoning
- how to design expert system using Prolog programming language.

The student should develop the skill of designing an expert system through practical work.

Course content

Introduction of expert systems. An overview of artificial intelligence. Symbolic computation. The representation of knowledge. Methods of inference. Reasoning under uncertainty. Inexact reasoning. Knowledge acquisition. Design of Expert systems. Logic Programming. Introduction to Prolog. Pattern matching. Machine learning.

Modes of instruction (mark in bold)

Lectures **2 hours**	**Seminars and workshops**	**Exercises**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	**Laboratory work 1 hour**	Tutorials	Field work

Comments:
Laboratory work will be done in a computer laboratory.

Student requirements

Students are expected to:
attend classes regularly

make necessary preparations for classes
do practical work
present seminar paper
pass the exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0.25**	**Class participation** **0.5**	**Seminar paper** **1.25**	Experiment
Written exam	Oral exam **0.5**	Essay	**Research work**
Project work	Continuous assessment	**Presentation** **0.5**	**Practical work** **1**

Comments:

Required literature

Joseph Giarratano and Gary Riley, Expert Systems - Principles and Programming, PWS Publishing, Boston, MA, 1998
Ivan Bratko, Prolog programming for artificial intelligence, Addison Wesley, 2000

Recommended literature

Peter Jackson, "Introduction to Expert Systems",Addison-Wesley, 1999
Leon Sterling and Ehud Shapiro, The art of Prolog, The MIT Press, 1994
Mario Radovan, Programiranje u Prologu, Informator, Zagreb, 1990

Quality assurance of course and/or module

Quality of the course will be monitored and measured through the success of examinations and through the anonymous inquiry reflecting students opinions regarding the course.

Course code							
Course title	**OPERATIONS RESEARCH**						
General Information							
Program	**INFORMATICS - MAJOR**					Year	**IV.**
Course status		Core	X	Elective			
Credits and Teaching							
			Winter semester		Summer semester		
ETCS credits / student workload			4				
Hours/semester			30+0+15				
Course objectives							
The objective of the course is to teach students basic concepts, results and methods of the operations research and train them to implement the acquired knowledge.							
Correspondence and correlation with the program							
Operations research correlates with mathematics courses of the study.							

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:

1. Correctly explain and analyze basic concept of operations research, first of all, linear and dynamic programming
2. Analyze and adequately implement mathematical models of linear, dynamic programming and Markov's chains.
3. Correctly explain and analyze special problems, for example, optimality principle.

Course content

Concept and development of operations research. Procedure for solving operations research problems. Convex sets and linear inequalities.

Linear programming. Problem definition in linear programming. Setting a mathematical model for linear programming. Graphical method for solving problems in linear programming. Solving linear programming problems using simplex method. Dual problems. Analysis of the optimal solution.

Dynamic programming. Mathematical definitions of basic concepts. Optimality principle. Simple distribution problem. Complex distribution problem.

Queuing theory. Main characteristics of queuing problems. Classification of queuing problems. Single-server and multiserver queuing system. Function of costs in queuing system.

Analysis of networks. Basic concepts in graph theory. Maximal throughput problem. Shortest path problem. Longest path problem.

Network planning. Network with branch activities. Critical path method and costs analysis. Problems in equipment procurement and replacement.

Discrete random processes. Markov's chains and application

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0.5**	Seminar paper	Experiment
Written exam 1	**Oral exam 1**	Essay	Research work
Project work	**Continuous assessment 0.5**	Presentation	Practical work

Comments:

Required literature

D. Barković, Operacijska istraživanja, Sveučilište Josipa Jurja Strossmayera u Osijeku,Ekonomski fakultet, Osijek, 2001.
D. Kalpić, V. Mornar*, Operacijska istraživanja*, Zeus, Zagreb, 1996.
Ž. Pauše, *Vjerojatnost. Informacija. Stohastički proces*, Školska knjiga, Zagreb, 1974.

Recommended literature

F.S. Hillier, G.J. Lieberman, *Introduction to Operations Research*, 3rd edition, Holden Day, 1980.
R.C. Larson, A.R. Odoni, *Urban operations research*, Prentice Hall, N J, 1981.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**HYPERMEDIA SYSTEMS IN EDUCATION**					
General Information						
Program	**INFORMATICS – MAJOR**				Year	**IV**
Course status		Core	X	Elective		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload					4	
Hours/semester					30 + 0 +30	
Course objectives						
In the context of this course the students acquire the basic knowledge about the concept of hypermedia and the future trends of hypermedia development. They are trained to use hypermedia courseware in education. The students are getting familiar with process of developing hypermedia courseware.						
Correspondence and correlation with the program						
The course program correlates with the courses Multimedia Systems and Teaching Methods in Information Science.						

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completion of course, students will be able to do the following:
identify and define the concept of hypermedia and hypermedia data model
analyze various types of hypermedia courseware in order to choose the best of them in real situation in schools
plan, prepare, develop and use hypermedia courseware
apply the principles of quality Web design and quality courseware design when developing the Web courseware
identify various types of computer-mediated communication (CMC) and computer-based tests in education, reflect on their characteristics for using in primary and secondary schools and implement some basic types

Course content

Definition of hypermedia. Comparison: multimedia, hypertext, hypermedia. Interactivity and levels of interactivity using computer. Hypermedia computer networks and global hypermedia (WWW).
Characteristics of hypermedia node-link data model. Problems with hypermedia model and possible solutions. Adaptive hypermedia. Structure of adaptive hypermedia systems. Methods and techniques for adaptation.
Role of hypermedia in education. Hypermedia courseware and using courseware for teaching

and learning.
Basic usage of hypermedia authoring tools for off-line and online hypermedia systems developing. Process of hypermedia courseware authoring. Comparison of off-line and on-line hypermedia courseware authoring. Phases in hypermedia courseware developing.
Designing hypermedia courseware: information design, interface design, and navigation.
Role and types of online testing in hypermedia courseware. Implementation of self-test quizzes.
Role and types of computer mediated communication (CMC) in hypermedia courseware. Implementation of asynchronous CMC.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students should actively participate in all forms of works, perform practical exercises and produce seminar papers. The students should produce a hypermedia courseware as an individual or team project. This project is the prerequisite for the oral part of the exam where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0,5**	**Seminar paper 2**	Experiment
Written exam	Oral exam **0,5**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Horton, W. (2000). Designing Web-Based Training. New York: John Wiley & Sons, Inc.
WWW learning materials for the course *Hypermedia Systems in Education*

Recommended literature

Hall, B. (1997). Web-based Training Cookbook. New York: John Wiley & Sons, Inc.
McCormack, C. & Jones, D. (1997). Building a Web-Based Education System. New York:

John Wiley & Sons, Inc.
Alessi, S., Trollip, S. (2000). Multimedia for Learning: Methods and Development (3rd Edition), Allyn & Bacon.
Adaptive Hypertext and Hypermedia Home Page, URL: http://wwwis.win.tue.nl/ah/
Application programes' tutorilas

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**INFORMATION TECHNOLOGY AND SOCIETY**					
General Information						
Program	**INFORMATICS – MAJOR**				Year	**IV.**
Course status	**X**	**Core**		Elective		
Credits and Teaching						

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

To introduce students into the dynamics of the development and spread of information and communication technology (ICT), as well as into the economic, social and cultural impacts this technology has. To present the development of various products of information industry and to point out on their economic and social impacts, as well as on the perspectives and challenges of their future development.

Correspondence and correlation with the program

This course is correlated with virtually all the others informatics courses. The content of this course presupposes the knowledge which is presented in other informatics courses, because this course gives a critical analysis and evaluation of information technology, of its products and of their social impacts. The content of this course especially presupposes an acquaintance with the basics of the computer communication systems.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students are expected to get an insight into the dynamics of the development, use and spread of information and communication technology (ICT), with the emphasis on the economic, social and cultural effects of this technology. Students are expected to get acquainted with various new products of information industry, with the causes and ways of their development, spread and use, as well as with the perspectives and challenges of their further development, as specified in the "Course content" below.

Course content

Historical development of the basic elements of information and communication technology (ICT): audio-devices, video-devices, computer technology, the Internet, wireless and mobile communication systems. Contemporary means and methods of mass communications: technological basis, contents, and impacts.

Network techno-economy and globalization. E-business and network corporations. The impact of the new technologies on the kinds and forms of work. Flexibility. General social environment and technological development. Models and factors of the technological and economic development. Information technology, social changes and social divisions.

Information technology and global business (economic) crime.

The culture of virtual reality: a new paradigm of space and time. Individual freedoms, communities, social institutions and the possibilities of control (surveillance) in the conditions of contemporary information technology. Social identity of the individuals, communities and organizations in the network society. Sources and forms of the resistance to the global techno-economy.

Technological, economic and social perspectives: multimedia, communication superhighways, and new technologies of data processing and transmission. The information society: interactive forms of communication, shaping and creation. Privacy, security and surveillance: risks and the possibilities of protection. Technological, economic and social perspectives: possibilities, challenges and dangers of the information age.

Modes of instruction (mark in bold)

Lectures **2 hours**	Seminars and workshops **1 hour**	**Exercises**	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students are required to take part in all forms of the work related to the course, and to write and present a paper (seminar), individually or in groups. (A group can comprise up to four students.) The entire knowledge of the student is examined and evaluated in the final oral examination.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	Class participation	**Seminar paper 2**	Experiment
Written exam	Oral exam **2**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Radovan, M.: *Information technology and society*, 2004. (digital course material, 144 pages; it is renewed every year; in Croatian language).

Webster, F. and, Puoskari, E. (eds): *The Information Society Reader*, Routledge, 2004.

Castells, M: *Internet galaksija: Razmišljanja o Internetu, poslovanju i društvu*, Naklada Jesenski i Turk, 2003.

Winston, B.: *Media Technology and Society: From the Telegraph to the Internet*, London: Routledge, 1998.

Recommended literature

May, C. (ed): *Key Thinkers for the Information Society*, Routledge, 2003.

Ong, A., Collier, J. S.: *Global Assemblages: Technology, Politics and Ethics as Anthropological Problems*, Blackwell, 2005.

Rheingold, H.: *The Virtual Community*, The MIT Press, 2000.

Rochlin, I. G.: *Trapped in the Net*, Princeton UP, 1997.

Quality assurance of course and/or module

Course code	
Course title	**DECISION SUPPORT SYSTEMS**

General Information

Program	**INFORMATICS - MAJOR**				Year	**V**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+30

Course objectives

The main course objectives is to learn how to build an decision support system.
Glavni ciljevi ovog kolegija su da studenti usvoje temeljna znanja iz područja izgradnje sustava za podršku odlučivanju.

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Course content

Decision making process. Individual and group decision making.
Elements of decision support systems arhitecture. Developing decision support systems. Methods and tools for DSS development.
Analitical information system. Difference betwen analitical and transactional information systems. Reasons for development of analitical IS.
Data warehouse. The spiral metodology of data warehouse development. Dimensional modeling. Multidimensional analitical processing. Data visualisation
Knowledge discovery. Data mining. Data preparationa. Prediction, grouping and classification. Output knowledge representation.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	Class participation	**Seminar paper 1**	Experiment
Written exam 1	**Oral exam 1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments: Preconditions are passed exams: Inteligent systems I, Databaseses and Information systems.

Required literature

Holsapple, C.W., Whinston, A.B., *Decision Support Systems: A Knowledge-Based Approach*, Course Technology, Cambridge, MA, 1996.
Turban, E., Aronson, J., *Decision Support Systems And Intelligent Systems*, Prentice Hall, Englewood Cliffs, N.J., 1998.
W. H. Inmon: Building the Data Warehuse; John Wiley & Sons; Canada, 1996
R. Kimball et al.: The Data Warehouse Lifecycle Toolkit, Expert Methods for Designing, Developing and Deploying Data Warehouses; John Wiley & Sons; Canada, 1998.
E. Thomsen: OLAP Solutions, Building Multidimensional Information Systems; John Wiley & Sons; Canada, 1997.
Ian W. Witten Data Mining, Morgan Kaufmann, 2000.

Recommended literature

Quality assurance of course and/or module

Course code						
Course title	**IS STRATEGIC PLANNING**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**V**
Course status	X	**Core**		Elective		

Credits and Teaching		
	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+30	

Course objectives

- Introduce students to basic concepts of information system strategic planning, with particular emphasize to understanding and implementation of IS strategic planning methods
- Train students for independent work in IS strategic planning, particularly in organization documentation analysis, understanding of organizational processes and genetic definition of organization information system

Correspondence and correlation with the program

The program correlates with coursers Information systems analysis, Information systems design, Software engineering, and it is necessarily preceded by course Information systems.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements in respect to course **IS Strategic planning**, students are expected to be capable of:

- Assessment of information system complexity in a particular organization on the basis of respective process model, valid organizational documentation and interview with management
- Analyzing existing business technology in a particular organization and proposing optimal strategic structure on the basis of information flows exchange,
- Assessment of organization readiness to introduce information system,
- Proposing database structure on the basis of analysis of the affinities existing among entities.

Course content

Information system basics. Descriptive and genetic definition of IS. IS genetic taxonomy space. Assessment of IS complexity on the basis of organizational processes. Genetic taxonomic series of particular IS. Basics on organizations. IT organization.
Review of IS development methods. Approaches to IS development. James Martin's information engineering pyramid. Waterfall model of IS development. Relation between strategic planning and IS strategic planning. Structure of IS strategic planning process. Methods of IS strategic planning. SWOT analysis. Decomposition of targets, structure and functions. Analysis of product/service life cycle. Matrix presentation of processes/data classes - business technology matrix. Optimal structure of business organizational system. Reengineering of business processes. Information system architecture - definition of information subsystems. Affinity calculation. Grouping of processes into organizational sub entities. Grouping of entities into databases. Special methods for information system design. Development of information subsystems.

Modes of instruction (mark in bold)

Lectures	Seminars **and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
During exercises, students independently solve some tasks occurring in implementation of IS strategic planning methods thus proving their understanding of issues referring to building information system.

Student requirements

Students should actively participate in all forms of works and should pass the exam consisting of written and oral part.

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **0,5**	Essay	Research work
Project work	**Continuous assessment** **0,5**	Presentation	Practical work

Comments:
Continuous collaboration with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.
Candidates must pass the Information system analysis exam and Information systems design exam in order to register for the IS Strategic planning exam.

Required literature

Dobrović, Ž: Strategijsko planiranje IS, elektronička skripta.

Dobrović, Ž., "Strategijsko planiranje, poslovna i informacijska arhitektura, Zbornik radova savjetovanja CASE 12, Opatija 2000.

Martin, J., Leben, J.: Strategic Information Planning Methodologies, Prentice Hall, Englewood Cliffs, N.J., 1989., p.328

Recommended literature

Brumec, J. (1996). A contribution to IS general taxonomy. In Proceedings of the 7th International Conference on Information Systems 96, p. 95-105, Varaždin, Croatia.

Brumec, J. (1998). Strategic Planning of Information Systems. Journal of Information and Organizational Sciences, Vol. 2, p. 11-26, Varaždin, Croatia.

Brumec, J. and V. Dušak (1999). The assessment of IS complexity based on genetic taxonomy. In Evolution and Challenges in System Development (ed. Zupančič, J. et al.), Kluwer Academic / Plenum Publishers, New York, USA.

Brumec, J., Dušak, V. and N. Vrček. (2001). Framework for strategic planning of information systems. In Proceedings of the 7th Americas Conference on Information Systems, pp. 1701-1707, Boston, USA.

Dobrović, Ž., “Metode oblikovanja softvera”, Zbornik radova savjetovanja CASE 13, Opatija 2001.
Pavlić, M.: Razvoj informacijskih sustava, Znak, Zagreb, 1996.
Ward, J., Griffiths, P.: Strategic Planning for Information Systems, John Wiley & Sons, New York, 1996.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**SOFTWARE ENGINEERING**					
General Information						
Program	**INFORMATICS - MAJOR**				Year	**V**
Course status	X	**Core**	X	Elective		
Credits and Teaching						
				Winter semester	Summer semester	
ETCS credits / student workload					4	
Hours/semester					30+0+30	

Course objectives

- Define and explain software engineering concepts,
- Introduce students to basic methods, techniques and principles of software product building,
- Foster engineering approach to application development,
- Make students competent for teamwork in development of various application solutions and software products.

Correspondence and correlation with the program

The course program correlates with the following courses: Information systems analysis, Information systems design and IS strategic planning.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements in respect to course **Software engineering** students are expected to be capable of:

- Producing design for a software product
- Drawing up software product architecture
- Drawing up user interface
- Accessing database and conducting data entry and data recovery

Course content

Software engineering concept. Formal principles of Software engineering. Methods and stages of software system development. Analysis and specification of request. System modeling.
Drawing up of system architecture. Drawing up of processes on logical and physical level. Drawing up of program modules. Functional and object oriented approach to drawing up. Drawing up of user interface.
Programming objectives and techniques. Prototyping and fast application development. PL/SQL procedures and algorithms. Procedures, packages, functions, triggers. Working with large databases. Processing of transactions including large quantities of data.
Software reusability. Verification and validation. Testing and finding defects. Static verification.
Evolution and maintenance of software system. Generally on maintenance. Configuration management. Software re-engineering.
Planning and management of development project. Quality assurance. Documenting of program system. Using CASE tools.

Modes of instruction (mark in bold)

Lectures	Seminars **and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
Exercises and consultations lead to seminar paper, which is actually an example of the software product.

Student requirements

Students should actively participate in all forms of works, produce a seminar paper and pass the exam consisting of written and oral part.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,75**	**Seminar paper** **1**	Experiment
Written exam **0,5**	**Oral exam** **0,5**	Essay	Research work
Project work	**Continuous assessment** **0,25**	Presentation	Practical work

Comments:
Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.
Candidates must pass the IS strategic planning exam in order to register for the Software engineering exam.

Required literature

Strahonja,V., Varga, M., Pavlić, M.: Projektiranje informacijskih sustava, INA-INFO, Zagreb, 1992.

Sommerville, I.: Software Engineering, 6th Edition, Addison-Wesley, Harlow, 2000.

3. Budgen, D.: Software Design, second edition, Addison Wesley, Harlow, 2003.

Recommended literature

Linthicum, D. S.: Enterprise Application Integration, Addison-Wesley Information Technology Series, Boston, 2000.

Radovan, M., Projektiranje ionformacijskih sistema, Informator, 1989.

McCullough.Dieter, C., Prem, J., Chandak, R., Chandak, P.: Oracle8 biblija, Znak, Zagreb, 1998.

Schach, S.R.: Classical and Object-Oriented Software Engineering - With UML and C++, Fourth Edition. McGraw-Hill, New York, 1999.

Pressman, R.S.: Software Engineering - A Practitioner's Approach, Fifth Edition. McGraw-Hill, New York, 2000.

Van Vliet, H.: Software Engineering - Priniples and Practice, Second Edition. John Wiley and Sons, Chicester UK, 2000

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code	
Course title	**SYSTEM THEORY**

General Information

Program	**INFORMATICS - MAJOR**				Year	**V.**
Course status		Core	X	Elective		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	4	
Hours/semester	30+0+15	

Course objectives

The objective of the course is to teach students basic concepts, results and methods of system theory.

Correspondence and correlation with the program

System theory correlates with mathematics course and Information system course.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing the course and meeting requirements, students are expected to be capable of:

1. Correctly explaining and analyze basic concepts of system theory.
2. Analyzing system theory literature and adequately implement acquired knowledge in information systems.

Course content

Basic concepts of system theory. Concept of system. Types of systems. System approach. Basics of system analysis. Purpose of analysis. Function of system. Analysis of system. Examples of system analysis in terms of modern research of system. System levels. Development of system. Basic synthesis of system. Mathematical description of system. Presentation of system structure. High order systems. Mathematical description of system's behavior. System's behavior in terms of time. System's functional dependencies. Reliability. Stability. Optimal control

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

During the semester, a student obtains required number of ECTS credits through regular attendance and active participation in all forms of lectures, completion of tasks assigned and elaboration of particular topic.

Student requirements

Regular class attendance and active participation in learning process, completion of certain number of tasks in respect to lectures and exercises. Student is supposed to pass written exam in respect to exercises as a precondition for taking the oral exam, where students' complete knowledge is evaluated and assessed.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0.5**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	**Continuous assessment** **0.5**	Presentation	Practical work

Comments:

Required literature

V. Čerić, *Simulacijsko modeliranje*, Školska knjiga, Zagreb, 1993.
D. Radošević, *Osnove teorije sistema*, Nakladni zavod Matice hrvatske, Zagreb, 2001.

Recommended literature

Ludwig Bertalanffy, *General Systems Theory,* 1995.
Klir, *Slices in System Theory*, New York,1991.
M. Žaja, *Poslovni sustavi*, Školska knjiga, Zagreb, 1993.

Quality assurance of course and/or module

Periodical evaluation and assessment of students and teachers is foreseen in order to provide continuous improvement of teaching quality. During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code						
Course title	**SYSTEM SIMULATION**					
General Information						
Program	**INFORMATICS – MAJOR**				Year	**V.**
Course status		Core	X	**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			4			
Hours/semester			30+0+15			
Course objectives						
Simulation is recently present in complex aplications and is based on new methods of system modelling. This course is aimed at teaching simulation methodology, techniques and application areas.						
Correspondence and correlation with the program						
Course program is in correlation with the programs of the courses: Programiranje I (Programming I), Programiranje II (Programming II), Objektno orijentirano modeliranje i programiranje 1 (Object-oriented modelling and programming 1), Objektno orijentirano modeliranje i programiranje 2 (Object-oriented modelling and programming 2), Vjerojatnost i statistika (Probability and statistics). These courses provide the necessary background for the course.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
The student should have learned the following: Difference between continuous and discrete simulation. The relationship between a real system, model, and simulation. How to select input distributions to drive a simulation. How to design a simulation experiment. How to evaluate the output of a simulation. The students should be able to apply these concepts and techniques to: Analyze a real system and formulate a model. Design and implement either a continuous or discrete event simulation. Identify input distributions for simulations using real system data. Conduct simulation experiments and interpret the results Present a report that addresses a specific question using the results of the simulation.						
Course content						
Concepts in Discrete-Event Simulation. Components and Organization of Discrete-Event Simulation. Serial Algorithms. Input Data Modeling. Verification and Validation Techniques. Output Data Analysis. Parallel and Distributed Simulation Algorithms. Model Design Techniques. Qualitative modelling and simulation. Simulation Languages.						
Modes of instruction (mark in bold)						
Lectures **2 hours**	**Seminars and workshops**	**Exercises**	**Independent work**	Multimedia and the Internet		
Distance	**Consultations**	**Laboratory work**	Tutorials	Field work		

learning		**1 hour**		

Comments:
Laboratory work will be done in a computer laboratory.

Student requirements

Students are expected to:
attend classes regularly
make necessary preparations for classes
do practical work
present seminar paper
pass the exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0.25**	**Class participation** **0.5**	**Seminar paper** **1**	Experiment
Written exam	Oral exam **0.5**	Essay	**Research work**
Project work	Continuous assessment	**Presentation** **0.75**	**Practical work** **1**

Comments:

Required literature

J. Banks, J. Carson and B. Nelson , Discrete-Event System Simulation, Prentice Hall, 1996.
A. Law and D. Kelton, Simulation Modeling and Analysis, McGraw Hill Publishing Co., 1991

Recommended literature

R.M. Fujimoto, Parallel and Distributed Simulation Systems, John Wiley, 2000
P. Fishwick , Simulation Model Design and Execution: Building Digital Worlds", Prentice-Hall, 1995.

Quality assurance of course and/or module

Quality of the course will be monitored and measured through the success of examinations and through the anonymous inquiry reflecting students opinions regarding the course.

Course code	
Course title	**PLANNING AND MANAGEMENT OF INFORMATION TECHNOLOGY PROJECTS**

General Information

Program	**INFORMATICS - MAJOR**				Year	**V**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

Introduce students to planning and management of project in the field of information and communication technology
Master method for network planning of IT projects

Correspondence and correlation with the program

The course program correlates with courses Information systems analysis, Information systems design, IS strategic planning and Software engineering.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After completing course **Planning and management of information technology projects**, students are expected to be capable of:

- Producing network plan for an IT project
- Calculating project costs
- Managing IT team

Course content

Project definition. Objectives, time frames, resources and restrictions. Project organization and method of work.
Projects types.
Project stages. Project activities planning. Network planning. PERT, CPM, Gantt chart. Critical path time analysis. Cost analysis. Resources analysis. Supervision of project realization.
Project teams. Types of teams. Roles in team. Roles in information technology development project.
Tasks and functions of a project manager. Motivation, communication and solving conflicts. Techniques for fostering creativity in team. Emotional intelligence and teamwork. Proactive management.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
Real life situations are simulated during exercises.

Student requirements

Students should actively participate in all forms of works, produce a seminar paper and pass the exam consisting of written and oral part

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,75**	Seminar paper	Experiment
Written exam **0,5**	**Oral exam** **0,5**	Essay	Research work
Project work **1**	**Continuous assessment** **0,25**	Presentation	Practical work

Comments:
Continuous cooperation with students and continuous monitoring of their engagements and advancement in mastering required knowledge provide continuous follow-up of students' works and activities.
Candidates must pass the Information systems exam in order to register for the Planning and management of information technology projects exam.

Required literature

Tudor, G., Srića, V.: Menedžer i pobjednički timovi, MEP Consult, Zagreb, 1996.
Meredith, Jack R. in Samuel J. Mantel, Jr.: Project Management, John Wiley & Sons, Inc., New York, 2000.

Recommended literature

Burke, Rory: Project Management, John Wiley & Sons, Chichester, 1999.

Quality assurance of course and/or module

During the last week of classes, a poll will be conducted, where students would evaluate the quality of classes. Students' achievements will be analyzed.

Course code	
Course title	**NATURAL LANGUAGE PROCESSING**

General Information

Program	**INFORMATICS – MAJOR**				Year	**IV**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		4
Hours/semester		30+0+15

Course objectives

The main course objective is an introduction to natural language processing and computational linguistics.

Correspondence and correlation with the program

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Course content

Introduction. What is NLP? Computational linguistics and language technologies. Language resources, corpora, lexicons and dictionaries.
Probabistic models of prunounciation and spelling. N-grams. Perplexity.
Syntax models. Morfolology analyzer. Part of speech tagging. Parsing with Context-free grammars. Semantic analysis. Representing meaning. Lexical semantics. Pragmatics.
Discourse. Dialogue and converational agents. Natural language generation.
Language identification. Computer aided translation. Machine translation. Information Retrieval.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **1**	Seminar paper	Experiment
Written exam **1**	**Oral exam** **1**	Essay	Research work
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

D. Jurafsky, J. H. Martin: Speech and Language Processing, An Intoduction to Natural Language Processing, Computational Linguistics and Speech Recognition, Prentice Hall, 2000.
C. Manning, H.Schütze: Foundations of Statistical NLP, MIT Press, Cambridge, Massachusetts, 1999.

Recommended literature

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Teaching module course:

Course code						
Course title	**DEVELOPMENTAL PSYCHOLOGY**					
General Information						
Program	*Teaching Module*				Year	**4**
Name of the course holder	Dr.sc. Sanja Smojver-Ažić					
Course status	**x**	**Core**		**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			3			
Hours/semester			1+0+1			

Course objectives

The main aim of the course is to familiarise students with the basic concepts of the development necessary for the understanding of the legality of upbringing and education. On the basis of perceptions regarding the psychological development of children and adolescence, to enable the understanding of applied educational procedures, as well as their appropriateness for a child's specific age. The sensitivity of students for specific functioning of children of various ages as well as the understanding of individual differences. The acquiring of assessment skills and critical judgement of the appropriateness regarding the upbringing-educational work with children and adolescence.

Correspondence and correlation with the program

The content of this course is in correspondence with similar courses in the education of teachers. The course correlates with: Educational psychology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Upon completing the course, the students will be able to:
understand specifics of development of mid-childhood and adolescence
recognise normal development and understand specifics of individual development and are sensitive to the individual differences among children
understand the role of the family and school in the development of the child in mid-childhood and the importance of the interaction these factors
develop skills of assessment and critical judgement of the appropriateness regarding the upbringing-educational work with children of various ages.

Course content

Developmental theories. Puberty and biological theories. Cognitive development. Concrete and abstract opinion. Intellectual development and achievement. Moral development. Self concept. Identity development. Growing up within a family. Relations with parents. The role of the school. Relations with peers. Peer groups. Violence in school. Sexuality. The role of the media in development. Stress in children and adolescents. Abuse. The problem of adjustment during adolescence (eating disorders, loneliness, suicidal tendencies, delinquent behaviour, drug consumption).

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent	**Multimedia**

			work	**and the Internet**
Distance learning	Consultations	**Laboratory work**	Tutorials	Field work
Comments:				

Student requirements

Students are required to participate actively in the lectures, give a presentation and write essays on a chosen topic. Students must take the written and oral examination.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0.2	Class participation **0.3**	Seminar paper	Experiment
Written exam 1	Oral exam **0.5**	**Essay 0.5**	**Research work**
Project work	Continuous assessment	**Presentation 0.5**	Practical work

Comments:

The final grade is based on the various elements: performing current teaching obligations, the evaluation of the written assignment and the knowledge on the exam. The examination is comprised of an objective written test, which means knowing of and understanding basic concepts. The passing criterion is 60% of correct answers. In the oral section, apart from the precision of teaching material interpretation, the level of understanding and connecting contents is also assessed.

Required literature

Vasta, R., Haith, M.M., Miller, S.A. (1998). *Dječja psihologija*. Jastrebarsko, Slap.
Lacković-Grgin, K. (2000.). *Stres u djece i adolescenata*, Jastrebarsko, Slap.

Recommended literature

Bastašić, Z., *Pubertet i adolescencija*, Školska knjiga, Zagreb, 1995.
Buljan-Flander, G., Kocijan-Hercigonja, D. (2003). *Zlostavljanje i zanemarivanje djece*, Marko.M., Zagreb
Jaffe, M.L. (1998). *Adolescence*. New York: Wiley & Sons Inc
Kimmel, D. C., Weiner, I.B.(1995) *Adolescence-developmental transition*, J. Wiley & Sons, inc.
Lacković-Grgin, K. (1993). *Samopoimanje mladih*, Jastrebarsko, Slap.
Olweus (1998). *Nasilje među djecom u školi*. Zagreb. Školska knjiga
Raboteg-Šarić, Z. (1995). *Psihologija altruizma*, Alinea

Quality assurance of course and/or module

The course quality will be monitored through discussions with the students, as with the application of questionnaire, for evaluating satisfaction with the course and lecturer's work.

Course code						
Course title	**Didactics**					
General Information						
Program					Year	**4**
Course status		**Core**		**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			5			
Hours/semester			60			

Course objectives

The objectives of this course are:

to get students acquainted with variety of didactical choices in teaching practice and their adequate use in teaching practice;
to enhance students for continiouos educational development and development of their teaching practice,
to motivate students for nurturing positive climate and team work in teaching;
to encourage students for basic research skills and constant inovation of their teaching practice.

Correspondence and correlation with the program

The content of this course corresponds with other courses dealing with different educational issues (teaching, learning, instructions). The course is prerequisite for further study of various didactical chapters.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

In order to fulfill his/her student requirements, students are expected to develope several competencies:

To interprete and analyse fundamental didactical concepts and theories;
To give critical interpretation of various didactical theories, schools of thoughts and models;
To analyse and use various didactical and methodical choices in actual educational and teaching practice;
To analyse and use adequately various didactical knowledge and skills (curriculum design; micro and macro organisation of teaching; using educational technology; assessment procedures; professional staff development of teachers etc.);
To carry out and interprete simple research projects in the field of didactics and to suggest possible improvements and innovations of teaching practice.

Course content

Methodological and epistemiological foundations of didactics. Terminology and didactical system. Education and teaching (aims, objectives and contents; regulations in teaching; didactical principles; factors, media and social forms). Theories and models of teaching and education. Didactical theories and schools of thoughts. Curriculum design. Theories of curricula. Educational and teaching situations. Didactical cycle and phases (preparation, realisation and evaluation). Educational technology. Macro and micro organisation of teaching. Trends in educational staff development.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	**Practicum**	Tutorials	Field work

Comments:
The course will be organised within interactive lectures and exercises. Part of the teaching will be organised in didactical practicum. Students will make a set of assignements individually. Teacher will be available for consultations during office hours and via e-mail.

Student requirements

Students are expected to come to class prepared to take active part in group discussions, to make a set of assignements in written form, to make individual or team work and to pass oral and written exam. Studies and researching of actual didactical problems will be rewarded. Students are expected to study required literature and choose at least two sources from the list of recommended literature. As a prerequisite for approaching to the exam, all written assignments should be accomplished and they should proove they are familiar with the actual problems and trends in the field of didactics.
Oral exam is organised at the end of the term. Students are expected to read required literature continuously during the term (to prepare for the group discussion).

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 2	**Class participation 1**	**Seminar paper 0,5**	Experiment
Written exam 0,5	Oral exam **1**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:
The final grade is a result of a continuous assessment: class preparation and participation in group discussions, quality of written assignements and knowledge demonstrated at the oral

and written exam.

Required literature

Jelavić, F. (2003). *Didaktika*. Jastrebarsko: Naklada Slap
Bognar, L. (2002). *Didaktika*. Zagreb: Školska knjiga
Poljak, V. (1991). *Didaktika*. Zagreb: Školska knjiga
Lavrnja, I (1998). *Poglavlja iz didaktike*. Rijeka: Pedagoški fakultet u Rijeci
Lavrnja, I.(2000). *Vježbe iz didaktike*. Rijeka: Pedagoški fakultet u Rijeci.

Recommended literature

Bežan, A., Jelavić, F., Kujundžić, N. i Pletenac, V. (1991). *Osnove didaktike*. Zagreb: Školske novine
Stevanović, M. (2003). *Didaktika*. Rijeka: Digital Point
Jensen, E. (2003). *Super-nastava. Nastavne strategije za kvalitetnu školu i uspješno učenje*. Zagreb: Educa
Kyriacu, C. (2001). *Temeljna nastavna umijeća*. Zagreb: Educa
Terhat,E. (2001). *Metode poučavanja i učenja*. Zagreb: Educa

Quality assurance of course and/or module

Teaching portfolio.
Stuents evaluation of teaching.
Co-operation with alumni (questionnaire on knowledge earned during the study, need for continous professional development)

Course code							
Course title	**SOCIOLOGY OF EDUCATION**						
General Information							
Program	***all***					Year	**4**
Course status		Core		Elective			
Credits and Teaching							
			Winter semester		Summer semester		
ETCS credits / student workload			**2**				
Hours/semester			**15+15**				
Course objectives							
Theoretical perspectives and theories in the sociology of education. The functions of education: socialization, social inequality and mobility, cultural and political functions.							
Correspondence and correlation with the program							
Necessary for the educational module. It is preferable to have the Introduction to sociology and/or Sociology of culture course completed.							
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)							
Knowledge about sociological perspectives on education. Understanding of the wider social context of the education and school systems. Development of critical abilities for the assessment of political, pedagogical and other interventions in the system of education.							
Course content							
An overview of the sociology of education: theoretical perspectives: functionalism, Marxism and interactionism.. Durkheim, Parsons, Marxism. Ideology, correspondence, reproduction. Development and the functions of education: three types of education through history, different educational ideologies, manifest and latent functions of education, socialization, social control, selection, allocation, social integration, change and innovation, social reproduction. Dimensions of socialization: behaviour, moral, culture. Socialization in historical and comparative perspectives. Family and school as the sites of socialization. The adolescent society. School as an institution. Does the school knowledge matter? Curriculum: purposes, levels and functions. Global perspectives, multiculturalism, hidden curriculum. School as an organization: formal and informal structure of school, students and teachers, the school environment. Merton: adaptation to anomie. Wood: students' adaptation to the school. Selection – opportunities and inequalities. Credentialism – advantages and shortcomes. Theories of meritocracy an reproduction. Social stratification – concept and theories. Global, gender and ethnic stratifications. Positional theory. Positive discrimination and compensatory education. Market, the state and culture. Knowledge society and the university.							
Modes of instruction (mark in bold)							
Lectures	Seminars and workshops	**Exercises**	**Independent**	**Multimedia**			

			work	**and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work
Comments:				

Student requirements

Class attendance, seminar paper, class participation, and exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,5	Class participation **0,25**	**Seminar paper 0,25**	Experiment
Written exam 0,5	Oral exam **0,5**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Ballantine, J. H., ***The Sociology of Education,*** Upper Saddle River, 1997.
Brint, S., ***Schools and Societies,*** Thousand Oaks, 1998.
Halsey, A. H. et al., ***Education: Culture, Economy, Society***, Oxford, 1997.
Haralambos, M. i M. Holborn, ***Sociologija: teme i perspektive***, Zagreb, 2002.

Recommended literature

Apple, M. W., ***Education and Power,*** New York, 1995.
Bernstein, B., ***Pedagogy, Symbolic Control and Identity,*** Lanham, 2000.
Castells, M. et al., ***Critical Education in the New Information Age,*** Lahnam, 1994.
Delanty, G., ***Challenging Knowledge: The University in the Knowledge Society,*** Buckingham, 2001.
Flere, S. (ur.), ***Proturječja suvremenog obrazovanja,*** Zagreb, 1986.
Giroux, H. A. i P. McLaren (eds.), ***Critical Pedagogy, the State, and Cultural Struggle,*** New York, 1998.
Karabel, J. i A. H. Halsey, ***Power and Ideology in Education,*** New York, 1977.
Morrow, R. A. i C. A. Torres, ***Social Theory and Education,*** New York, 1995.

Quality assurance of course and/or module

At the end of semester students will anonymously answer several questions concerning specific characteristic of the course quality.

Course code	
Course title	**Philosophy of Education**

General Information

Program	***NASTAVNIČKI MODUL***				Year	**IV.**
Course status		Core		Elective		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	**2**	
Hours/semester	**20+10+0**	

Course objectives

Introducing students with those philosophers who were engaged in philosophy of education through the history of philosophy and with issues of cognition, ethical theories through the history of philosophy, freedom of will, external world and other minds.

Correspondence and correlation with the program

The course is corresponding with other courses of similar content.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

It is expected that students will understand the basic notions of philosophy of education and will be able to apply them while working with pupils.

Course content

1. Introduction to philosophical disciplines.
2. Ethical theories through the history of philosophy.
3. Right-wrong; is-ought.
4. Freedom of will.
5. External world.
6. Other minds.
7. Issues of cognition (sources of cognition: rationalism, empiricism, criticism, irrationalism)
8. Survey of educational conceptions through the history of philosophy.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	**Independent work**	Multimedia and the Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	**Class participation**	**Seminar paper**	Experiment

0.5	**0.1**	**0.5**	
Written exam	Oral exam **0.9**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work
Comments:			

Required literature

Filozofska hrestomatija 1-9 (odabrani dijelovi), Školska knjiga, Zagreb 1996.
Nigel Warburton, Filozofija, KruZak, Zagreb 1999.

Recommended literature

1) Filozofija odgoja, ur. I. Čehok, Školska knjiga Zagreb 1997.

Quality assurance of course and/or module

The quality course evaluation is planned to be made by the lecturer herself (at the end of the course students will be asked to estimate the content, the methods leading out, teacher's work and the relationship to students), through the analyses of the realization of the expected outcomes of the course and by evaluations done at the Department or/and Faculty level.

Course code	
Course title	**PSYCHOLOGY OF PARENTING**

General Information

Program	***Teaching module***				Year	**IV.**
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload	2	
Hours/semester	15+0+15	

Course objectives

The course goal is to provide understanding of psychological aspects of parenting, parenting influences on children development in different developmental areas, different parenting situations. Introduction to the transactional nature of development and specific functioning of adults when they became parents.

Correspondence and correlation with the program

The course content corresponds with the content of similar courses at other universities.
It correlate with Developmental psychology; Educational psychology and Psychology of the pupils with special need, Psychology of intimate relations.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

After finishing the course the students will be able to:
Recognize the connection between parenting expectations and believing, and parental behaviours and their influences on children.
Identify challenges in parenting and planning preventive work with parents.
Develop a critical attitude about popular dealing with parenting problems.

Course content

Parenting across the lifespan; Parenting influences on vulnerability and resilience; Parenting and development of adults; Parenting roles: mother and father; Parenting children with special needs; Parenting in restructured families (single-parent families); Parenting stress; Parenting and quality of marriage; Parent education; Co-operation between parents and institutions; Parenting and the media..

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	**Multimedia and the Internet**
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students are expected attend regularly and participate actively in their class activities. They are expected to do a seminar paper. At the end of the semester students should pass an oral

exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0.7**	Class participation **0.3**	Seminar paper **0.3**	Experiment
Written exam	Oral exam **0.7**	**Essay**	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

The final course grade is determined on all activities during the semester, the seminar paper as a result of project work, the essay and the oral exam.

Required literature

Delač-Hrupelj, Miljković, D, Lugomer-Armano, G. (2000). *Lijepo je biti roditelj*, Zagreb: Creativa

Juul, J. (2002). *Razgovori s obiteljima: perspektive i procesi*. Zagreb: Alinea

Recommended literature

Buljan Flander, G., Karlović, A. (2004). *Odgajam li dobro svoje dijete*. Zagreb: Marko M.

Glascoe, F.P. (2002). *Suradnja s roditeljima*. Jastrebarsko: Naklada Slap.

Golombok, S. (2000). *Parenting: What really counts?* Philadelphia, PA: Routledge.

Gordon, T. (1996). *Škola roditeljske djelotvornosti*. Zagreb: Poduzetništvo Jakić

Miljković, D., Rijavec, M. (2002). *Bolje biti vjetar nego list*. Zagreb: IEP

Montgomery, M. J. (1999). *Building bridges with parents*. Corwin Press.

McEvan, E. K. (1998). *How to deal with parents who are angry, troubled, afraid or just plain crazy*. Corwin Press.

Schaie, K. W. & Willis, S. L. (2001). *Psihologija odrasle dobi i starenja*. Jastrebarsko: Naklada Slap (2nd chapter)

Quality assurance of course and/or module

The quality will be evaluated with a questionnaire designed to evaluate course programme, teaching methods and the interaction with students after first lectures at the end of the course.

Course Code						
Course Name:	**PEDAGOGY AND THE SOCIAL CONTEXT**					
General Information						
Program	**TEACHING MODULE PROGRAMME**				Year	**4**
Course status		Core	X	Elective		
Number of Points (credits) and course design						
			Winter semester		Summer semester	
ECTS coefficient of difficulty			**2**			
Number of hours per semester			**30**			
Course objectives						
Understanding and recognizing effects of social processes on the formation of the value system and education as well as an efficient work on the change of the educational practice. Introduction to the structure of the educational system, especially the role and function of the teacher. Develop interest and openness for accepting and improving innovation in all areas of educational work. Enable students to independently analyze research and interpret educational manifestations in school and society.						
Correspondence and correlation with the program						
This course correspondences and correlates with adequate knowledge and conceptions of educational disciplines (pre-school, school and comparative pedagogy, educational politics, adult education), as well as with psychology, sociology and philosophy.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
To analyze main pedagogic theories and terms and apply them in teacher practice; Recognize basic values of the society and democracy, as well as the actions of the school and teachers in affirming those values; Understand the educational system structure and the role of the teacher in the system; Recognize the role of the school in the society and analyze the effect of social processes on school development; Analyze organizational issues of the school, civil and cultural reality, work with students from different cultures; Familiarize with issues about ecology and change in the environment; Cooperate with parents and other factors in the environment; Understand ethical principles about teaching, working with associates and teamwork						
Course content						
Phenomenon of education and basic characteristics. Value aspect of education. Main educational areas. Modern pedagogy theories. Education as development. Implementation of modern theories in practice. Education as a social and humanistic phenomenon. Democratization, humanization and quality in education. Education as a creative process. Education and social change. Education and social transmission. Educational development strategies. Educational system in Republic of Croatia. School as a socio-cultural system. School and social values. School as a place for socialization and learning. School as a pedagogic institution. School autonomy. School curriculum and actions of the hidden curriculum. Relations between the school and the professional world. Mass communication and education.						
Modes of instruction (mark in **bold)**						
Lectures	Seminars and workshops	**Exercises**	Individual assignments	**Multimedia and Internet**		
Distance	Consultations	Lab	Mentoring	Field lectures		

learning				

Comments:
Certain parts of the contents will be both design, and presented to students in an appropriate IT (digital) form for analysis. E-learning.

Student requirements

There are three levels of student requirements identification. The first one stands for student's active involvement in the process of acquiring knowledge during the lectures and all other collateral complementary activities. The second one applies for student's individual work while performing the tasks defined in course operating program (seminar paper, exercises, project etc.). The third level of requirements applies to student's taking (successfully complete) both written and oral exams.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0,3 ECTS**	**Class activity** **0,5 ECTS**	**Seminar paper** **0,5 ECTS**	Eksperimental work
Written exam **0,2 ECTS**	Oral exam **0,5 ECTS**	Essey	**Research**
Project	Continuous testing	Report	Practice work

Comments:

Required literature

Gudjons, H. (1994). Pedagogija temeljna znanja. Educa, Zagreb. 1. 2., 4. i 12. chapter

Konig, E., Zedler, P. (2001). Teorije znanosti o odgoju. Educa, Zagreb. 5. part

Kyriacou, C. (2001). Temeljna nastavna umijeća. Educa, Zagreb. Poglavlja: Razvoj nastavnih umijeća i Disciplina

Marsh, C. (1994). Kurikulum: temeljni pojmovi. Eduka, Zagreb. 2. part

Mušanović, M., Rosić, V. (1997). Opća pedagogija. Pedagoški fakultet u Rijeci – skripta. 1. 2., 3. i 4. chapter

Ogbu, J. G. (1989). Pedagoška antropologija. Školske novine, Zagreb. 1. chapter

Recommended literature

Antić, S. (2000). Rječnik suvremenog obrazovanja, HPKZ, Zagreb.

Bratanić, M. (2002). Paradoks odgoja. II. izdanje, Hrvatska sveučilišna naklada, Zagreb.

Edgar, M. (2002) Odgoj za budućnost. Educa, Zagreb.

Giesecke, H. (1993). Uvod u pedagogiju. Educa, Zagreb.

Ledić, J. (1999). Škola i vrijednosti. Filozofski fakultet, Rijeka.

Legrand, L. (1993). Obrazovne politike. Educa, Zagreb.Madeelin, A. (1991). Osloboditi

školu: obrazovanje a la carte. Educa, Zagreb.

Pastuović, N. (1987). Edukološka istraživanja. Biblioteka suvremena istraživanja, Školske novine, Zagreb.

Stoll, L., Fink, D. (2000). Mijenjajmo naše škole. Educa, Zagreb.

Vrcelj, S. (2000). Školska pedagogija. Filozofski fakultet u Rijeci, Rijeka.

Vrcelj, S., Mušanović, M. (2001). Pedagoška futurologija - prema školi budućnosti. Graftrade, Rijeka.

Quality assurance of course and/or module

Quality assurance of the course will be monitored and noted on regular basis during the class performance. Quality assurance of the course will be valorized periodically through polls, questionnaires, assessment scales and discussions. Comments, suggestions and all other information gathered from valorization techniques are to be used with the aim to improve teaching quality, lectures and other alternative forms of working and teaching.

Course code						
Course title	**COMMUNICATION SKILLS**					
General Information						
Program	***Teaching module***				Year	4.
Course status		Core	X	**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload			2			
Hours/semester			15+0+15			
Course objectives						
The course goal is to provide understanding of fundamental knowledge about interpersonal communication, about verbal and nonverbal communication, and to enhance skills at interpersonal communication.						
Correspondence and correlation with the program						
This course is correspondent with similar courses on other universities. There are no prerequisites for this course. The course is correlated with social psychology.						
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)						
After completing this course, student will be able to communicate more skilfully, to recognize some courses of unsuccessful interpersonal communication, to improve nonverbal communication, and to learn some communication skills.						
Course content						
1. Effective communication: Components and process. Communication Types. Communication barriers. Cultural influences. 2. Verbal communication: Language, Meaning. Message clarity. Language formality. Gender differences in communication. 3. Nonverbal communication: Types of nonverbal communication. Functions. Nonverbal expressivity and sensitivity. Verbal and nonverbal contradiction. Self-presentation. 4. Communication in intimate relationships: Communication in family. Communication with partners. 5. Communication skills: - Listening. Importance of listening. Components. Active listening techniques. - Conflict and negotiation. Types of conflict. Causes and consequences. Conflict resolution. - Assertiveness: What is assertiveness. Causes of nonassertiveness. Special techniques of assertive communication. Public communication: Purpose of the speech. Characteristics of audience. Organising the speech. Presenting the speech. - Communication in the workplace: Communication in organisation. Communication climate. Communication in work teems. Leadership.						
Modes of instruction (mark in bold)						
Lectures	Seminars and workshops	Exercises	Independent work	Multimedia and the Internet		
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work		

Comments:

Student requirements

Students must be active and participate in class activities.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	Class participation 0.5	Seminar paper 0.5	Experiment
Written exam	**Oral exam**	Essay	**Research work**
Project work	Continuous assessment	Presentation	**Practical work**

Comments:

There is no final exam.

Required literature

Adubato, S., Foy DiGeronimo, T. (2004). Govorite iz srca. Alinea, Zagreb.
Reardon, K.K. (1987). Interpersonalna komunikacija, Alinea, Zagreb.
Schultz von Thun, F. (2001). Kako međusobno razgovaramo, Erudita, Zagreb.
Tannen, D. (1998). Ti to baš ne razumiješ, Zagreb, Izvori.
Zarevski P, Mamula M. (2000). Pobijedite sramežljivost - a djecu cijepite protiv nje, Slap, Zagreb.

Recommended literature

Adler, R.B., Rodman, G. (2000). Understanding Human Communication (7. izd.), Harcourt, F
Breakwell, G.M. (2001). Vještine vođenja intervjua**.** Jastrebarsko, Naklada Slap.orth Worth.
Burgoon, M., Hunsaker, F.G., Dawson, E.J. (1994). Human communication (3. Izd.), Thousand Oaks, Sage.
DeVito, J.A. (1989). The Interpersonal Communication Book, Harper & Raw, New York.
Ekman, P. (2003). Emotions Revealed. Holt, New York.
Knapp, M., Hall, J.A. (2002). Nonverbal Communication in Human Interaction, Wadsworth, Belmont.(5. izd.)
Lucas, S.E. (1998). The Art of Public Speaking. McGraw Hill, New York.
McDaniel, R. (1994). Scared Speechless: Public Speaking Step by Step, Thousand Oaks, CA, Sage.
Reardon, K.K. (1987). Interpersonalna komunikacija, Alinea, Zagreb.
Trenholm, S., Jensen, A. (2000). Interpersonal Communication, (4. izd.), Wadsworth, Belmont.
Tubbs, S. L., Moss, S. (1991). Human Communication (6. izd.), McGraw-Hill, New York.
Verderber, K.S., Verderber, R.F. (2001). Inter-Act. Interpersonal Communication Concepts, Skills, and Contexts, 9th ed., Wadsworth, Belmont.

Quality assurance of course and/or module

Quality will be evaluated through discussion with students and by quality. Efficiency will be evaluated student knowledge and course accomplishment.

Course code	
Course title	EDUCATIONAL PSYCHOLOGY

General Information

Program	TEACHER EDUCATION MODUL				Year	4
Course status	x	Core		**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		5
Hours/semester		30 + 0 + 30

Course objectives

The objective of this course is to apply the findings of psychology of learning to school practices. The students will acquire knowledge about main factors that contribute to successful learning, including students' characteristics and motivation for learning. The effect of social interaction on classroom learning will also be considered.

Correspondence and correlation with the program

The course is correspondent to similar courses in teacher education modul. The prerequisite is Developmental psychology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students will be able to:
describe and understand learning through classical conditioning in schools
apply principles of operant conditioning in clasroom
describe and understand theory of information processing
distinguish between different learning styles
apply effective learning strategies (mnemonic strategies, summarising, questioning)
explain intelligence and its effect on school achievement
explain relationship between self-concept and school achievement
describe and compare different theories about relation between motivation and school achievement
differentiate categories of social status in classroom and plan methods for social status improvement
understand components on student-teacher relationship
apply social skills in order to establish positive social interactions in classroom and change undesirable students' behaviours
understand different approaches to discipline management

Course content

Classical conditioning in classroom; Operant conditioning; Modeling; Self-regulation of behavior and mentoring; Information processing theory; Cognitive and metacognitive strategies; Intelligence and learning; Students' personality characteristics and learning; Motivation and learning; Interactions among students in classroom; Interaction between teachers and students; Different approaches to discipline management.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the**

				Internet
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students are required to attend classes regulary and actively participate; they are required to complete writen assignements based on clasroom practices, and pass three written preliminary exams during semestar and oral exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1,7	**Class participation 0,5**	Seminar paper	Experiment
Written exam	Oral exam **1,3**	Essay	**Research work**
Project work	**Continuous assessment 1,5**	Presentation	Practical work

Comments:

Writen assignements have to be positively evaluated. Students have to pass three written preliminary exams during semestar (passing criteria is 60%) and oral exam. Final grade will be based on evaluation of students' work during semestar (20%), preliminary exams (50%) and oral exam (30%).

Required literature

Kolić-Vehovec, S. (1999). *Edukacijska psihologija*. Filozofski fakultet, Rijeka.
Vizek-Vidović, V., Vlahović-Štetić, V., Rijavec, M., Miljković, D. (2003). *Psihologija obrazovanja*. Zagreb: IEP.

Recommended literature

Kroflin, L., Nola, D. (Ed.). (1987). *Dijete i kreativnost*. Zagreb: Globus.
Faber, A., Mazlish, E. (2000). *Kako razgovarati s djecom da bi bolje učila*. Zagreb: Mozaik knjiga.
Janković, J. (1996). *Zločesti đaci genijalci*. Zagreb: Alinea.
Neill, S. (1994). *Neverbalna komunikacija u razredu*. Zagreb: Educa.
Pintrich, P.R., Schunk, D.H. (1996). *Motivation in education: Theory, research and application*. Englewood Clifs, HJ: Prentice Hall.
Salovey, P., Sluyter, D.J. (1999). *Emocionalni razvoj i emocionalna inteligencija*. *Pedagoške implikacije*. Zagreb: Educa.
Winkel, R. (1996). *Djeca koju je teško odgajati*. Zagreb: Educa.

Quality assurance of course and/or module

Course quality will be assessed based on students' achievement on exams, and on students' evaluation of the course.

Course code						
Course title	**TEACHER'S UPBRINGING AND EDUCATIONAL STRATEGIES**					
General Information						
Program	**TEACHING MODUL PROGRAMME**				Year	**4**
Course status	**X**	**Core**		**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload					**3**	
Hours/semester					**30**	

Course objectives

Through development of theoretical knowledge and research and practical skills, the objective of the course is to prepare students for teaching and independent conduct of educational processes. By being introduced to theoretical, methodological and practical approaches to current pedagogical issues, students will develop abilities to think critically. During the course students will gain understanding for practical application of different educational strategies in teaching. Students will deepen their understanding of educational phenomena and will develop skills required for independent research and effective participation in educational practices. The course aims to increase interest and openness for introducing and accepting innovation in teaching practice. The ultimate goal of the course is to enrich the role of a teacher in educational process and to help students interpret education as a creative process of collaboration. Guiding students in creating and applying primary prevention programs, the course will help students to use appropriate educational tools for children and families.

Correspondence and correlation with the program

Teacher's upbringing and educational strategies course content corresponds with the content of similar courses in the studies of pedagogy, psychology, philosophy and sociology. The course relates to knowledge and insights in the following branches of pedagogy: primary and pre-school pedagogy, family pedagogy, methodology of educational process, adult education and psychology (developmental and educational).

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Develop ability to analyze synthesize and think critically about theoretical insights.
Be able to apply knowledge on educational strategies in educational practice.
Establish positive class atmosphere.
Develop competence to act properly in different educational situations with problematic character.
Prevent risky incidents in pedagogical practice.
Be able to conduct and interpret simple research projects.
Be able to carry out class projects and introduce innovations in teaching practice.
Apply contemporary forms of establishing cooperation with students and parents.
Be aware of the need for continuous professional improvement.
Lead the educational process independently and effectively.

Course content

Education as a process. Basic pedagogical theories. Macro and micro pedagogical approaches to education. Education of the environment. The relationship between family and institutional education. Educational strategies. Techniques of positive interpersonal communication. Recognizing children's different needs, interests and abilities. Strategies of coordination and appropriate education. Positive class atmosphere and modes of education. Prosocial behavior. Social competence. Common problems in socialization. Educational strategies in socialization and their application in practice. Models of directing class discipline. Discipline and punishment.
Current pedagogical issues and strategies of educational activities: children consumption of drugs and alcohol; leaving school and skipping classes; school failure; delinquent behavior; violence in family and school; risky lifestyles etc. Theoretical and methodological base for prevention. Primary, secondary and tertiary prevention. Primary prevention and upbringing and educational strategies. Preventive programs in schools. Schoolmates' preventive programs. Family and preventive programs. Basic methodological approaches in researching upbringing and educational reality. Action research. Case studies.
Establishing cooperation with parents. Compatibility and discrepancies in family-school relationship. Models of cooperation between family and school. Techniques of working with families. Individual and group work. Educational and advisory work. Duties of a homeroom teacher. Teacher's professional improvement. Constructive approach to education and innovation of educational practice.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
The course will include interactive lectures, seminars and lab in all of which group discussions will be encouraged. Students are expected to continuously be prepared for announced discussions (consultation of the literature, monitoring current events, researching internet resources etc).

Student requirements

Students are required to attend classes, actively participate in all forms of work, as well as to complete and present the set of exercises and a term paper which will show their understanding of theories, general skills and basic readiness for work and development of pedagogical practice. Class activity and the quality of completed assignments will form 50% of the final grade. Students are required to submit short written preparation for discussion which will contain collected materials. At least two topics have to be prepared this way. Upon conclusion of the lectures and completion of the assignments, students are required to pass written and oral exam.

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **1**	**Class participation** **0,3**	**Seminar paper** **0,4**	Experiment
Written exam **0,8**	Oral exam **0,2**	Essay	**Research work**
Project work	Continuous assessment	Presentation	**Exercises**/Practical work **0,3**

Comments:

Required literature

Bilić, V., Zloković, J. (2004), Fenomen maltretiranja djece. Oblici pomoći obitelji i školi. Zagreb: Naklada Ljevak, d.o.o. (str. 31-76)

Katz, L. G., McClellan, E. (1999), Poticanje razvoja dječje socijalne kompetencije. Zagreb: Educa. (str. 67-100)

Rosić, V., Zloković, J. (2002), Prilozi obiteljskoj pedagogiji. Rijeka: Filozofski fakultet, Odsjek za pedagogiju, Graftrade. (str.143-199)

Zloković, J. (1998), Školski neuspjeh-problem učenika, roditelja i učitelja. Rijeka: Filozofski fakultet. (str. 41-102)

Recommended literature

Bašić, J. i dr. (1994), Integralna metoda. Zagreb: Alinea.

Bratanić, M. (2002), Paradoks odgoja. Zagreb: II. izdanje, Hrvatska sveučilišna naklada.

Charles, C. M. (1996), Building Classroom Discipline. London: Longman Publishers.

Domović, V. (2003), Školsko ozračje i učinkovitost škole. Jastrebarsko: Naklada Slap.

Gossen, D. (1994), Restitucija - preobrazba školske discipline. Zagreb: Alinea.

Hentig, VonHarmut (1997), Humana škola: škola mišljenja na nov način. Zagreb: Educa.

XXX (1990), Konvencija o pravima djece. UNICEF.

Mušanović, M., Barbir, J. (2001), Modularni program prevencije zlouporabe droga. http://oip.pefri.hr/prevencija.

Salovey, P., Sluyter, D. (1999), Emocionalni razvoj i emocionalna inteligencija-pedagoške implikacije. Zagreb: Educa.

Vrcelj, S. (2000), Školska pedagogija. Rijeka: Filozofski fakultet u Rijeci.

Zloković, J. (2003), Modeli suradnje obitelji i škole. Đakovo: Tempo.

Quality assurance of course and/or module

Protocol for continuous monitoring of each student's progress will be formed. Student portfolio. Students will execute class evaluation Continuous cooperation with graduated students about the application of knowledge in practice and needs for additional training.

Course code	
Course title	**PSYCHOLOGY OF PUPILS WITH SPECIAL NEEDS**

General Information

Program	*Teaching Module*				Year	**4**
Name of the course holder	Mr. sc. Tamara Martinac Dorčić					
Course status		**Core**	x	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		**2**
Hours/semester		**1+0+1**

Course objectives

Acquiring knowledge regarding various entities of interferences in the psychophysical development on the level of primary damage and lack of various aetiologies. The emphasis is on the developing of a thwarted state, psychological consequences of various damages, and specifics of the functioning of pupils with special needs. The students are trained for a professional approach to pupils with special needs and their families, as well as for the collaboration with experts of various profiles with whom they will necessarily collaborate with in work with this special population.

Correspondence and correlation with the program

The content of this course is in correspondence with core courses in the education of teachers. The course correlates with: Educational psychology, and Developmental psychology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Recognise and differentiate various categories of pupils with special needs.
Compare features of psychological functioning at various groups and recognise the specific problems pupils with special needs are faced with.
Differentiate pupils according to the courses of learning difficulties, and knowing the specifics of work with gifted pupils.
Create individualised educational problems.
Know the forms of collaboration with parents through which they can indirectly encourage the learning of the pupil with learning difficulties.

Course content

The concept of individuals with special needs, classification, prevalence. Attitudes towards people with special needs, the process of stigmatisation and their effects on the psychological functioning of an individual with special needs. Problems within the family. Network of social care with individuals with special needs. Sensor damages. Physical damages. Speaking and language disorders. Learning difficulties. Insufficient mental development. Behavioural and emotional difficulties. Specifics of teaching pupils with difficulties. Gifted children. Teaching gifted children. Aetiology of entity, diagnostics and prediction. Visiting various institutions as well as lectures by experts from the practice is scheduled.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent	**Multimedia**

			work	**and the Internet**
Distance learning	Consultations	**Laboratory work**	Tutorials	Field work
Comments:				

Student requirements

Students are required to write a seminar paper, and take the examination.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0.5	**Class participation**	Seminar paper **0.5**	Experiment
Written exam 0.5	Oral exam **0.5**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Dulčić, A., Kondić, Lj. (2001). *Djeca oštećena sluha – priručnik za roditelje i udomitelje*. Zagreb: Alinea.

Kocijan-Hercigonja, D. (2000). *Mentalna retardacija – biologijske osnove, klasifikacija i mentalno zdravstveni problemi.* Jastrebarsko: Naklada Slap.

Ribić, K. (1991). *Psihofizičke razvojne teškoće*. Zadar: ITP Forum.

Vizek Vidović, V., Vlahović-Štetić, V., Rijavec, M., Miljković, D. (2003). *Psihologija obrazovanja*.(poglavlja: Učenici s posebnim potrebama; Daroviti učenici) Zagreb: Udžbenici Sveučilišta u Zagrebu.

Recommended literature

Davis, R.D., Braun, E.M. (2001). *Dar disleksije: zašto neki od najpametnijih ljudi ne znaju čitati i kako mogu naučiti*. Zagreb: Alinea.

Cvetković-Lay, J., Sekulić-Majurec, A. (1998). *Darovito je, što ću s njim?* Zagreb: Alinea.

Čuturić, N. (1995). Zabrinjava me moje dijete: ponašanje djece od 2. do 6. godine. Zagreb: Školska knjiga.

Kocijan-Hercigonja, D., Buljan-Flander, G., Vučković, D. (2002). *Hiperaktivno dijete uznemireni roditelji i odgajatelji.* Jastrebarsko: Naklada Slap.

Wenar, C. (2003). *Razvojna psihologija i psihijatrija od dojenačke dobi do adolescencije.* Jastrebarsko: Naklada Slap.

Quality assurance of course and/or module

The course quality will be monitored through discussions with the students, as with the application of questionnaire, for evaluating satisfaction with the course and lecturer's work.

Course code	
Course title	EFFECTIVE LEARNING METHODS

General Information

Program	TEACHERS EDUCATION MODUL				Year	4
Course status	x	Core		**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		2
Hours/semester		15+0+15

Course objectives

Cilj je upoznati studente s učinkovitim metodama učenja i načinima poučavanja učenika tim metodama c ciljem osposobljavanja učenika za cjeloživotno učenje. Student will acquire knowledge about effective learning strategies and methods for teaching learning strategies in order to prepare students for long-life learning.

Correspondence and correlation with the program

The course is correspondent to course Educational psychology. The prerequisite is Developmental psychology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Students will be able to:
apply effective learning strategies: rehearsal strategies, elaboration strategies and organisation strategies
self-regulate learning
apply instruction methods for teaching learning strategies

Course content

Learning strategies: rehearsal, elaboration and organisation; metacognitive strategies: planning, monitoring and regulation; Methods for teaching learning strategies: direct instruction, modeling, reciprocal teaching.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

Students are required to attend classes regulary and actively participate; they are required to complete writen assignements based on clasroom practices, and pass oral exam.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 0,8	**Class participation 0,2**	Seminar paper	Experiment

Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	**Continuous assessment** **0,5**	Presentation	Practical work

Comments:
Writen assignements have to be positively evaluated. Final grade will be based on evaluation of students' work during semestar (50%), and oral exam (50%).

Required literature

Pletenac, V. (2004). *Put prema uspješnom učenju ili kako treba učiti*. Jastrebarsko: Slap.
Zarevski, P. (1994). *Psihologija pamćenja i učenja.* Jastrebarsko: Slap.

Recommended literature

Browne, M.N., Keeley, S.M. (2000*). Striving for Excellence in College: Tips for Active Learning*. Prentice Hall.
Buzan, T. (2004). *Kako izrađivati mentalne mape*. Veble commerce.

Quality assurance of course and/or module

Course quality will be assessed based on students' achievement on exams, and on students' evaluation of the course.

Course code							
Course title	**Quality Assurance in School**						
General Information Vesna Kovač, PhD							
Program						Year	**V**
Course status		Core		Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload						**2**	
Hours/semester						**30**	

Course objectives

The objective of this course is to get students acquainted with the phenomenum of quality assurance in education and to get them understand their own role as teachers in quality assurance process. Special emphasis will be given on holistic approach to study this complex and muldimensional phenomenum.

Correspondence and correlation with the program

The course corresponds with other courses focused on exploring schools as organisation and educational strategies employed by teachers. Students are expected to know basic educational research methodology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

In order to fulfill his/her student requirements, students are expected to develope several competencies:

To interprete and analyse the phenomenum of quality assurance in educational context in its complex and multidimensional nature;
To suggest a plan of quality evaluation of school work and deffend choosen approach;
To suggest a programme of school quality improvement;
To determine and analyse school organisational culture and its influence on school quality;
To determine desired dimensions of school organisational culture and strategies to achieve desired dimension.

Course content

Quality assurance in education. Defining quality in education: approaches and difficulties. Problems in determining quality standards and indicators. Quality evaluation. Sumative and formative evaluation. External and internal evaluation. Purpose of evaluation. Improvement vs. accountability; decision making vs. organisational learning. Focus of assessment. Subjects in assessment. Body in assessment: self-assessment, peer assessment, external review, independent agency. Instruments for assessment. Results and reporting. *Top down* vs. *bottom up* approaches in quality assurance School organisational culture. Determination, analysis and modification of school organisational culture. Research into school organisational culture.

Organisational culture and quality assurance. School as learning organisation.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
The course will be organised within interactive lectures and seminars with the emphasis given on group discussions. Teacher will be available for consultations during office hours and via e-mail.

Student requirements

Students are expected to come to class prepared to contribute to discourse through assignments (critical review of literature and documents) and critical analysis of readings (they have to take active part in min. two discussions). They should keep their teaching portfolios.
Oral exam is organised at the end of the term. Students are expected to read required literature continuously during the term (to prepare for the group discussion).

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0,5**	Seminar paper	Experiment
Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:
The final grade is a result of a continuous assessment: class preparation and participation in group discussions and knowledge demonstrated at the oral exam.

Required literature

Weiss, C. H. (1998). *Evaluation. Methods for Studying Programs and Policies*. New Yersey: Pretice Hall.

Odabrani članci iz časopisa:
Quality Assurance in Education
Lomas, L. (1999). The Culture and Quality of Higher Education Institutions: Examining the

Links. *Quality Assurance in Education*. 7, 1, 30-34.
Glasner, A. (1997). Quality Assessment and Quality Enhancement: eliminating unsatisfactory provision. *Quality Assurance in Education.* 5, 4, 190-200.
Hinett, K. and Knight, P. (1996). Quality and Assessment. *Quality Assurance in Education*. 4, 3, 3-10.

Recommended literature

Alvesson, M. (2002). *Understanding Organisational Culture*. London: Sage Publications.
Brennan, J. and Shah, T. (2000). Quality Assessment and Institutional Change: Experiences from 14 countries. *Higher Education*. 40, 3, 331-349.

Quality assurance of course and/or module

Teaching portfolio.
Stuents evaluation of teaching.
Co-operation with alumni (questionnaire on knowledge earned during the study, need for continous professional development)

Course code	
Course title	**Rhetoric**

General Information

Program	***Teaching Module***				Year	
Course status		Core	X	**Elective**		

Credits and Teaching

	Winter semester	Summer semester
ETCS credits / student workload		**2**
Hours/semester		**15+15+0**

Course objectives

The objective of the course is to introduce the students to the main theoretical contents of rhetoric and to develop students' conscious attitude towards spoken communication in practice.

Correspondence and correlation with the program

Within the frame of other core courses of Teaching Module the course Rhetoric correlates with Introduction to Literacy Skills and with methodological courses of a specific profession. The seminar part of the course develops students' skills which can be used in other courses which expect the students to have competence of specific oral expression (e.g. oral presentations, discussions, comments etc).

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Development of a conscious attitude towards spoken communication. A higher level of speech production competence and development of analytical qualities in speech reception.

Course content

Communication, rhetoric, theme, skill of successful listening of speech. Speech as basic rhetoric category (formation, composition, methods in preparing the speech). Argumentation of thesis, logical conclusions, noticing of logical mistakes. Rhetoric figures, eristic means, modal expressions. Role of prosody in organizing spoken message. Debate (rules of debating, role of participant, articulation of debate). Nonverbal signs and etiquette of speaking. Fear and nerves (causes of their origin, ways of their suppression).

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	Tutorials	Field work

Comments:

Student requirements

The students are expected to actively participate in seminars (commenting, debating). During the semester, each student is expected to prepare and make a speech.

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	**Class participation**	Seminar paper	Experiment
Written exam	Oral exam	Essay	**Research work**
Project work	Continuous assessment	**Presentation**	Practical work

Comments:

Required literature

Aristotel, *Retorika*, Zagreb, 1989.
Ivas, I, *Ideologija u govoru*, Zagreb, 1988.
Petrović, G., *Logika*, Zagreb, 1991.
Škarić, I., *U potrazi za izgubljenim govorom*, Zagreb 1988.
Škarić, I., *Temeljci suvremenoga govorništva*, Zagreb 2000.

Recommended literature

Badurina, L., *Akademski diskurs*, u: Riječki filološki dani, zbornik radova 4, Rijeka 2002. str. 189-206.
Beker, M., *Kratka povijest antičke retorike*, Zagreb, 1997.
Biti, V. *Pojmovnik suvremene književne teorije*, Zagreb 1997.
Bourdieu, P., *Što znači govoriti?*, Zagreb, 1992.
Gregory, H., *Public Speaking for College and Career*, New York, 1990.
Kovačević, M. i Badurina, L., *Raslojavanje jezične stvarnosti*, Rijeka, 2001.
Kvintilijan, M. F., *Obrazovanje govornika*, Sarajevo, 1985.
Silić, J., *Novinarski stil hrvatskoga standardnog jezika*, u: Kolo, br. 3, Zagreb 1997, str. 495–513.
Silić, J., *Znanstveni stil hrvatskoga standardnog jezika*, u: Kolo, br. 2, Zagreb 1997, str. 397–415.
Ueding, G. i Steinbrink, B., *Grundriss der Rhetorik*, Stuttgart – Weimar, 1994.

Quality assurance of course and/or module

Students' evaluation, colleagues' evaluation, success at examination, evaluation of the proposed and conducted seminar and research assignments.

Course code						
Course title	**CHILDREN VIOLENCE PREVENTION**					
General Information						
Program	**TEACHING MODUL PROGRAMME**				Year	**4**
Course status		Core	X	Elective		

Credits and Teaching	Winter semester	Summer semester
ETCS credits / student workload		**2**
Hours/semester		**30**

Course objectives

Introduce students with theories, approaches and contemporary models of violence prevention. Adopt knowledge and critical thinking on prevention programs. Instruct and qualify for theoretical and practical implications of the programs. Introduce basic stages of program creation, execution and evaluation. Enable competent application of prevention programs in different educational settings. Understand complex role of the school and family in preventing risky behaviors. Enable application of educational strategies in preventing risky behaviors. Interdisciplinary approach to prevention.

Correspondence and correlation with the program

Children violence prevention course content corresponds with the content of similar courses in the studies of pedagogy, psychology, philosophy and sociology. The course relates to knowledge and ideas in the following branches of pedagogy: primary and pre-school pedagogy, family pedagogy, methodology of educational process, adult education and psychology (developmental and educational).

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

Adopt knowledge on contemporary models of violence prevention.
Develop independent critical thinking about educational prevention programs.
Be able to apply knowledge and skills in preventing asocial behavior
Develop competence to execute primary prevention programs in different educational settings.
Adopt knowledge and skills needed for establishing quality cooperation with children and parents.
Apply new theoretical insights and skills for innovation and quality improvement of primary prevention programs.
Adopt knowledge and ability for interdisciplinary cooperation.

Course content

Theoretical concepts of violence. Theories of models and simulated situations. Contemporary models of family violence prevention (educational, integrative, ecological, social, developmental etc). Model of school violence prevention. Methods, techniques and stages of creating educational preventive programs. Educational strategies in primary prevention. Schoolmates' prevention programs. School and family partnership. Mass media. Social environment. Evaluation of prevention programs. Methods of scientific research and development of prevention programs. School advisory work and violence prevention. Dynamic-intersystematic model of educational practice. Establishing the network of

prevention. Constructive-humanistic approach to child and family problems.
National child protection program. Case studies. Institutions in violence prevention and child protection.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	Exercises	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	**Field work**

Comments:
The course will include interactive lectures, seminars and lab in all of which group discussions will be encouraged. Students are expected to continuously be prepared for announced discussions (consultation of the literature, monitoring current events, researching internet resources etc).

Student requirements

Students are required to attend classes, actively participate in all forms of work, as well as to complete and present the set of exercises and a term paper which will show their understanding of theories, general skills and basic readiness for work and development of pedagogical practice. Class activity and the quality of completed assignments will form 50% of the final grade. Students are required to submit short written preparation for discussion which will contain collected materials. At least two topics have to be prepared this way. Upon conclusion of the lectures and completion of the assignments, students are required to pass an oral exam.

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0,2**	Seminar paper	Experiment
Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	Continuous assessment	Presentation	**Exercises**/Practical work **0,3**

Comments:

Required literature

Bilić, V., Zloković, J. (2004), Fenomen maltretiranja djece - Oblici pomoći obitelji i školi. Zagreb: Naklada Ljevak, d.o.o. (str.125-159)

Čiček, K. (1996), Mjesto i uloga škole u preventivnom radu s adolescentima i njihovim roditeljima. Zagreb: Napredak, br. 3. (str. 7)

Munro, E. (2002), Effective Child Protection.London: Sage Publications Ltd. (str. 8-28; 142-171)

Zloković, J. (2004), Students Perception of a Safe and Humane School and Family. XIV

World Congreso Mundial de Ciencias da la Education «Educadores para una nueva cultura» 10-14. maja, 2004, Chile, Santiago de Chile: Chatolica University. Priopćenje na međunarodnom znanstvenom skupu (str. 7)

Zloković, J. (2005), Nasilje među djecom. Zagreb: Pedagogijska istraživanja, br. 2. (str.8)

XXX (2002), Nacionalna strategija za djecu i mlade. Zagreb: Državni zavod za zaštitu obitelji, materinstva i mladeži. (str. 4-25)

XXX Mrežni izvori. Www.

Recommended literature

Halmi, A. (1996), Kvalitativna metodologija u društvenim znanostima. Zagreb: A. G. Matoš, Delhi.

Leburić, A., Tomić-Koludrović, I. (2001), Skeptična generacija, Životni stilovi mladih u Hrvatskoj. Zagreb: AGM.

Mušanović, M. (1994), Teoretične osnove kurikuluma polikulturne škole. Pedagoška obzorja, br.2, str. 52-58.

Vrcelj, S. (2000), (Ne)mogućnost djelovanja škole na razvoj(nost) učenika. U: Didaktičkni in metodični vidiki nadaljnjega razvoja izobraževanja, br.1, str.111-115.

Zloković, J. (1999), Implementacija multiinteraktivnog koncepta u suvremenom nastavnom radu sa zapuštenom djecom. U: Rosić, V. (ur.) Nastavnik – čimbenik kvalitete u odgoju i obrazovanju, The Teacher as a Contributor to Quality in Education. Međunarodni znanstveni kolokvij u Rijeci, Collection of scientific papers, 25-26. ožujka 1999. godine. Rijeka: Sveučilište u Rijeci, Filozofski fakultet u Rijeci, Odsjek za pedagogiju, str. 494–503.

Zloković, J. (2001), Pedagoški aspekti rada učitelja sa zapuštenom djecom. Neobjavljeni doktorski rad, obranjen 17.05.2001 na Filozofskom fakultetu u Rijeci.

XXX (2003), Prioritetne aktivnosti za dobrobit djece od 2003 do 2005 godine. Zagreb: Vlada Republike Hrvatske.

XXX Mrežni izvori. Www.

Quality assurance of course and/or module

Protocol for continuous monitoring of each student's progress will be formed. Student portfolio. Students will execute class evaluation Continuous cooperation with graduated students about the application of knowledge in practice and needs for additional training.

Course code							
Course title	**COMPUTERS IN TEACHING**						
General Information							
Program	***TEACHING MODULE PROGRAMME***					Year	**4.**
Course status		Core		**Elective**			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload					2		
Hours/semester					15+0+15		
Course objectives							
The aim of this course is to present the fundamental knowledge about computer applications used in the teaching process.							
Correspondence and correlation with the program							

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

The students will be introduced to computer literacy and to some computer applications used for teaching and learning.

Course content

Information technology. Introduction to computer architecture. Operating systems. Application software. Computer networks. Internet. E-books. Information search. Applications for the preparation of teching materials. Applications for course development.

Modes of instruction (mark in bold)

Lectures	**Seminars and workshops**	Exercises	**Independent work**	Multimedia and the Internet
Distance learning	**Consultations**	Laboratory work	**Tutorials**	Field work

Comments:

Student requirements

It is compulsory for students to attend exercises. A student has to pass the written (practical) part of the examination which regards the exercises, as the precondition to take the oral part of examination where the complete knowledge of the student is examined and evaluated

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen

categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance	**Class participation**	Seminar paper	Experiment
Written exam	**Oral exam**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:

Required literature

Skupina autora, *Poslovno računarstvo*, Znak, Zagreb, 1999.
Williama, K.B. , Stacey, S.C., Hutchinson, E.S., Using information Technology, Richard D. Irvin Inc., 1995.

Recommended literature

Quality assurance of course and/or module

Annonimus poll in the end of semester. Statistical reports on results obtained on quizies, partial exams, homeworks and final project. In the end statistical report on passing.

Course code						
Course title	**Introduction to Educational Policy Analysis**					
General Information Vesna Kovač, PhD						
Program					Year	**V**
Course status		**Core**		**Elective**		
Credits and Teaching						
			Winter semester		Summer semester	
ETCS credits / student workload					**2**	
Hours/semester					**30**	

Course objectives

The objective of this course is to get students acquainted with basic skill of educational policy studies and analysis. Students are expected to evaluate various decisions in educational policy and suggest better solutions based on outcomes of analysis.

Correspondence and correlation with the program

The course corresponds with core and elective courses oriented to contemporary trends in education, emphasizing the importance of basic concepts of educational policy and active role of various educational experts in this process. It also corresponds with the courses on educational research methodology. Students are expected to know basic concepts of educational policy and to be familiar with actual trends and events in educational policy and practice.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

In order to fulfill his/her student requirements, students are expected to develope several competencies:

To describe all phases of educational policy analysis (problem identification and formulation; dana collection regarding the chosen problem in its all manifestations; definition of desired outcomes and alternative strategies of problem determination; determination of criteria for decision making process; implementation of alternative decisions and solutions);
To produce and transform relevant information regarding educational policy that can be used in the process of problem solution or decision making.

Course content

Professionalization of educational policy analysis. Phases of educational policy analysis. Educational policy cycle. Problem identification and formulation. Data collection. Definirion of adequate solutions and strategies. Determination of criteria for decision making. Instruments for education policy studies. Implementation and evaluation. Institutions for education policy analysis.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:

The course will be organised within interactive lectures and seminars with the emphasis given on group discussions. Students are expected to prepare for group discussion (readings, searching internet, collecting actual information in media, establishing contacts with similar institutions and departments home and abroad...). Teacher will be available for consultations during office hours and via e-mail.

Student requirements

Students are expected to come to class prepared to contribute to discourse through assignments (critical review of literature and documents) and critical analysis of readings (they have to take active part in min. two discussions). They should keep their teaching portfolios.
Students are expected to read required literature continuously during the term (to prepare for the group discussion).

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance (1)	**Class participation (0,5)**	Seminar paper	Experiment
Written exam	Oral exam **(0,5)**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:
The final grade is a result of a continuous assessment: quality of class preparation and participation in group discussions and knowledge demonstrated at the oral exam.

Required literature

Apple, M. W. (2003). Down From the Balcony: Critically Engaged Policy Analysis in Education. *Educational Policy*. 17, 2, 280-287.

Colebatch, H. K. (1998). *Policy*. Buckingham: Open University Press.

Vrgoč, H. (izv. ur.).(2002). *Koncepcija promjena odgojno-obrazovnog sustava u Republici Hrvatsko*j. Zagreb: Ministarstvo prosvjete i športa.

Strategija razvoja Republike Hrvatske. Odgoj i obrazovanje. Bijeli dokument o hrvatskom obrazovanju. Zagreb: Ured za strategiju razvitka RH, 2001. Radna grupa: Pastuović, N. i dr.

Johnson, Jr. B. L. (2001). Micropolitical Dynamics of Education Interests: A View from Within. *Educational Policy*, 15, 1, 115-134.

Pastuović, N. (1996). Upravljanje i reformiranje obrazovnih sustava: osvrt na reforme u postkomunističkim zemljama . *Društvena istraživanja*. 5, 1.

Recommended literature

Books (selected chapters):

Weimenr, D. L. i Vining, A. R. (1998). *Policy Analysis: Concepts and Practice*. London: Prentice Hal.

Gallacher, N. (ur.) (2001). *Governance for Quality of Education*. Conference Proceedings. Budapest: Open Society Institute & World Bank.

Scribner, J. D.; Aleman, E. i Maxcy, B. (2003). Emergence of the Politics of Education Field: Making Sense of the Messy Center. *Education Administration Quarterly*. 39, 1, 10-40.

Cibulka, J. G. (2001). The Changing Role of Interest Groups in Education: Nationalization and the New Politics of Education Productivity. *Educational Policy*. 15, 1, 12-40.

Timar, T. i dr. (2001). *Proceedings of the Educational Policy Workshop*. Kyiv: Context Publishing House.

Whitty, G. (2002). *Making Sense of Education Policy*. London: Institute of Education.

Weiss, C. (1998). *Evaluation. Methods for Studying Programs and Policies*. New Yersey: Prentice Hall.

Journals (selected articles):
Educational Policy. Urednik: Altbach, P. i dr. ISSN: 0895-9048 Corwin Press, Int.

Internet sources.

South East European Educational Cooperation Network.
http://www.see-educoop.net

Documenst of relevent international organisations interested in educational issues (UNESCO, OECD, EU, World Bank itd.)

Quality assurance of course and/or module

Teaching portfolio.
Students evaluation of teaching.
Co-operation with alumni (questionnaire on knowledge earned during the study, need for continous professional development)

Course code							
Course title	**Quality Assurance in School**						
General Information Vesna Kovač, PhD							
Program						Year	**V**
Course status		Core		Elective			
Credits and Teaching							
					Winter semester	Summer semester	
ETCS credits / student workload						**2**	
Hours/semester						**30**	

Course objectives

The objective of this course is to get students acquainted with the phenomenum of quality assurance in education and to get them understand their own role as teachers in quality assurance process. Special emphasis will be given on holistic approach to study this complex and muldimensional phenomenum.

Correspondence and correlation with the program

The course corresponds with other courses focused on exploring schools as organisation and educational strategies employed by teachers. Students are expected to know basic educational research methodology.

Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)

In order to fulfill his/her student requirements, students are expected to develope several competencies:

To interprete and analyse the phenomenum of quality assurance in educational context in its complex and multidimensional nature;
To suggest a plan of quality evaluation of school work and deffend choosen approach;
To suggest a programme of school quality improvement;
To determine and analyse school organisational culture and its influence on school quality;
To determine desired dimensions of school organisational culture and strategies to achieve desired dimension.

Course content

Quality assurance in education. Defining quality in education: approaches and difficulties. Problems in determining quality standards and indicators. Quality evaluation. Sumative and formative evaluation. External and internal evaluation. Purpose of evaluation. Improvement vs. accountability; decision making vs. organisational learning. Focus of assessment. Subjects in assessment. Body in assessment: self-assessment, peer assessment, external review, independent agency. Instruments for assessment. Results and reporting. *Top down* vs. *bottom up* approaches in quality assurance School organisational culture. Determination, analysis and modification of school organisational culture. Research into school organisational culture.

Organisational culture and quality assurance. School as learning organisation.

Modes of instruction (mark in bold)

Lectures	Seminars and workshops	**Exercises**	Independent work	**Multimedia and the Internet**
Distance learning	Consultations	Laboratory work	Tutorials	Field work

Comments:
The course will be organised within interactive lectures and seminars with the emphasis given on group discussions. Teacher will be available for consultations during office hours and via e-mail.

Student requirements

Students are expected to come to class prepared to contribute to discourse through assignments (critical review of literature and documents) and critical analysis of readings (they have to take active part in min. two discussions). They should keep their teaching portfolios.
Oral exam is organised at the end of the term. Students are expected to read required literature continuously during the term (to prepare for the group discussion).

Evaluation and Assessment
Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance 1	**Class participation 0,5**	Seminar paper	Experiment
Written exam	Oral exam **0,5**	Essay	**Research work**
Project work	Continuous assessment	Presentation	Practical work

Comments:
The final grade is a result of a continuous assessment: class preparation and participation in group discussions and knowledge demonstrated at the oral exam.

Required literature

Weiss, C. H. (1998). *Evaluation. Methods for Studying Programs and Policies*. New Yersey: Pretice Hall.

Odabrani članci iz časopisa:
Quality Assurance in Education
Lomas, L. (1999). The Culture and Quality of Higher Education Institutions: Examining the

Links. *Quality Assurance in Education*. 7, 1, 30-34.
Glasner, A. (1997). Quality Assessment and Quality Enhancement: eliminating unsatisfactory provision. *Quality Assurance in Education.* 5, 4, 190-200.
Hinett, K. and Knight, P. (1996). Quality and Assessment. *Quality Assurance in Education*. 4, 3, 3-10.

Recommended literature

Alvesson, M. (2002). *Understanding Organisational Culture*. London: Sage Publications.
Brennan, J. and Shah, T. (2000). Quality Assessment and Institutional Change: Experiences from 14 countries. *Higher Education*. 40, 3, 331-349.

Quality assurance of course and/or module

Teaching portfolio.
Stuents evaluation of teaching.
Co-operation with alumni (questionnaire on knowledge earned during the study, need for continous professional development)

Course Code							
Course Name:	**SCHOOL MANAGEMENT**						
General Information							
Program	**TEACHING MODULE PROGRAMME**					Year	**4**
Course status		Core		X	Elective		
Number of Points (credits) and course design							
					Winter semester	Summer semester	
ECTS coefficient of difficulty						**2**	
Number of hours per semester						**30**	
Course objectives							
Introduce students to school management as an area of coordinating resources in education to achieve objectives of the education activities and their components.							
Correspondence and correlation with the program							
This course correspondences and correlates with adequate knowledge and conceptions of educational disciplines (pre-school, school and comparative pedagogy, educational politics, adult education), as well as with psychology, sociology and philosophy.							
Expected outcomes of the course and/or module (development of general and specific competencies, knowledge and skills)							
Understanding school management, administration and operation as an organization with a function of educational development. Learn how to actively participate in administration and management of an educational institution.							
Course content							
School management as an area of expertise. Management and school management relations. School management components: administration, management, leadership and school as an organization. Administrative and pedagogical management in education. Decentralizing management and the role of local community. Parents and school management. Main functions of management: planning, organizing, leadership and valuing school performance. Leadership as a managerial function. Communication and leadership. Leadership and conflict resolution. Leadership for encouragement for creative and innovative work. Styles of leadership in school. Trends of change in school management.							
Modes of instruction (mark in **bold)**							
Lectures	Seminars and workshops	**Exercises**	**Individual assignments**	**Multimedia and Internet**			
Distance learning	Consultations	Lab	Mentoring	Field lectures			
Comments: Certain parts of the contents will be both design, and presented to students in an appropriate IT (digital) form for analysis. E-learning.							
Student requirements							
There are three levels of student requirements identification. The first one stands for student's active involvement in the process of acquiring knowledge during the lectures and all other collateral complementary activities. The second one applies for student's individual work while performing the tasks defined in course operating program (seminar paper, exercises, project etc.). The third level of requirements applies to student's taking (successfully complete) both written and oral exams.							

Evaluation and Assessment

Mark in **bold** only the relevant categories and fill in the appropriate number of points for each of the chosen categories so that the sum of the allocated points corresponds to the course credit value. Add new categories, if necessary.

Class attendance **0,2 ECTS**	**Class activity** **0,5 ECTS**	**Seminar paper** **0,5 ECTS**	Eksperimental work
Written exam **0,3 ECTS**	Oral exam **0,5 ECTS**	Essey	**Research**
Project	Continuous testing	Report	Practice work

Comments:

Required literature

DRANDIĆ, B. (ur.) (1993). **Priručnik za ravnatelje odgojno-obrazovnih ustanova**. Zagreb: Znamen. **(1. i 2. poglavlje)**

SILOV, M. (ur.) (2001). **Suvremeno upravljanje i rukovođenje u školskom sustavu.** Zagreb: Persona. **(1. do 5. poglavlje)**

STANIČIĆ, S. (2003). **Školski menadžment**. Napredak (Zagreb). 144: 286-301, br. 3.

Recommended literature

CHAMPAN, E. i LUND O'NEIL, S. (2003). **Vodstvo**. Zagreb: Mate (10. poglavlje)

DUBS, R. (1994). **Die Fürung einer Schule.** Zurich: Verlag des Schweizerischen Kaufmannischen Verbandes.

EVERARD, B. K. i MORRIS, G. (1990). **Effective School Management**. London: Paul Champan Publisching Ltd.

FAVRETTO, G. I RAPPAGLIOSI, M. C. (1997). **Dirigenza scolastica: problemi, stress, soluzioni.** Roma: Armando editore.

FISCHER, W. A. i SCHRATZ, M. (1993). **Schule leiten und gestalten: mit einer neuen Führungskultur in die Zukunft.** Innsbruck: Österreichischer Studienverlag.

KOREN, A. (1999). **Ravnatelj med osamo in sodelovanjem**. Ljubljana: Šola za ravnatelje.

New School Management Aproaches. (2001). Paris: OECD

LAVRNJA, I. i MUŠANOVIĆ M. (1993). **Uspješno rukovođenje**. U: Priručnik za ravnatelje odgojno-obrazovnih ustanova. Zagreb: Znamen. 111-124.

RIBOLZI, L. (ur.) (1999). **Il dirigente scolastico**. Firenze: Giunti Gruppo Editoriale.

SMITH, R. (1995). **Successful School Management**. London: Cassel.

STANIČIĆ, S. (1999). **Upravljanje i rukovođenje u obrazovanju**. U: Osnove suvremene pedagogije (ur. A. Mijatović). Zagreb: Hrvatski pedagoško-književni zbor. 538-560.

VELIKONJA, M. (ur.) (1995). **Menedžment v vzgoji in izobraževanju**. Ljubljana: Zavod Republike Slovenije za šolstvo.

Quality assurance of course and/or module

Quality assurance of the course will be monitored and noted on regular basis during the class performance. Quality assurance of the course will be valorized periodically through polls, questionnaires, assessment scales and discussions. Comments, suggestions and all other information gathered from valorization techniques are to be used with the aim to improve teaching quality, lectures and other alternative forms of working and teaching.

3.3. STRUCTURE OF STUDY, RHYTHM OF STUDY , STUDENT'S OBLIGATIONS

IV. YEAR OF STUDY								
	VII. semestar hours/week			VIII semestar hours/week			Total hours	ECTS points
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Databases	2	-	2				60	4
Inteligent Systems	2	-	2				60	4
Digital Signal Processing				2	-	1	45	4
Teaching Methods In Information Science				2	-	2	60	4
Teaching module:	**8**			**8**				**20**
Elective module:	**5**			**5**				
TOTAL HOURSE:	**25**			**25**				**60**

V. YEAR OF STUDY								
	IX. semestar hours/week			X semestar hours/week			Total hours	ECTS points
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Decision Support Systems	2	-	2				60	4
Software Engineering	2	-	2				60	4
IS Strategic Planning				2	-	2	60	4
Diploma Work				-	3	-	45	4
Teaching module:	**8**			**8**				**17**
Elective module:	**5**			**5**				
TOTAL HOURSE:	**25**			**25**				**60**

ELECTIVE COURSES								
	VII. / IX. semestar hours/week			**VIII / X. semestar hours/week**			**Total hours**	**ECTS points**
COURSE	**L**	**S**	**P**	**L**	**S**	**P**		
Expert Systems	2	-	1				45	4
Operational Research	2	-	1				45	4
Hypermedia Systems In Education				2	-	2	60	4
Information Technology and Society				2	-	1	45	4
System Theory	2	-	1				45	4
System Simulation	2	-	1				45	4
Planning And Management Of Information Technology Projects				2	-	1	45	4
Natural Language Processing				2	-	1	45	4

3.4. POPIS PREDMETA I/ILI MODULA KOJE STUDENTI MOGU IZABRATI S DRUGIH STUDIJA

3.5. POPIS PREDMETA I/ILI MODULA KOJI SE MOGU IZVODITI NA STRANOM JEZIKU

3.6. KRITERIJI I UVJETI PRIJENOSA ECTS-BODOVA

Prema Zakonu o znanstvenoj djelatnosti i visokom obrazovanju (NN 123/03, NN 198/03, NN 105/04 i NN 174/04) Članak 75. stavak 2., kriteriji i uvjeti prijenosa ECTS bodova između različitih studija biti će propisani općim aktom visokog učilišta, odnosno ugovorima između visokih učilišta.

3.7. NAČIN ZAVRŠETKA STUDIJA

U skladu sa Zakonom o znanstvenoj djelatnosti i visokom obrazovanju (NN 123/03, NN 198/03, NN 105/04 i NN 174/04) Članak 83. stavak 1., 2. i 9., preddiplomski studij Politehnike završava polaganjem svih odslušanih ispita te izradom završnog rada.

Diplomski studij Politehnike i fizike i diplomski studij Politehnike i informatike završava polaganje svih odslušanih ispita, izradom diplomskog rada i polaganjem diplomskog ispita u skladu sa studijskim programom.
Završetkom preddiplomskog studija Politehnike, diplomskog studij Politehnike i fizike i diplomskog studij Politehnike i informatike student stječe odgovarajući akademski naziv (točka 2.8.) te sva prava koja mu uz taj naziv pripadaju.

3.8 UVJETI POD KOJIMA STUDENTI KOJI SU PREKINULI STUDIJ ILI SU IZGUBILI PRAVO STUDIRANJA NA JEDNOM STUDIJSKOM PROGRAMU MOGU NASTAVITI STUDIJ

U slučaju kada studenti prekinu studij ili su izgubili pravo studiranja na jednom od studijskih programa žele nastaviti započeti studij ili se prebaciti na neki drugi studij, uvjeti koje moraju ispuniti će se određivati za svako studenta ponaosob, u ovisnosti o tome zašto su prekinuli studij (osobna odluka ili gubitak prava studiranja), koje su kolegije odslušali i položili i odnos tih kolegija prema kolegijima na studiju na kojem žele nastaviti studiranje ili na koji se žele prebaciti.

Odobrenje i uvjete donosi stručno povjerenstvo nositelja studija na temelju Zakona o znanstvenoj djelatnosti i visokom obrazovanju, te važećih Statuta i Pravilnika o studiranju na Filozofskom fakultetu Sveučilišta u Rijeci. Pokretanje postupka za izdavanje dozvole za nastavak studiranja pokreće ECTS koordinator nositelja studija na temelju molbe studenta.

4. UVJETI IZVOĐENJA STUDIJA

4.1. MJESTA IZVOĐENJA STUDIJSKOG PROGRAMA

Predloženi studijski programi će se izvoditi u prostorima Filozofskog fakulteta u Rijeci. Prema planovima preustroja Sveučilišta u Rijeci, u narednih je nekoliko godina planirano preseljenje svih studijskih programa u Sveučilišni Kampus na Trsatu te će se nakon preseljenja studijski program izvoditi u prostorima Sveučilišnog Kampusa na Trsatu.

4.2. PODACI O PROSTORU I OPREMA PREDVIĐENA ZA IZVOĐENJE STUDIJA

Odsjek za informatiku ima svoje specifične prostore i opremu u okviru Filozofskog fakulteta u Rijeci. To su slijedeći prostori i sljedeća oprema:

- jedna učionica univerzalne namjene kapaciteta 36 mjesta s opremom za nastavu,
- jedna učionica – praktikum za informatiku,
- praktikum informatike sa 12 PC računala,
- jedna radna prostorija tajnice Odsjeka s potrebnom opremom (namještaj, PC računalo itd.),
- tri kabineta nastavnika Odsjeka za informatiku s potrebnom opremom.

Prema planovima za izgradnju Sveučilišnog Kampusa na Trsatu, za potrebe Sveučilišnog odjela za informatiku planira se ukupan prostor od 3000 m^2 unutar kojega će se, za potrebe izvođenja predloženih studijskih programa, uz ostalo nalaziti:

- 20 radnih soba za profesore,
- 10 radnih sobe za nastavnike u suradničkim zvanjima,
- 3 radne sobe za stručnog suradnika za računalne aplikacije, tajnicu i pročelnika Odsjeka,
- 1 prostorija za sastanke i prezentacije,
- 7 učionica za studente (6 za cca 30 studenata i 1 za cca 60 studenata),
- 2 učionice s računalima namijenjene studentima,
- 8 praktikuma predmeta struke,
- 1 knjižnica Odsjeka s čitaonicom.

Postojanje i uporaba standardnih nastavnih pomagala, kao što su: školska ploča, grafoskop, demonstracijska sredstva, didaktički plakati i drugo se podrazumijevaju.

4.3. IMENA NASTAVNIKA I BROJ SURADNIKA

R. br.	Naziv kolegija	Nositelj kolegija
1.	Baze podataka	dr. sc. Mile Pavlić
2.	Inteligentni sustavi	dr. sc. Maja Matetić
3.	Digitalna obrada signala	dr. sc. Ivo Ipšić
4.	Strategijsko planiranje IS	dr. sc. Željko Dobrović
5.	Operacijska istraživanja	dr. sc. Marija Marinović
6.	Ekspertni sustavi	dr. sc. Maja Matetić
7.	Informacijska tehnologija i društvo	dr. sc. Mario Radovan
8.	Projektiranje obrazovnih sustava	dr. sc. Božidar Kovačić
9.	Sustavi za podršku odlučivanju	dr. sc. Ivo Ipšić
10.	Softwersko inžinjerstvo	dr. sc. Mile Pavlić
11.	Računalna grafika	dr. sc. Nataša Hoić-Božić
12.	Teorija sustava	dr. sc. Marija Marinović
13.	Planiranje i vođenje projekta iz informacijske tehnologije	dr. sc. Mile Pavlić
14.	Računalna analiza prirodnog jezika	dr. sc. Ivo Ipšić

Nastavnici i suradnici nastavničkog modula

Ime i prezime nastavnika	Naziv kolegija
Dr.sc. Sanja Smojver-Ažić, doc. mr.sc. Rosanda Pahljina-Reinić, asistent	Razvojna psihologija Psihologija roditeljstva
Dr.sc. Vesna Kovač, doc.	Didaktika Osiguranje kvalitete u obrazovanju Osnove analize obrazovne politike
Dr.sc. Ljiljana Arar, izv. prof.	Edukacijska psihologija
Dr.sc. Jasminka Zloković, doc.	Odgojne strategije nastavnika Prevencija nasilja nad djecom
Dr.sc. Nenad Fanuko, doc.	Sociologija obrazovanja Teorije ideologije
Dr.sc. Nenad Smokrović, izv. prof., Mr.sc. Aleksandra Golubović, asistent	Filozofija odgoja
Dr.sc. Mario Radovan, red.prof.	Primjena računala u nastavi
Dr.sc. Ingrid Brdar, izv. prof	Komunikacijske vještine
Dr.sc. Jasminka Ledić, red. prof.	Europska dimenzija u obrazovanju
Dr.sc. Svjetlana Kolić – Vehovec, izv. prof.	Metode učinkovitog učenja
Mr. Sc. Tamara Martinac Dorčić, asistent	Psihologija učenika s posebnim potrebama
Barbara Rončević, asistent	Psihologija darovitih učenika
Mr.sc. Mihaela Matešić, asistent	Govorništvo

4.4. PODACI O ANGAŽIRANIM NASTAVNICIMA

Ime i prezime nositelja	Mario Radovan
Email:	mradovan@mapef.pefri.hr
Web stranice:	http://www.pefri.hr/~mradovan/
Ustanova nositelja kolegija	Sveučilište u Rijeci, Filozofski fakultet u Rijeci, Odsjek informatika, Omladinska 14, 51000 Rijeka, Hrvatska
Zvanje nositelja kolegija	Redoviti profesor u trajnom zvanju
Datum zadnjeg izbora u zvanje	23.09.2004. godine

Kratki životopis

Mario Radovan je diplomirao računarstvo, magistrirao operacijska istraživanja, a doktorirao informacijske znanosti. Objavio je je 55 znanstvenih radova u Hrvatskoj i inozemstvu, među kojima i tri knjige: *Programiranje u Prologu*, *Projektiranje informacijskih sistema*, i *Baza podataka: Relacijski pristup i SQL*. U zvanje redovitog profesora informacijskih znanosti izabran je 1999. godine ("Baze podataka", "Komunikacijski sustavi i društvo") a redovitim profesorom u trajnom zvanju postao je 2004. godine ("Računalne mreže", "Komunikacijski sustavi i društvo"). Predavao je ili predaje više predmeta: "Projektiranje informacijskih sustava", "Baze podataka i komunikacijski sustavi", "Komunikacijski sustavi i društvo", "Računalne mreže", "Programiranje za Internet", "Informacijska tehnologija i društvo". Studijske godine 1985/86. gostovao je na Sveučilištu u Lisabonu (Portugal), a studijsku godinu 1997/98. proveo je na Sveučilištu Berkeley (California) kao gostujući znanstvenik i dobitnik Fulbright Senior stipendije.

Popis **relevantnih** radova za izvođenje nastave

21. Radovan, M.: *Računalne mreže*, 2004. (digitalna skripta, 287 stranica; skripta se obnavlja
22. svake godine)
23. Radovan, M.: *Programiranje za Internet*, 2004. (digitalna skripta, 220 stranica; skripta se obnavlja svake godine)
24. Radovan, M.: *Informacijska tehnologija i društvo*, 2004. (digitalna skripta, 144 stranice;
25. skripta se obnavlja svake godine)
26. Jugo, I., Radovan, M.: 'Developing Dynamic Web Applications', in Proceedings of the *15th International Conference on Information and Intelligent Systems*, Varaždin, Croatia, September
27. 22-24, 2004, pp. 101-110. (Engleski)
28. Radovan, M.: 'The Information Society: A Sketch for Portrait', in Proceedings of the International Conference *Information Technology Interfaces*, Cavtat, Croatia, June 16-19, 2003, pp. 359-365. (Engleski)
29. Radovan, M.: 'Homo Cybernetes: In Search of an Aim', *Synthesis Philosophica*, Vol. 17 (2002), No 2, pp. 381-391 (Engleski)
30. Radovan, M.: 'Technology and Knowledge: A Critical View', *Informatologia*, Vol 35 (2002), No. 3, pp. 178-186. (Engleski)
31. Radovan, M.: 'Information Technology and the Character of Contemporary Life', *Information, Communication & Society*, Vol. 4 (2001), No. 2, pp. 230-246. (Engleski)
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33. Radovan, M.: 'Twelve Theses on the Information Age', *Informatica; An International Journal of Computing and Informatics*, Vol. 24 (2000) pp. 445-448. (Engleski)

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Zvanje nositelja kolegija	Izvanredni profesor; znanstveni savjetnik
Datum zadnjeg izbora u zvanje	14.01.2003. godine

Kratki životopis

Prof. dr. sc. Matjaž Gams je izvanredni profesor računarskih znanosti i informatike na Sveučilištu u Ljubljani, i znanstveni savjetnik na Institutu "Jožef Štefan" u Ljubljani, Slovenija. Predaje više predmeta iz područja računarskih znanosti na dodiplomskom i poslijediplomskom studiju Fakulteta računarstva i informatike i Ekonomskog fakulteta Sveučilišta u Ljubljani. Njegova istraživačka djelatnost obuhvaća područje metoda i tehnika programiranja, umjetne inteligencije, inteligentnih sustava, inteligentnih agenata, strojnog učenja i kognitivne znanosti. Lista njegovih objavljenih radova sadrži preko 250 jedinica, od kojih je 50 objavljeno u znanstvenim časopisima. Prof. Gams obnaša dužnost predstojnika Odjela za inteligentne sustave. Bio je i član upravnog odbora Instituta "Jožef Štefan" i predsjednik nekoliko društava; suosnivač je Tehničke akademije Slovenije i Društva za umjetnu inteligenciju i kognitivne znanosti Slovenije. Sada obnaša dužnost dopredsjednika ACM Slovenije i tajnika Tehničke akademije Slovenije. Bio je na čelu nekoliko većih primijenjenih projekata u Sloveniji vezanih uz uporabu ekspertnih sustava i Interneta. Urednik je u nekoliko međunarodnih časopisa, i izvršni je urednik znanstvenog časopisa "Informatica". Prof. Gams sudjeluje u raznim znanstvenim aktivnostima u Hrvatskoj; sudjelovao je na mnogim skupovima, a bio je i član uređivačkih odbora znanstvenih skupova u Hrvatskoj.

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Kratki životopis

Ivo Ipšić rodio se 23. srpnja 1963. godine u Rijeci, gdje je i završio gimnaziju. Diplomirao je 1988. godine na Elektrotehničkom fakultetu u Ljubljani, smjer automatika. Iste godine zaposlio se je na istom fakultetu kao znanstveni novak. Magistrirao je 1991. godine, a doktorirao u travnju 1996. godine na Elektrotehničkom fakultetu u Ljubljani. Od 1998. godine radi kao docent na Filozofskom fakultetu u Rijeci. Predaje kolegije «Građa računala» i «Formalni jezici i jezični procesori» na Odsjeku za informatiku. Na Tehničkom fakultetu u Rijeci od 1999. godine predaje kolegije «Primjena računala I» i «Primjena računala II» na sveučilišnom studije elektrotehnike. Voditelj je znanstvenoistraživačkog projekta «Komunikacija čovjek-stroj» (009012) i hrvatsko – slovenskog bilateralnog projekta «Dvojezična baza govornih uzoraka». U 2000. godini vodio je informatički projekt «Interaktivni nastavni informacijski sustav – INIS». U sklopu znanstvenoistraživačkog rada objavio je kao autor ili koautor 40 znanstvenih radova.

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Telecommunications and Computer Networks, Split-Dubrovnik, Croatia, Venice-Ancona, Italy, October 8-11, 2002, Nikola Rožić, ur., Dinko Begušić, ur., Split, Faculty of electrical engineering, mechanical engineering and naval architecture, 2002, str. 577-581.

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Kratki životopis

Nikola Pavešić se je rodio 7. prosinca 1946. godine u Rijeci. 1965. godine je maturirao na prirodoslovnom-matematičkom odjelu II Gimnazije u Rijeci. 1965. g. se je upisao na Fakulteto za elektrotehniko u Ljubljani. Na zavodu za elektroniko je diplomirao 20. svibnja 1970. Na istom fakultetu je upisao i magistarski studij, kojega je završio u travnju 1973. . Za magistarski rad je 1974. godine primio nagradu "Mario Osana". 1976. g. je obranio doktorsku disertaciju pod nazivom "Kodiranje informacij za razpoznavalne sisteme" i stekao stupanj doktora elektrotehničkih znanosti. Za taj je rad 1976. godine dobio nagradu"Vratislava Bedjaniča". 1982. godine je dobitnik skupne nagrade Sklada Borisa Kidriča za rad "Mikroprocesorski analizator EKG signalov", godine 1996. je dobitnik nagrade Vidmar za pedagoški rad na Fakultetu za elektrotehniko Univerze u Ljubljani.
1970. godine se je zaposlio na Fakultetu za elektrotehniko, gdje je danas redovni profesor, predstojnik Katedre za sisteme, avtomatiko i kibernetiko i predstojnik Laboratorija za umetno zaznavanje, sisteme in kibernetiko.
Područje njegovog znanstveno istraživačkog rada obuhvaća područje raspoznavanja uzoraka, obrade slika, raspoznavanje i razumijevanje govora i teorija informacije. Iz tih područja je kao autor ili suautor objavio 150 članaka i referata te 4 knjige.
Dr. Nikola Pavešić je član: The Institute of Electrical and Electronic Engineers, Elektrotehniške zveze Slovenije (zaslužni član), Slovenskega društva za razpoznavanje vzorcev (prvi predsjednik) i Slovenskega društva za medicinsko in biološko tehniko. Član je više uredničkih odbora tehničkih časopisa.

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Ima 23 godine radnog iskustva, a u tom razdoblju bio je uposlen na slijedećim poslovima:

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- Analitičar / programer u ERC-u, u Brodogradilištu «3. maj» u Rijeci od 1982. do 1989. godine.
- Projektant i direktor INFO centra u RiAdria banci d.d. Rijeka od 1989. do 1993.
- Nastavnik na Odsjeku za informatiku na Filozofskom fakultetu u Rijeci od 1993. do danas.

Objavio je ukupno 6 knjiga i 4 skripte.
Primio je priznanje i zlatnu značku za postignute zapažene rezultate u primjeni, širenju i unapređenju informatičke djelatnosti u Hrvatskoj 1987. godine.
Hrvatska informatička zajednica dodijelila mu je «Plaketu informatike '93» za širenje i unapređenje informatičke struke.

Popis **relevantnih** radova za izvođenje nastave

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12. Pavlić, M., "Razvoj informacijskih sustava - projektiranje, praktična iskustva, metodologija", Znak" Zagreb, 1996., 4 poglavlja i dodatak, 361 stranica, 205 slika, 93 tablice.

Ostale kvalifikacije za izvođenje nastave

Dr. sc. Mile Pavlić je od 1989. do 1993. godine predavao na Filozofskom fakultetu u Rijeci na Odsjeku za informatiku kolegije: «Obrada signala i modeliranje», «Struktura i organizacija podataka» i «Projektiranje informacijskih sustava» na studijskoj grupi «Matematika i informatika».

Od 1993. godine do danas predaje predmete: «Informacijski sustavi», «Modeliranje podataka», «Modeliranje procesa» i «Baze podataka», te se izborio za povećanje broja sati informatike s 28% na 50% u okviru dvopredmetnog studija informatike s ostalim smjerovima i slobodnim kombinacijama dvopredmetnog studija. Pokretač je uvođenja jednopredmetne studijske grupe «Informatika» s ciljem obrazovanja studenata (koji ne moraju biti samo profesori informatike) sposobnih za razvoj softvera za potrebe gospodarstva. Oblikovao i unaprijedio nastavu za predmete: «Informacijski sustavi», «Modeliranje podataka i procesa», «Baze podataka i CASE alati», «Informacijski sustav organizacije», «Analiza i modeliranje informacijskih sustava».

Za «Modeliranje podataka i procesa» je napisao udžbenik. Monografija «Razvoj informacijskih sustava» koristi se kao udžbenik na više dodiplomskih i poslijediplomskih studija, te kao udžbenik za usavršavanje projektanata i programera u centrima za razvoj softvera u raznim organizacijama.

Bio je pročelnik Odsjeka za informatiku na Filozofskom fakultetu u Rijeci od 1995. do 1998. godine

Na Filozofskom fakultetu Sveučilišta u Rijeci osnovao je «Katedru za informacijske sustave», čiji je predstojnik.

U području projektiranja informacijskih sustava i metoda informatičkog inženjeringa održava od 1986. do danas seminare za potrebe gospodarstva kao dopunsko obrazovanje odraslih. Kao dopunsko obrazovanje odraslih održavao je seminare za specijalizaciju korištenja metoda informatičkog inženjeringa od 1986. do 1993. godine. Grupu seminara pod nazivom: Uvod u projektiranje informacijskih sustava, Konceptualno modeliranje, Modeliranje procesa, Projektiranje programa, Praksa projektiranja; održao je za preko 1000 polaznika iz poduzeća: HRT, PLIVA, HOO, HIZ, MORH, HPT, Bilokalnik, Varaždinska banka, Filozofski fakultet, PULSAR – Split, INTEGRA – GROUP – Zagreb, TEMPO – Zagreb, Poslovni software – Split, Brodogradilište «3.maj», Zavod za informatiku hrvatske, AD Plastik – Split, Ministarstvo rada i socijalne skrbi, Privredna banka, Hrvatska banka za obnovu i razvitak, SYS, Petrokemija Kutina i dr.

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Zvanje nositelja kolegija	Trajno zvanje redovitog profesora
Datum zadnjeg izbora u zvanje	1998. godine

Kratki životopis

Rođen je 1941. godine u Mariji Bistrici. Nakon gimnazije završava Prirodoslovno-matematički fakultet u Zagrebu (struka: Matematika, diplomski rad: "Algebre i teorija apstraktnih automata"). 1980. godine je na Sveučilištu u Zagrebu obranio doktorsku disertaciju pod naslovom: "Klaster analiza, algoritmi i aplikacije na procese rasta i razvoja" i stekao *doktorat društvenih znanosti iz područja organizacijskih i informacijskih znanosti.*

Znanstveno-nastavnu karijeru na Sveučilištu započeo je 1977.godine. Krajem 1980 boravio je na školovanju u Berlinu iz područja statističkih metoda i simulacije. U 1981. godini boravio je u Parizu u Nacionalnom institutu za istraživanje informatike i automatike (INRIA), a u 1983. boravio je u Institutu za statistiku i demografiju Sveučilišta u Napulju (ISDUN) gdje je radio na problemima analize podataka, a posebno na algoritmima klasteriranja. Od 1991. godine zaposlen je kao znanstveni savjetnik u Institutu informacijskih znanosti u Zagrebu (prije: Referalni Centar Sveučilišta u Zagrebu). Od 1992-1995 direktor je Instituta informacijskih znanosti u Zagrebu. U školskoj godini 1997/98 gostujući je profesor Fakulteta za organizacijske vede u Kranju, Univerziteta u Mariboru, gdje izvodi predavanja iz predmeta: **Izabrana poglavlja iz informacijske tehnologije.**

1998. godine izabran je u trajno zvanje redovitog profesora na Filozofskom fakultetu Sveučilišta u Rijeci, gdje predaje predmete: Objektno orijentirano programiranje, Objektno orijentirano modeliranje, Inteligentni sustavi 1, Inteligentni sustavi 2, Sustavi za potporu odlučivanju.

Objavio je više od 90. znanstvenih i stručnih radova u domaćim i stranim časopisima i aktivno sudjelovao u radu brojnih domaćih i međunarodnih skupova i projekata.

Sada je puni član :

američkog udruženja AAAI (American Association for Artificial Intelligence)

američkog udruženja ACM (Association for Computing Machinery)

američkog udruženja IEEE (The Institute of Electrical and Electronic Engineers)

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56. V.Topolovec, J. Mezak, N. Hoić-Božić: *Računalom podržano kolaborativno učenje: uloga nastavnika i učenika,* Proceedings of International scientific colloquium "The Teacher and Modern Educational Tehnology", Opatija, 1999, pp.754-766.
57. V.Topolovec, V.Rosić: *Kolaborativna pedagogija i informacijska tehnologija,* Proceedings of International scientific colloquium "The Teacher and Modern Educational Tehnology", Opatija, 1999, pp.780-790.
58. V. Topolovec, Z. Đurčević: *Sociotehnički i objektno orijentiran pristup u izgradnji informacijskog sustava škole,* International scientific colloquium "The Teacher and Modern Educational Tehnology", Gospić, 2000, pp.133-141

Ostale kvalifikacije za izvođenje nastave

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Datum zadnjeg izbora u zvanje	Matično povjerenstvo za informacijske znanosti, 23. prosinac 2004.

Kratki životopis

Marija Marinović (r. Gojak) diplomirala je matematiku i fiziku, magistrirala je operacijska istraživanja na Ekonomskom fakultetu Univerze v Ljubljani (1985.), a akademski stupanj doktora informacijskih znanosti stekla je također na Ekonomskom fakultetu Univerze v Ljubljani (1988.).Objavila je 42 znanstvena rada u Hrvatskoj i inozemstvu, te jedan sveučilišni udžbenik *Repetitorij s riješenim zadacima iz matematike*.(u koautorstvu). U zvanje redovitog profesora informacijskih znanosti izabrana je 2004. godine. Predavala je ili predaje više predmeta: Operacijska istraživanja, Uvod u računala, Optimizacija, Osnove informatike i Matematika za informatičare 1, 2 i 3.
Na Filozofskom fakultetu u Rijeci bila je pročelnik Odsjeka za informatiku u dva mandata. Od 1. listopada 2002. godine obnaša funkciju prodekanice za poslovne odnose Filozofskoga fakulteta u Rijeci.

Popis **relevantnih** radova za izvođenje nastave

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30. Milena Sošić, Marija Marinović: *Repetitorij s riješenim zadacima iz matematike*, Sveučilište u Rijeci, Filozofski fakultet, 2004., str. 370, ISBN 953-6104-42-3.

Ostale kvalifikacije za izvođenje nastave

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Kratki životopis

Nataša Hoić-Božić rođena je 1967. godine u Rijeci. gdje je završila osnovnu i srednju školu te 1990. godine studij matematike i informatike na Pedagoškom fakultetu.
Magistrirala je računarstvo na Fakulteti za računalništvo in informatiku Sveučilišta u Ljubljani 1997. i doktorirala računarstvo 2002. na Fakultetu elektrotehnike i računarstva Sveučilišta u Zagrebu (doktorska tema: "Prilagodljiva hipermedijska programska potpora za učenje.")
Nakon završetka studija dvije godine je radila kao projektant informacijskih sustava.
Od 1992. godine zaposlena je na Filozofskom fakultetu u Rijeci na kojemu je danas docent u Odsjeku za informatiku.
Predaje kolegije "Metodika nastave informatike“, "Multimedijski sustavi“, "Seminar iz hipermedije“ na studijima Matematike i informatike i Informatike. Kao asistent izvodila je vježbe za kolegij "Računalne mreže". Na stručnom studiju elektrotehnike Tehničkog fakulteta u Rijeci predaje kolegij "Računarske mreže“.
Kao znanstvena novakinja sudjelovala je na istraživačkim projektima uz potporu Ministarstva znanosti i tehnologije "Inovacije u nastavi pomoću računala (1993-1997)” i "Kvaliteta visokoškolske nastave (1997-2000)" te kao suradnik na projektu "Adaptivna hipermedijska programska potpora za učenje (2002-2003)." Istraživač je na projektu "Računalna potpora obrazovanju (2003-)" te voditelj projekta "Metodika nastave informatike online (2004-)."
Stipendije za istraživanje dodijeljene su joj za projekt "Razvoj obrazovnih WWW hipermedijskih aplikacija (1996-1997)" od strane Open Society Insitute, Hrvatska te za istraživanje "Transforming Information into Knowledge: Online Courses in Education (1998-2000)" od Research Support Scheme of the Open Society Support Foundation.
Također je kao član projektnog tima sudjelovala na više projekata koje je pokrenula Hrvatska akademska i istraživačka mreža CARNet. Polaznik je programa "E-learning Management" CARNet E-learning akademije (ELA).
Glavni predmet njezine znanstvene i stručne djelatnosti uključuje e-obrazovanje ili korištenje računalnih tehnologija, posebno računalnih mreža (Interneta) i hipermedije, u obrazovanju.
Sudjelovala je na više domaćih i stranih skupova, te objavila veći broj znanstvenih i stručnih radova.

Popis relevantnih radova za izvođenje kolegija

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23. N. Hoić-Božić, V. Mornar, *Sustav AhyCo - Adaptive Hypermedia Courseware,* Zbornik savjetovanja CASE 15, Opatija, 2-4. lipnja 2003, str. 293-302.
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26. N. Hoić-Božić, V. Mornar, *Navigation Support in a Web-Based Adaptive Educational Hypermedia System,* Proceedings of AMCIS 2001 - Seventh Americas Conference on Information Systems, Boston, Massachusetts, August 3-5, 2001, pp. 124-126
27. N. Hoić-Božić, V. Mornar, *An Approach to Navigation Support in Adaptive Educational Hypermedia System,* Proceedings of Multimedia and Hypermedia Systems Conference MIPRO 2001, Opatija, Croatia, May 21-25, 2001, pp. 69-73
28. N. Hoić-Božić, J. Ledić, J. Mezak, *Evaluating the Use of World Wide Web Courseware in Student Teachers' Education: a Case from Croatia,* Proceedings of Society for Information Technology and Teacher Education, SITE 2000, San Diego, Califonia, February 8-12, 2000, pp. 1894-1899

Ostale kvalifikacije za izvođenje nastave kolegija

Izrada online skripti za kolegije, znanstveni i stručni radovi i sudjelovanje na skupovima, kao i istraživački projekti te projekti u organizaciji CARNet-a iz područja kolegija.

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Kratki životopis

Maja Matetić je diplomirala matematiku i fiziku na Filozofskom fakultetu u Rijeci, Sveučilište u Rijeci 1988. godine. Magistrirala je na području računarskih i informacijskih znanosti na Fakultetu računarstva i informatike na Sveučilištu u Ljubljani, Slovenija, 1995. godine. Doktorirala je na području računarskih znanosti na Fakultetu elektrotehnike i računarstva na Sveučilištu u Zagrebu, 2002. godine. Od 2004. godine Maja Matetić je docent računarskih znanosti na Odsjeku informatike Filozofskog fakulteta u Rijeci. Područje njezinog rada trenutno uključuje predstavljanje i otkrivanje znanja, kvalitativno predstavljanje i zaključivanje, strojno učenje i njihovu primjenu. Maja Matetić je autor ukupno 16 radova predstavljenih na međunarodnim skupovima ili objavljenih u međunarodnim časopisima.

Popis relevantnih radova za izvođenje kolegija

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19. Maja Matetić, Slobodan Ribarić, Ivo Ipšić: "LABAQM - A System for Qualitative Modelling and Analysis of Animal Behaviour", *Proceedings of the 13th International Conference on Information and Intelligent Systems IIS, Varaždin 2002, pp. 267-278.*
20. Maja Matetić, Slobodan Ribarić: "A System for the Behaviour Analysis of Laboratory Animal Based on Qualitative Modelling", *Proceedings of the 6th International Conference on Intelligent Engineering Systems INES*, Opatija 2002, pp. 273-278.
21. Maja Matetić, Slobodan Ribarić: "Conceptual Clustering of Object Behaviour in the Dynamic Vision System Based on Qualitative Spatio -Temporal Model", *Proceedings of MIPRO 2002 conference, section CIS*, Opatija 2002, pp. 15-20.
22. Maja Matetić, Slobodan Ribarić: "Qualitative Modelling Of Object Behaviour In The Dynamic Vision System Using Hidden Markov Models", *Proceedings of the 11th Mediterranean Electrotechnical Conference MELECON 2002*, May 7-9 2002, Cairo, Egypt, pp.570-574.
23. Maja Matetić, Slobodan Ribarić: "Qualitative Modelling and Reasoning About Object Beaviour in the Dynamic Vision System", *Proceedings of the tenth Electrotechnical and Computer Science Conference ERK 2001*, 24-26 September 2001, Portorož, Slovenia, Volume B, pp. 293-296
24. Maja Matetić: "Qualitative Modeling of Object Behaviour in the Dynamic Vision System", *Proceedings of the conference MIPRO 2001*, Opatija, 2001,vol.CBSE+CTS+CIS, pp.14-19
25. Maja Matetić: "How to Constrain Qualitative Simulation?", *Proceedings of the Sixth Electrotechnical and Computer Science Conference, ERK'97*, Portorož, Slovenija, 25-

27.09.1997, pp. 141-144

26. Maja Matetić: “Developments Towards Constraining Qualitative Simulation”, *Proceedings of the conference MIPRO’97*, Opatija, 1997, vol. CTS and CIS, pp.3-13—3-16
27. Maja Matetić: “MARK - A simulation system for parameter estimation in simulation of dynamic systems”, *Proceedings of the conference MIPRO’96*, Opatija, 1996, vol. CIS, pp.2-45—2-50
28. Maja Matetić: “MARK - A Simulation System for Parameter Estimation in Simulation of Ecological Processes”, *The 12th International Conference on Case Method Research and Case Method Application: Environmental Problem Solving - From Cases and Experiments to Concepts, Knowledge, Tools and Motivations*, Maribor, Slovenia, November 12-15, 1995, Rainer Hampp Verlag, München, Mering, 1997
29. Maja Matetić: ”Explaining dynamic systems by combining qualitative and numerical simulation”, *Proceedings of the Fourth Electrotechnical and Computer Science Conference, ERK’95*, Portorož, Slovenija, 25-27.09.1995, pp. 153-156
30. Maja Matetić: “Kvalitativna analiza dinamičkih sustava pomoću ‘inteligentne’ numeričke simulacije”, *Zbornik konferencije MIPRO’95, Opatija, 1995*, vol. MIS, pp. 3-55—3-60
31. Maja Matetić: "Kombinacija kvalitativne i numeričke simulacije dinamičnih sustava s primjenom u izradi programa za učenje", *Zbornik konferencije MIPRO'94*, Opatija, 1994, vol. MIS, pp. 3-32--3-37
32. Marina Čičin-Šain, Jasminka Lesica, Maja Rahelić (Matetić): "How to start teaching informatics?", *Education and Application of Computer Technology, Third book biennial meeting of the Community of Mediterranean Universities on Microcomputers and their applications - Sant Feliu de Guixols, Spain, September 10-14, 1990, pp. 501-511*

Ostale kvalifikacije za izvođenje nastave kolegija

Nastavna djelatnost
Dodiplomska nastava

1) Programiranje I, predavanja i vježbe, programski jezici C i C++, od 1995
2) Ekspertni sustavi, predavanja i vježbe, programski jezik Prolog, od 2002
3) Računarski praktikum I, vježbe, programski jezik C++, od 1995
4) Od 1989. do 1995. Maja Matetić održava vježbe iz programskih jezika: BASIC, FORTRAN i PASCAL (Osnove informatike, Programski jezici I, Praktikum I).

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Kratki životopis

1. Osnovni podaci

IME, PREZIME, IME OCA: **Željko, Dobrović, Jeronim**
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2. Školovanje

2.1. Republika Hrvatska

VISOKO UČILIŠTE: **Tehnička vojna akademija KoV Zagreb, diplomirani inženjer računarske tehnike, 1981. - 1986.**

MAGISTERIJ: **Fakultet elektrotehnike i računarstva Zagreb, Zavod za primijenjenu matematiku, "Minimalizacija utroška sredstava u sistemu održavanja" 1991.**

DOKTORAT: **Fakultet organizacije i informatike Varaždin, "Metode projektiranje informacijskih sustava za realne sustave s vremenski promjenjivim funkcijama", ožujak 1998.**

2.2. Sjedinjene američke države

ENGLESKI JEZIK: **Defense Language Institute, San Antonio, Texas, Specialized English Course, lipanj - srpanj 1998.**
SPECIJALIZACIJA: **National Defense University, Washington DC, Information Resources Management College (Koledž za upravljanje informacijskim resursima), Advanced Management Program, kolovoz – prosinac 1998.**

3. Stručni i znanstveni radovi

Autor više stručnih i znanstvenih radova iz područja projektiranja informacijskih sustava, analitičkog modeliranja procesa, upravljanja organizacijom (management), mjerenja organizacijskih performansi.

4. *Razvojni put*

- asistent i predavač iz područja informatike i matematičkih načela programiranja (1986. – 1991.),
- voditelj i član tima u projektima izgradnje vojno evidencijskih informacijskih sustava, informacijskog sustava glavnog inspektorata obrane i sl.,
- autor prijedloga izrade Strateškog plana razvoja informacijskog sustava obrane,
- autor ustroja Uprave za informacijsku tehnologiju, MORH,
- autor standarda organizacije rada Glavnog inspektorata obrane,
- provoditelj obuke iz područja upravljanja projektima (potpora: MS Project),
- načelnik odjela za projektiranje informacijskih sustava, MORH
- predavač iz područja upravljanja složenim organizacijskim sustavima i projektiranja informacijskih sustava na Ratnoj školi "Ban Josip Jelačić,
- inspektor za informacijske sustave obrane,

- načelnik odsjeka u Institutu za obrambene studije, istraživanje i razvoj,
- dekan Veleučilišta Velika Gorica,
- projektant/konzultant u području redizajna poslovnih procesa i razvoja informacijskih sustava.

Popis relevantnih radova za izvođenje kolegija

1. Dobrović, Ž., "Metode razvoja i projektiranja informacijskih sustava za objektne sustave s vremenski promjenjivim funkcijama – doktorska disertacija", Fakultet organizacije i informatike, Varaždin, 1998.
2. Dobrović, Ž., "Strategic Planning under Uncertainty: Building the metamodel", Journal of Information and Organizational Sciences, Faculty of Organization and Informatics, Varaždin, 2002.
3. Dobrović, Ž., "Formal Description of Organizations with Time Changeable Functions: Additional Method in the Analysis Phase of Information Systems Development", 13th International Conference on Information and Intelligent Systems - IIS 2002, Varaždin, 2001.
4. Pavlić M., Dobrović, Ž., Marinović, M.: "Modelling the Data Collection Process in the Strategic IS/IT Planning Phase", Informatologia, 2003, 302-309.
5. Dobrović, Ž., "Cjeloviti pristup razvoju informacijskih sustava", Zbornik radova savjetovanja CASE 15, Opatija 2003.
6. Dobrović, Ž., Page, J., "Performanse Plan for the Inspectorate General of Defense", National Defense University, Washington DC, 1998.
7. Dobrović, Ž., "Transforming the Defense System by Implementing a New Information Resources Management System", National Defense University, Washington DC, 1998.
8. Dobrović, Ž., "The Balanced Scorecard Metamodel – The Aplication of IDEF1X Method", National Defense University, Washington DC, 1998.
9. Dobrović, Ž., "Change Management in Developing the New Defense Information System", National Defense University, Washington DC, 1998.

Ostale kvalifikacije za izvođenje nastave kolegija

Upisan u Registar istraživača u znanstvenom polju informacijske znanosti pod matičnim brojem 217896.

Suradnik je na znanstvenom projektu "Metodologija razvoja informacijskih sustava" pod šifrom projekta 0009026, pri Ministarstvu znanosti i tehnologije.

Citiran je u znanstvenom projektu "Strateško planiranje razvoja informacijskih sustava" pod šifrom projekta FOI005.

Suradnik je na projektu "Strateško planiranje i razvoj obrambenih informacijskih sustava", koji se odvija u suradnji Instituta za obrambene studije, istraživanja i razvoj i Fakulteta organizacije i informatike u Varaždinu.

Član je znanstvenog društva "Association for Information Systems", Computer Information Systems Department, Georgia State University, SAD.

Na Filozofskom fakultetu u Rijeci je održavao predavanja i vježbe iz slijedećih kolegija: "Informacijski sustavi" i "Strategijsko planiranje IS", za koje je izradio nastavni program,

elektroničke folije i napisao skripte.
Bavi se metodama strateškog planiranja i razvoja informacijskih sustava, te njihovom potporom upravljanju organizacijskim sustavima. Radio je na nekoliko projekata razvoja informacijskih sustava obrane: informacijski sustav novačkih komisija, informacijski sustav Glavnog inspektorata obrane, informacijski sustav pričuvnih postrojbi, informacijski sustav vojne obveze i mobilizacije, jedinstveni informacijski sustav obrane.

Osim strateškog planiranja i razvoja informacijskih sustava bavi se i primjenom CASE alata u potpori životnom ciklusu razvoja informacijskih sustava. Inicijator je nabave CASE alata BPWin i ERWin za potrebe modeliranja procesa i podataka u sustavu obrane. Ovi alati podržavaju IDEF (Integrated DEFinition) metode u modeliranju procesa, podataka i objekata, koje su proglašene federalnim standardom u SAD 1994. godine, a i NATO ih je prihvatio kao standard.

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Kratki životopis

Rodio sam se 8. siječnja 1968. godine u Ogulinu. Osnovnu i srednju školu sam pohađao u Ogulinu.

Nakon završene srednje škole 1986. godine upisao sam elektrotehnički studij na Vojno tehničkoj akademiji u Zagrebu, smjer elektronika, specijalnost telekomunikacije. Diplomirao sam 11. 7. 1991. godine, a prosjek ocjena svih položenih ispita iznosi 8,23.

Nakon završenog studija, zapolio sam se u rujnu 1992. u "Srednjoj školi" u Ogulinu kao profesor informatike i matematike. U ožujku 1993. godine upisao sam postdiplomski magistarski studij na Fakultetu elektrotehnike i računarstva, smjer Elektrotehnika, smjer Telekomunikacije i informatika. Magistarski rad pod naslovom "Primjena teorije automata u razvoju programskog sustava za vrednovanje učenja" obranio sam u rujnu 1996. godine. Povjereni mentor bio je prof. dr. sc. Zoran Skočir.

U rujnu 1996. godine zaposlio sam se na Pedagoškom fakultetu (danas Filozofski fakultet) na Odsjeku za informatiku u svojstvu asistenta, gdje radim sve do sada. Doktorski studij upisao sam u ožujku 1997. godine na Fakultetu elektrotehnike i računarstva u Zagrebu. Povjereni mentor za izradu doktorske disertacije je prof. dr. sc. Zoran Skočir. Doktorsku disertaciju pod naslovom "Sustav učenja na daljinu zasnovan na dijalogu" obranio sam 8. studenoga 2002. godine.

Božidar Kovačić publicirao je sedam radova na domaćim i međunarodnim konferencijama: "MIPRO" Rijeka, "ERK" Portorož, "ICT 2000." Bukurešt, "EUROCON 2003" Ljubljana i "SoftCOM 2003" Split. Uključen je u dva projekta orijentirana na primjenu računala u edukaciji i razvoju sustava za učenje na daljinu.

Istraživač sam na projektu "Komunikacija čovjek-stroj" (stara šifra projekta: 0009033, nova šifra projekta: 0009012), iz područja računarstva, kojeg financira Ministarstvo znanosti i tehnologije Republike Hrvatske. Područje mog znanstveno-istraživačkog rada trenutno primjena novih tehnologija u rješavanju problema učenja na daljinu.

Popis relevantnih radova za izvođenje kolegija

6. **Kovačić, B.**, Z. Skočir: "Development of the Distance Learning System Based on Dialogue", *Proceedings of the IEEE Region 8 Conference EUROCON 2003 – Computer as a tool*, Volume 1, pp. 224-228, Ljubljana, Slovenia, 2003. (ISBN 0-7803-7763-x)
7. **Kovačić, B.**: "Application of Dialogue Realized by Distance Learning System Based On Dialogue", *Proceedings of the Conference MIPRO 2003, section Computers in Education*, pp. 46 – 49, Opatija, 2003. (ISBN 953-6042-97-5)
8. **Kovačić, B.**, Z. Skočir: "Formal Model for Distance Learning Based on Dialogue", *Proceedings of International Conference on Telecommunications IEEE ICT2001*, Vol. 1, pp. 231-236, Bucharest, Romania, 2001. (ISBN 973-99995-1-4)
9. **Kovačić, B.**, Z. Skočir: "Application System for Learning", *Proceedings of the Sixth Electrotechnical and Computer Science Conference ERK 97*, Volume B, pp. 429-432, Portorož, Slovenija, 1997. (ISBN 961-6062-12-3)
10. **Kovačić, B.**, ***Z. Skočir***: "Programski sustav za vrednovanje učenja", *Zbornik radova*

savjetovanja Računala u telekomunikacijama (CTE) MIPRO 97, pp. 2.163-2.168., Opatija, 1997. (ISBN 953-6042-41-X)

Ostale kvalifikacije za izvođenje nastave kolegija

Imam iskustvo na izvođenju edukacije učenika, studenata i odraslih iz područja informatike stečenog izvođenjem informatičkih tečajeva. U okviru izrade magistarskog i doktorskog rada izradio sam softverske sustave za edukaciju i vrednovanje znanja.

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Kratki životopis

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1977. - 31.05.1986.	Institut "R. Bošković", Zagreb, asistent, viši asistent
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od 02.04.2001. Član matičnog povjerenstva za područje prirodnih znanosti - polje fizika
od 25.10.2004. profesor u trajnom zvanju

Popis relevantnih radova za izvođenje kolegija

1. J. Lu, S. Bradenbrink, **Z. Roller-Lutz** and H.O. Lutz:
Electron capture in multiply charged ion-Rydberg atom collisions in an external magnetic field, J.Phys. **B32** (1999) L681-L686; J.Phys. **B33** (2000) 2947
2. **Z. Roller-Lutz**, Y. Wang and H.O. Lutz, S.E. Nielsen, A. Dubois:
Quantum-mechanically complete study of charge transfer from nonisotropic initial to nonisotropic final states in H^+ *-Na(*$3p_{\pm 1}$*) collisions*, Phys.Rev. **A61** (2000) 022710
3. J. Lu, **Z. Roller-Lutz,** H.O. Lutz:
Classical trajectory Monte Carlo calculations of electron capture and ionization in collicions of multiply charged ions with elliptical Rydberg atoms, Phys.Rev. **A62** (2000) 050701.
4. B. Siegmann, U. Werner, Z. Kaliman, **Z. Roller-Lutz,** N.M. Kabachnik, and H.O. Lutz:
Multiple ionization of diatomic molecules in collisions with 50-300-keV hydrogen and helium ions, Phys.Rev. **A66**, 052701 (2002)
5. J. Lu, E.Y. Sidky, **Z. Roller-Lutz,** and H.O. Lutz:
Antihydrogen formation by collisions of antiprotons with positronium in a magnetic field, Phys.Rev. **A68**, 024702 (2003)

Ostale kvalifikacije za izvođenje nastave kolegija

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Kratki životopis

6.12. 1965. rođena u Rijeci, državljanka RH, Hrvatica
1988. diplomirala na Pedagoškom fakultetu Sveučilišta u Rijeci, profesor matematike i fizike
1989-1990 radi kao matematičar programer u CAD/CAM centru brodogradilišta «3 maj»
1990-2003 znanstvena novakinja na Odsjeku za fiziku Filozofskog fakulteta u Rijeci, na projektima D.Kotnik-Karuze
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2000. doktorirala iz područja prirodnih znanosti, polja fizike na PMF-u Sveučilišta u Zagrebu, naslov radnje: Optička spektroskopija simbiotske zvijezde CH Cygni 1987-89
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od 2004. na dužnosti prodekana za nastavu Filozofskog fakulteta u Rijeci

Popis relevantnih radova za izvođenje kolegija

Radovi iz fizike

1. D.Kotnik-Karuza, R.Jurdana, M.Hack: The quiescent phase of CH Cygni during the period 1987-1989. Astronomy and Astrophysics Supplement Series 94 (1992), 251
2. R.Jurdana, D.Kotnik-Karuza: Search for the remnants of the 1977-1986 outburst in the quiescent phase of CH Cygni. Astronomy and Astrophysics Supplement Series 108 (1994), 533
3. D.Kotnik-Karuza, R.Jurdana-Šepić: CH Cygni 1987-89: The inactive state as a precursor to a new outburst. Astronomy and Astrophysics Supplement Series 131 (1998), 229
4. D.Kotnik-Karuza, R.Jurdana Šepić: Search for signs of a new outburst in the quiescent state of CH Cygni. New Astronomy Reviews 43 (1999), 487
5. D.Kotnik-Karuza, R.Jurdana-Šepić: Evidence of nebula produced by mass injection from the massive component of a symbiotic star. New Astronomy Reviews 44 (2000), 287
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7. D.Kotnik-Karuza, R.Jurdana-Šepić, Y.P Pavlenko: [O/C] abundance ratio for cool giants from the receding tip of the stellar Galactic bar, New Astronomy Reviews 45 (2001), 573
8. U. Munari U., R. Jurdana-Šepić and D. Moro: Symbiotic stars on Asiago archive plates, Astronomy and Astrophysics 370 (2001), 503
9. U. Munari, R. Jurdana-Šepić: Symbiotic stars on Asiago archive plates II , Astronomy and

Astrophysics 386 (2002), 237

10. R.Jurdana-Šepić, D.Kotnik-Karuza: Atmospheric thermal structure of a sample of M type giants, Astrophysics and Space Science 282 (2002), 743
11. R.Jurdana-Šepić, D.Kotnik-Karuza: Atlas of M7III optical spectral features, Astrophysics and Space Science 288 (2003), 269
12. R.Jurdana-Šepić, D.Kotnik-Karuza: Atmospheric thermal structure of a sample of M type giants II, Astrophysics and Space Science, 289 (2004), 15
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14. D.Kotnik-Karuza, R.Jurdana-Šepić: CH Cygni: A symbiotic star in its transition phase to quiescence, Astronomical and Astrophysical Transactions 13 (1997), 1
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Ostale kvalifikacije za izvođenje nastave kolegija

Projekti iz područja obrazovanja iz fizike

Eksperiment u konstruiranju fizičkih modela i koncepata, projekt MZT RH (0009003), odobren 2002, voditelj projekta

Hokus - pokus - fizika ! projekta *e-škole Hrvatskog fizikalnog društva* za kreiranje i izvedbu ciklusa istraživačkih radionica za popularizaciju prirodnih znanosti za djecu osnovnoškolskog uzrasta te njihovu internetizaciju, voditelj projekta

e-škola astronomije, projekt Hrvatskog prirodoslovnog društva, suradnik projekta

Rad na popularizaciji struke

Idejni začetnik emisije Radio Rijeke za popularizaciju prirodnih znanosti i matematike: BALTAZAR, autor 11 i urednik 18 emisija.

Član organizacijskog odbora DMF Rijeka za Prvi hrvatski festival znanosti 12-18.5.2003

Koordinator *Festivala znanosti Rijeka 2004* (26-30.4.2004.) imenovan od Sveučilišta u Rijeci i Društvo matematičara i fizičara Rijeka

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STRUČNO USAVRŠAVANJE

1. *Diskusija kao nastavna metoda u visokom obrazovanju* radionica programa "Unapređivanje kvalitete visokoškolske nastave", Universitas, Rijeka, 2002

2 . *Aktivno učenje studenata* radionica programa "Unapređivanje kvalitete visokoškolske nastave", Universitas, Rijeka, 2002

3. *Quality in Higher Education* radionica programa "Unapređivanje kvalitete visokoškolske nastave", Universitas, Rijeka, 2002

4. *Innovations in Teaching and Learning* radionica programa "Unapređivanje kvalitete visokoškolske nastave", Universitas, Rijeka, 2002

5. *Vještina motiviranja* trening-seminar ciklusa "Vještine rukovođenja " tvrtke Dragon d.o.o. za poslovno savjetovanje, Rijeka, 2004

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Kratki životopis

Rođena 1973. godine u Rijeci, gdje i danas živi. Nakon matematičke gimnazije, 1997. godine diplomirala na Pedagoškom fakultetu u Rijeci, smjer matematika-informatika, a 2001. godine magistrirala na Filozofskom fakultetu u Zagrebu, studij Informacijskih znanosti i stekla naziv magistra informacijskih znanosti. Godine 2002. upisala doktorski studij Računarskih znanosti na Fakultetu elektronike i računalstva u Zagrebu.

Od 1998. godine radi na Filozofskom fakultetu u Rijeci na Odsjeku za Informatiku, najprije kao vanjski suradnik, a zatim u redovnom radnom odnosu kao asistent na kolegijima OO modeliranje i programiranje (C++), Računarski praktikum (Java), Ekspertni sustavi, Inteligentni sustavi, Operacijska istraživanja, Matematika i drugim, za studijske grupe Matematika i informatika i Informatika.

Sudjeluje na istraživačkim projektima uz potporu Ministarstva znanosti i tehnologije: Metodologija razvoja informacijskih sustava (gl. istraživač doc. dr.sc. Mile Pavlić), Eksperiment u konstruiranju fizičkih modela i koncepcija (gl. istraživač izv. prof. dr.sc. Rajka Jurdana-Šepić) i Komunikacija čovjek-stroj (gl. istraživač izv. prof.. dr.sc. Ivo Ipšić).

Tijekom niz godina mentor na općinskim i županijskim takmičenjima, te član povjerenstva PGŽ za natjecanje i smotru radova iz informatike za osnovne i srednje škole.

Sudjelovala na više domaćih i stranih konferencija, te kao autor ili koautor objavila veći broj radova.

Popis **relevantnih** radova

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11. Poščić P., Pavlić M., Ivašić-Kos M.: Object Models in IDEA and IDEF 4 Methodologies, 12 th International Conference on Information and Intelligent Systems IIS 2001, Varaždin, 2001.
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International Conference on Information and Intelligent Systems IIS 2000, Sveučilište u Zagrebu Fakultet organizacije i informatike u Varaždinu, Varaždin 2000, str. 15.

17. Ivašić M.: Object oriented principals applied to an agent, "Zbornik MIPRO 2000-CIS/CTS", MIPRO Rijeka, IEEE Croatia Section, Opatija 2000, str. 21-24.
18. Ivašić M., Pavlić M.: Approaches for building interface agents, 8 th Electrotechnical and Computer Science Conference - ERK'99, Slovenska sekcija IEEE, Portorož 1999, Slovenija, Vol. B, str. 183-186.

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Od 1995. radim kao asistent na Odsjeku za informatiku Filozofskog fakulteta u Rijeci, te sudjelujem na istraživačkom projektu uz potporu Ministarstva znanosti i tehnologije *Metodologija razvoja informacijskih sustava (voditelj dr.sc. Mile Pavlić).* Sudjelujem i u nastavi održavajući vježbe i seminare iz različitih informatičkih kolegija (Osnove informatike, Baze podataka, Modeliranje podataka, Modeliranje procesa, Informacijski sustavi) na studijskim grupama Matematika i informatika i Informatika.

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Popis **relevantnih** radova

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Kratki životopis

Rođena sam 27. travnja 1970 u Rijeci, gdje sam i završila osnovnu školu. Maturirala sam na I. riječkoj gimnaziji 1988. godine smjer matematika - informatika.
1988. g. upisujem se na Fakultet infomatike i računarstva u Ljubljani. 1993. g. branim diplomski rad s temom iz područja informatike - sustavi za pomoć u odlučivanju (Decision Support Systems). Diplomu sam nostrificirala na Fakultetu elektotehnike i računarstva u Zagrebu.
1994. g. zapošljavam se u slovenskom zavodu za zdravstveno osiguranje, u centru za informatiku kao programer - projektant informacijskih sustava. 1997. g. postajem savjetnik za izgradnju informacijskih sustava i vodim opsežan projekt na području dobrovoljnih osiguranja.
Uz rad 1996. g. upisujem postdiplomski studij informatike (Informacijsko-upravljalske vede) na Ekonomskom fakultetu u Ljubljani. Krajem 1999. godine branim magistarski rad s temom "Modeliranje sistema za nadzor potrošnje lijekova", u kojem obrađujem područje podrške poslovnom odlučivanju na principima skladištenja podataka. Istovrijednost magiterija je priznata na Ekonomskom fakultetu u Zagrebu.
U akademskoj godini 2000./2001. započinjem rad na Ekonomskom fakultetu u Rijeci, kao stručni suradnik za kolegije Poslovna kibernetika i Menedžment informacijskih sustava.
Od 2002. zaposlena sam kao znanstveni novak na Filozofskom fakultetu u Rijeci, na Odsjeku za informatiku, gdje sam u travnju 2002. izabrana u zvanje asistenta.
Uključena sam u izvođenje nastave na Odsjeku za informatiku te na Odsjeku za kroatistiku Filozofskog fakulteta u Rijeci, gdje izvodim vježbe za kolegije: Formalni jezici i jezični procesori, Osnove digitalne tehnike, Digitalna obrada signala te Osnove informatike za kroatiste.
Posjedujem aktivno znanje slovenskog, engleskog i njemačkog te pasivno znanje talijanskog jezika.

Popis relevantnih radova za izvođenje kolegija

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Ana Kaić rođena je 1978. godine u Rijeci. Godine 1997. završila je prirodoslovno-matematičku gimnaziju u Rijeci. Diplomirala je na Filozofskom fakultetu u Rijeci u listopadu 2001. godine, smjer matematika i informatika.

U studenom 2001. godine zaposlila se na Filozofskom fakultetu u Rijeci na Odsjeku za informatiku kao znanstveni novak. Iste godine upisuje poslijediplomski znanstveni magistarski studij "Informacijske znanosti" na Fakultetu organizacije i informatike u Varaždinu, Sveučilišta u Zagrebu.

Sudjeluje na istraživačkom projektu Metodologija razvoja informacijskih sustava (voditelj dr.sc. Mile Pavlić).

Popis **relevantnih** radova

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8. Pavlić M., Kaić A., Dobrović Ž., Čandrlić S., Ostojić J. *Physical Design of Information Systems Integration Process*, 14th DAAAM International Symposium: Intelligent Manufacturing & Automation: Focus on Reconstruction and Development", Sarajevo, 2003.
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10. Pavlić M., Kaić A., Dobrović Ž: *Information Systems Integration Process: Data Perspective,* Proceedings of the 14th International Conference International Conference on Information and Intelligent Systems IIS 2003, Varaždin, 2003., 9-15
11. Poščić P., Pavlić M., Kaić, A: '*Mjerenje produktivnosti u razvoju programskog proizvoda*', Zbornik "CASE16 - Metode i alati za razvoj poslovnih i informacijskih sustava", Opatija: Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003., 5-11
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Kratki životopis

Završila Osnovnu školu Jurja Klovića u Triblju, općina Vinodolska, a zatim opći smjer Prve riječke hrvatske gimnazije u Rijeci. Na Filozofskom fakultetu u Rijeci diplomirala matematiku i informatiku. Studira na poslijediplomskom studiju informacijskih znanosti, smjer opća informatologija na Filozofskom fakultetu u Zagrebu.
Sudjeluje u nastavi iz više kolegija na Odsjeku za informatiku Filozofskog fakulteta u Rijeci. Radi kao znanstveni novak na projektu Metodologija razvoja informacijskih sustava.

Popis **relevantnih** radova

8. Ostojić, Josip; Pavlić, Mile; Čandrlić, Sanja. Primjena metodike "MIRIS" u prodaji osiguranja // *Zbornik radova 5. međunarodnog simpozija Informacijska i komunikacijska tehnologija i osiguranje* / Milijević, Nikola (ur.). Rovinj : TECTUS, 2004. 65-69 (međunarodna recenzija, stručni rad).
9. Čandrlić, Sanja; Golem, Marko, Pavlić, Mile; Zamlić, Igor; Kaić, Ana**.** Network development of applications // *Annals of DAAAM for 2003 & Proceedings of the 14th International DAAAM Symposium* / Katalinić, B. (ur.). Vienna, Austria: DAAAM International Vienna, 2003. 079-080 (međunarodna recenzija, znanstveni rad).
10. Pavlić, Mile; Kaić, Ana; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Physical design of information systems integration process // *Annals of DAAAM for 2003 & Proceedings of the 14th International DAAAM Symposium* / Katalinić, B. (ur.). Vienna : DAAAM International Vienna, 2003. 347-348 (međunarodna recenzija, znanstveni rad).
11. Pavlić, Mile; Kaić, Ana; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Faza dizajna procesa integracije informacijskih sustava // *Proceedings of the 25th International Conference on Information Technology Interfaces ITI 2003* / Budin, Leo (ur.). Cavtat : SRCE University Computing Centre, 2003. 143-148 (međunarodna recenzija, znanstveni rad).
12. Kaić, Ana; Pavlić, Mile; Dobrović, Željko; Čandrlić, Sanja; Ostojić, Joško. Rast i razvoj integralnog informacijskog sustava // *Zbornik "CASE15 - Metode i alati za razvoj poslovnih i informacijskih sustava"*. Opatija : Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003. 5-11 (stručni rad).
13. Zamlić, Igor; Golem, Marko; Čandrlić, Sanja; Kaić, Ana; Pavlić, Mile. Mrežni razvoj aplikacije pomoću Buildera // *Zbornik "CASE15 - Metode i alati za razvoj poslovnih i informacijskih sustava"*. Opatija : Hrvatski informatički zbor, Ministarstvo znanosti i tehnologije RH, 2003. 23-27 (stručni rad).
14. Pavlić, Mile; Sok, Antun; Ivašić, Marina; Poščić, Patrizia; Čandrlić, Sanja. Softverski inženjering, 2004 (stručni rad).

Ime i prezime suradnika	Igor Jugo
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Kratki životopis

Igor Jugo je diplomirao 2003. godine na Filozofskom fakultetu Sveučilišta u Rijeci stekavši naziv profesora pedagogije i informatike. Od 2004. godine radi na Filozofskom fakultetu u Rijeci, na Odsjeku za informatiku, kao asistent na predmetima "Računalne mreže", "Programiranje za Internet" i "Kominikacijski sustavi i društvo". Godine 2004. upisao je poslijediplomski znanstveni studij Informacijskih znanosti na Fakultetu organizacije i informatike u Varaždinu. Kao student, i prije zaposlenja na Fakultetu, radio je u informatičkim centrima gdje je predavao više softverskih alata i aplikacija (Office, Macromedia, izrada web stranica). Radio na održavanju računalnih mreža i bio voditelj razvoja web aplikacija temeljnih na ASP, ASP.NET i MS SQL Server platformi. Nosioc je certifikata Macromedia Certified Professional, i Macromedia Certified Instructor.

Relevantni radovi

3. Jugo, I., Radovan, M.: 'Developing Dynamic Web Applications', in Proceedings of the *15th International Conference on Information and Intelligent Systems*, Varaždin, Croatia, September 22-24, 2004, pp. 101-110. (Engleski)
4. Jugo,I.,Radovan,M., 'An analysis of excptions handling in PHP and ASP.NET', (rad u pripremi za objavu).

Nastavnički modul

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Kratki životopis

Rođena 1964. godine. Diplomirala psihologiju 1987. godine na Pedagoškom fakultetu u Rijeci. Magistrirala na Filozofskom fakultetu u Ljubljani, 1991. godine. Doktorirala na Filozofskom fakultetu u Zagrebu, 2000. godine na temu: *Privrženost roditeljima, te separacije-individuacija kao odrednice psihološke prilagodbe studenata*.
Docent na Odsjeku za psihologiju Filozofskog fakulteta u Rijeci, gdje predaje Razvojnu psihologiju 1 i Razvojnu psihologiju 2, te Razvojnu psihologiju na studiju Pedagogije.
Pročelnik Odsjeka u razdoblju od ak. god. 2002/03. i 2003/04.
Suradnik na znanstveno-istraživačkom projektu «Samovrednovanje u osnovnim i srednjim školama». Voditelj projekta «Razvoj kurikuluma studija psihologije» i član Koordinacije studija psihologije u Hrvatskoj.
Bavi se istraživanjem procjene ponašanja djece i mladih, psihologijom roditeljstva te procjenom kvalitete studiranja. Aktivna u Studentskom savjetovališnom centru.

Popis relevantnih radova za izvođenje kolegija

1. Smojver-Ažić, S. (1998). Proces separacije-individuacije adolescenata: prikaz upitnika. *Društvena istraživanja*, 4-5 (36-37), 603-617.
2. Bezinović, P., Smojver-Ažić, S. (2000). Negativni odnos roditelja i agresivnost adolescenata: Značenje suprotnog spola roditelja i spola djeteta. *Revija za reahibilitacijska istraživanja*, 36(1), 87-98.
3. Smojver-Ažić, S., Anđelić-Breš, S i Đonlić, V. (2002). Personality traits and and coping with stress among adolescent athletes and nonathletes. Kineziology New Perspectives: 3rd International Scientific Conference Opatija, Croatia, 781-784.
4. Smojver-Ažić, S., Živčić-Bećirević, I., Gurdon, I.Jurčić, L., Valić, LJ., Denona, I.(2002). Doživljaj stresnosti posla odgajatelja. Rijeka: Stručno –znanstveni skup „Cjeloživotnim učenjem korak bliže djetetu“. 98-107.
5. Živčić-Bećirević, I., Smojver-Ažić, S i Mišćenić, G. (2003). Problemi u ponašanju predškolske djece prema procjeni roditelja i odgojitelja. *Psihologijske teme*, 12, 63-76.

Ostale kvalifikacije za izvođenje nastave kolegija

Dosadašnje iskustvo u izvođenju nastave.
Sudjelovanje na seminarima namijenjenim unaprijeđenju i osuvremenjivanju nastavnih metoda i pristupa u visokoškolskoj nastavi:
Aktivno učenje i kritičko mišljenje u visokoškolskoj nastavi, Sveučilište u Rijeci, akademska godina 2002./2003.

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Kratki životopis

Rođena sam u Polju (Derventa, BiH) 1950. godine. Studij psihologije sam diplomirala na Filozofskom fakultetu u Zagrebu 1974. godine. Na istom sam fakultetu i magistrirala (1981.) i doktorirala (1988) s temom: Eksperimentalno ispitivanje djelovanja nekih faktora na metamemoriju..
Od početka 1982 do početka 1987. godine radim kao znanstveni asistent na Pedagoškom fakultetu u Rijeci. Na istom fakultetu od početka 1990. godine radim u zvanju docenta, a od početka 1997. godine u zvanju izvanrednog profesora. Izvodim nastavu iz Psihologije odgoja i obrazovanja i Psihologije kreativnosti. Bavim se istraživanjem pamćenja imena, te percepcijom afektivnog sadržaja u umjetnosti..
Suradnik sam na projektu: Operacionalizacija i kroskulturalna validacija konstrukta emocionalne inteligencije (voditelj: dr. sc. Vladimir Takšić)

Popis **relevantnih** radova za izvođenje nastave

1. Arar, Lj., Hudek J., Vehovec, J., Vukmirović, Ž. (1984). Može li Nobleov indeks smislenosti biti indikator znanja? *Zbornik Pedagoškog fakulteta u Rijeci,* Rijeka: Pedagoški fakultet. 6, 5-12.
2. Arar, Lj. (1987). Utjecaj učenja, retencije i smislenosti na prepoznavanje i osjećaj znanja. *Zbornik radova VI dani psihologije u Zadru, 4*, 133-142.
3. Arar, Lj., Niković, I. (1988). Dominantna obilježja laičkog koncepta "Inteligentan student". *Psihologija, 21*, 4, 149 -158.
4. Arar, Lj., Rački, Ž. (2003). Psihologija kreativnosti. *Psihologijske teme, 12*, 3-22.
5. Takšić,V., Arar,Lj., Molander, B. (2004). Measuring emotional intelligence: Perception of affective content in art. *Studia Psychologica, 46*, 3, 195-202.

Ostale kvalifikacije za izvođenje nastave

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Kratki životopis

Rođena sam 1955. godine, diplomirala sam na Odsjeku za psihologiju Filozofskoga fakulteta u Zagrebu 1979. godine. Magistrirala sam 1984. godine na Odsjeku za psihologiju Filozofskoga fakulteta u Zagrebu obranom rada *Paralingvistika i socijalni utjecaj*. Doktorat znanosti stekla sam 1994. godine na psihologiju Filozofskome fakultetu u Zagrebu, obranom disertacije iz područja soocijalne psihologije *Socijalna kompetencija u interpersonalnoj komunikaciji*.

Na Odsjeku za psihologiju Filozofskog fakulteta u Rijeci zaposlena sam od 1979. godine. Pedajem Osnove psihologijske statistike i Psihologiju komuniciranja.

Od 1979. godine sudjelujem u radu na znanstvenim projektima Ministarstva znanosti, a od 2000. godine sam voditelj projekta *Suočavanje djece sa stresom u školi*. Aktivno sam sudjelovala u nizu znanstvenih skupova u zemlji, kao i na međunarodnim konferencijama. Objavila sam samostalno ili u koautorstvu 31 znanstveni i stručni rad i jednu stručnu knjigu.

Područja mog interesa i istraživanja su neverbalna komunikacija, socijalna kompetencija, suočavanje sa stresom u školi i pozitivna psihologija.

Popis relevantnih radova za izvođenje kolegija

1. Sremec B., Brdar I., Vehovec J., Vukmirović Ž. (1986). Usporedba kvantitativnog značenja nekih riječi u izoliranom obliku i u kontekstu rečenice. *Primijenjena psihologija*, vol. 7, 1-4, 181-188.
2. Brdar I. (1986). Neverbalna vokalna komunikacija i socijalni utjecaj, *Primijenjena psihologija*, vol. 7, br. 1-4, 291-295.
3. Brdar I., Pokrajac A. (1993). Social Competence and Empathy. *Proceedings of III. Alps-Adria Symposium of Psychology*, Ljubljana, 43-48.
4. Brdar I. (1994). Različiti teorijski pristupi socijalnoj kompetenciji. *Godišnjak Odsjeka za psihologiju*, br. 3.
5. Brdar I., Tkalčić M., Bezinović P. (1996). Women´s cosmetic use and self-concept. *Studia Psihologica*, 38 (1-2) 45-54.
6. Thorson J.A., Brdar I., Powell F.C. (1997). Factor-analytic study of sense of humor in Croatia and the USA. *Psychological Reports*, 81 (3, Part 1) 971-977.
7. Brdar I., Rijavec M. (2001). Parents' Perceptions Of Their Children's Coping With School Failure, *Studia Psychologica*, Vol. 43, no. 2, 101-112.
8. Rijavec M., Brdar I. (2002). Coping With School Failure And Self-Regulated Learning. *European Journal of Psychology of Education*, 17 (2), 177-194.
9. Brdar, I., Lončarić, D. (2004). Suočavanje s akademskim stresom i aktivnosti u slobodnom vremenu učenika, *Društvena istraživanja*, 74, 967-988.

Ostale kvalifikacije za izvođenje nastave kolegija

Teme mog magistraskog rada i doktorske disertacije iz područja su socijalne psihologije (neverbalna komunikacija i socijalna kompetencija). Znanja iz komunikacije stekla sam i aktivnim sudjelovanjem u projektu Kvantitativna obilježja riječi. Više od polovice znanstvenih radova koje sam objavila je iz područja socijalne interakcije.
Na kolegiju Osnove psihologijske statistike imam dugogodišnje iskustvo, jer sam u nastavi sudjelovala najprije kao asistent, a nakon što sam magistrirala, preuzela sam i predavanja. Veliko iskustvo u obradi rezultata stekla sam i u radu s oko četrdeset ak diplomanata kojima sam bila mentor.
Sudjelovala sam na dva seminara iz multivarijatnih statističkih metoda koje su vodili dr. Valentin Bucik i dr. Klas Brenk s Filozofskog fakulteta u Ljubljani (Sarajevo, 2001. i 2002.). Stečeno znanje primijenjujem u obradi rezultata novijih istraživanja (klaster analiza, path analiza).

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Kratki životopis

Rođen 1955. g. u Bujama. Osnovnu školu završio u Umagu, a gimnaziju u Bujama. Diplomirao na Odsjeku za sociologiju Filozofskog fakulteta u Zagrebu 1979. g. Magistrirao 1985. g. na poslijediplomskom studiju istog fakulteta s temom "Problem vrijednosti u sociologiji". Doktorirao 2002.g. na istom fakultetu s temom "Problem ideologije u suvremenoj sociološkoj teoriji: akcijska i strukturalna perspektiva".

Od 1980. do 1986. g. zaposlen kao urednik u časopisu "Naše teme". Od 1985. do 1989. g. honorarni predavač Sociologije obrazovanja na Filozofskom fakultetu Sveučilišta u Zagrebu. Od 1986. do 1989. g. zaposlen na Arhitektonskom fakultetu Sveučilišta u Zagrebu u statusu predavača društvenih predmeta. Od 1989. do 1997. kao znanstveni asistent na Odsjeku za sociologiju Filozofskog fakulteta u Zagrebu predaje kolegije Uvod u sociologiju, Sociologija obrazovanja i Suvremene sociološke teorije. Tijekom ak.g. 1995/6 održava nastavu i na kolegiju Osnovni pojmovi sociologije, a tijekom ak. g. 1996/7 iz Sociologije politike. Od 1998. radi kao viši predavač, a od 2004. g. kao docent na kolegijima Sociologija, Sociologija odgoja, Uvod u društvenu znanost i Sociologija kulture na Filozofskom fakultetu Sveučilišta u Rijeci. Bio je mentor ili član komisije za obranu više diplomskih radova studenata na Odsjeku za sociologiju u Zagrebu.

Bio je član uredništva "Studentskog lista", časopisa "Pitanja", časopisa "Naše teme", zamjenik glavnog i odgovornog urednika časopisa "Revija za sociologiju" te urednik Biblioteke Revije za sociologiju. Sada je član uredništva časopisa "Polemos".

Kao autor i suradnik sudjelovao je u više istraživanja: Vrijednosti i vrijednosne orijentacije mladih Hrvatske, Jugoslavenski program istraživanja omladine, Socio-kulturni razvoj Hrvatske, Profili čitalačke publike, Istraživanje subotnjeg izdanja "Večernjeg lista", Hrvatske izbjeglice i prognanici, Nova agenda za nove demokracije, Tipovi stadionske publike i uloga ekstremnih navijača i Racionalnost. Bio je sudionikom više stručnih skupova s tematikom iz područja sociologije. U svom pedagoškom i znanstvenom radu osobito se bavi sociološkim teorijama, teorijama ideologije, sociologijom mladih i sociologijom obrazovanja. Autor je nastavnog programa i obveznog udžbenika za predmet Sociologija za gimnazije, te udžbenika Politika i gospodarstvo za gimnazije i za obrtničke škole. Autor je prijedloga programa za kolegije Uvod u društvenu znanost, Sociologija kulture i Teorije ideologije na Kulturalnim studijima na Filozofskom fakultetu u Rijeci.

Studijski boravci u inozemstvu: 1990. g. University of Indiana, Bloomington (7 mjeseci) i 2001. g. Ohio State University, Cleveland (3 tjedna).

Od 1997. do 2001. g. bio je vijećnik i potpredsjednik Gradskog vijeća Grada Umaga. Od 1999. do 2001. g bio je predsjednik Upravnog vijeća Pučkog otvorenog učilišta u Umagu, a od 1997. g. do danas (drugi mandat) je predsjednik Upravnog vijeća Dječjeg vrtića "Duga" u Umagu.

Služi se engleskim i talijanskim jezikom. Živi u Umagu.

Popis relevantnih radova za izvođenje kolegija

1. Vrijednosti i društvena integracija u teoriji Talcotta Parsonsa, ***Revija za sociologiju 15 (3-4)***, Zagreb, 1985.: 231-246.
2. Politički angažman i odnos prema politici, u: Radin, F. (ur.), ***Fragmenti omladine***,

RZRKSSOH i IDIS, Zagreb, 1988.: 147-162.

3. Okvir za razumijevanje ponašanja ekstremnih navijača, u: Radin, F. (ur.), ***Zagrebački nogometni navijači: grupni portret s BBB u središtu***, IDIS, Zagreb, 1991.: 9-22.
4. Dediferencijacija i rat, u: Čaldarović et al. (ur.), ***Sociologija i rat***, HSD, Zagreb, 1992.: 51-62.
5. ***Problem ideologije u suvremenoj sociološkoj teoriji: akcijska i strukturalna perspektiva*** (doktorska disertacija), FF, Zagreb, 2002.
6. Elementi Parsonsove teorije ideologije, ***Revija za sociologiju 33 (3-4)***, Zagreb, 2002.: 137-158.
7. Teorija strukturacije i ideologija: neke nerazriješene poteškoće Giddensove teorije, ***Društvena istraživanja 13 (1-2)***, Zagreb, 2004.: 195-217.
8. ***Sociologija: udžbenik za gimnazije (izmijenjeno i dopunjeno izdanje),*** Profil, Zagreb, 2004.

Ostale kvalifikacije za izvođenje nastave kolegija

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Kratki životopis

Svjetlana Kolić-Vehovec je 1983. godine diplomirala psihologiju na Pedagoškom fakultetu u Rijeci, magistrirala je psihologiju 1988. godine na Filozofskom fakultetu u Zagrebu, a 1993. godine obranila je doktorsku disertaciju "Kognitivni i kognitivno-motivacijski čimbenici vještine čitanja" na Filozofskom fakultetu u Ljubljani. Na Filozofskom fakultetu u Rijeci, tada Pedagoškom fakultetu, zaposlena je od 1984. godine. Predaje kolegije Psihologija učenja, Edukacijska psihologija i Odabrana poglavlja iz edukacijske psihologije. Glavna je urednica časopisa Psihologijske teme. Član je Hrvatskog psihološkog društva i Evropskog udruženja za istraživanja učenja i poučavanja (EARLI). Glavni istraživač je na projektu " "Kognitivne strategije, metakognicija i razumijevanje pri čitanju". Suradnik je na projektu "Samovrednovanje u osnovnim i srednjim školama". Bavi se istraživanjem kognitivnih i motivacijskih faktora čitanja, pamćenja imena, te socijalne interakcije u razredu. Objavila je 19 znanstvenih i 9 stručnih radova.

Popis **relevantnih** radova za izvođenje nastave

Skripta:

1. Kolić-Vehovec, S. (1999). *Edukacijska psihologija*. Rijeka: Filozofski fakultet.

Znanstveni radovi objavljeni u časopisu citiranom u tercijarnim publikacijama (CC):

1. Kolić-Vehovec, S. i Arar, Lj. (1998). Do we remember surnames as words? In the search of the "word-word" paradox, *Studia Psychologica*, 3, 187-196.
2. Kolić-Vehovec, S. (2002). Effects of self-monitoring training on reading accuracy and fluency of poor readers, *European Journal of Psychology of Education*, 17, 2, 129-138.
3. Kolić-Vehovec, S. (2002). Self-monitoring and attribution training with poor readers. *Studia Psychologica*, 44, 1, 57-68.
4. Kolić-Vehovec, S. i Rončević, B. (2003). Perfekcionizam, ispitna anksioznost i akademsko samopoimanje darovitih gimnazijalaca, *Društvena istraživanja, 12, 5, 679-702*.

Znanstveni radovi objavljeni u časopisu citiranom u sekundarnim publikacijama:

1. Kolić-Vehovec, S., Bajsanski, I. (2001). Children's metacognition as predictor of reading comprehension at different developmental levels, *ERIC database*, 19 p., ED456422
2. Kolić-Vehovec, S. (2002). Razvoj fonološke svjesnosti i učenje čitanja: Trogodišnje praćenje, *Hrvatska revija za rehabilitacijska istraživanja, 1, 17-32*. ISSN 1331-3010
3. Kolić-Vehovec, S. i Muranović, E. (2004). Evaluacija treninga recipročnog poučavanja strategija čitanja. *Suvremena psihologija*, 1, 95-108.

Ostali znanstveni radovi:

1. Kolić-Vehovec, S. i Stefanovski, N. (1997-1998). Socijalni status hiperaktivne i agresivne djece, *Psihologijske teme*, 6-7, 54-66.

2. Šepić,N., Kolić-Vehovec, S. (1999-2000). Kognicije, suočavanje i ispitna anksioznost u odnosu na uradak djece u situaciji školskog ispitivanja. *Psihologijske teme*, 8-9, 79-94.
3. Takšić, V., Štokalo, V. i Kolić-Vehovec, S. (2002). Prognostička valjanost emocionalne inteligencije (kompetentnosti) za uspjeh u školi. *Psihologijske teme*, 11, 81-90.
4. Kolić-Vehovec, S., Bajsanski, I. (2003). Children's metacognition as predictor of reading comprehension at different developmental levels, Proceedings of the 12th European Conference on Reading, 216-222. Dublin: Reading Association of Ireland.
5. Rupčić, I., Kolić-Vehovec, S. (2004). Ciljna orijentacija, samohendikepiranje i samoefikasnost srednjoškolaca. *Psihologijske teme*, 13, 105-117.

Stručni radovi:

1. Kolić-Vehovec, S. i Bajšanski, I. (2001). Konstrukcija upitnika strategijskog čitanja, *Psihologijske teme*, 10, 51-62.
2. Kolić- Vehovec, S. (2001). Kako pomoći učeniku da uključi svoj mozak, *"Peti hrvatski simpozij o nastavi fizike: Učenik- aktivni sudionik u nastavi fizike", Zbornik radova,* Makarska, 53-62.
3. Kolić-Vehovec, S. (2002). Osobine i motivacija učenika u kvalitetnoj školi, *RI KVAŠ-21 "Svaki učenik može uspjeti", Zbornik radova*, Rijeka, 22-29.

Ostale kvalifikacije za izvođenje nastave

Edukacija za visokoškolske nastavnike (60 sati) u okviru projekta "Aktivno učenje i kritičko mišljenje u visokoškolskoj nastavi" pod vodstvom prof.dr. Vlaste Vizek-Vidović.

Ime nositelja kolegija	Jasminka Ledić
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Ustanova nositelja kolegija	Filozofski fakultet u Rijeci
Zvanje nositelja kolegija	redoviti profesor (trajno zvanje)
Datum zadnjeg izbora u zvanje	3. 10. 2000.

Kratki životopis

- rođena u Rijeci 20.11.1959., državljanka RH, Hrvatica
- diplomirala 1982 na Pedagoškom fakultetu u Rijeci (diplomirani pedagog-profesor; prvi student u generaciji)
- magistrirala 1984 na Pedagoškom fakultetu u Rijeci (Položaj kreativnih učenika u nastavnom procesu; prvi student u generaciji)
- doktorirala 1986 na Pedagoškom fakultetu u Rijeci (Problem provenijencije i determiniranosti odgojnog cilja u novijem razvoju pedagoške misli u Hrvatskoj; najmlađi doktor znanosti na Sveučilištu u Rijeci)
- od 1982. zaposlena na Pedagoškom/Filozofskom fakultetu Sveučilišta u Rijeci
- glavni istraživač na 3 projekta Ministarstva znanosti obrazovanja i športa RH
- 1994/95. boravi u SAD kao dobitnica Fulbrightove stipendije
- dobitnica Državne nagrade Ivan Filipović za doprinos razvoju visokoga školstva (2003)

Popis relevantnih radova za izvođenje kolegija

1. Ledic, J. (2000). Dnevnik Mladena Lokara: uvod u povijest djetinjstva. Rijeka: Filozofski fakultet
2. Davidkov, T., Hegyesie, G., Ledic, J., Randma, T., Behr, G., Kessler, D., Sulek, M., Payton, R. (2000). The Future of Third-Sector Teaching and Research in Central and Eastern Europe. Voluntas: International Journal of Voluntary and Nonprofit Organisations, vol 11, no. 2, 181:190.
3. Ledic, J. (2000). Jedan pogled u povijest djetinjstva. In: N. Babic i S. Irovic (eds): Interakcija odrasli - dijete i autonomija djeteta. Zbornik radova sa znanstvenog kolokvija s medjunarodnim sudjelovanjem, Osijek 18. i 19. studenoga 1999. Osijek 2000, Sveuciliste J.J.Strossmayera u Osijeku, Visoka uciteljska skola i Sveuciliste u Rijeci, Visoka uciteljska skola, 116-123.
4. Ledic, J. (2001). Biti volonter/volonterka? Istraživanje uključenosti građana u civilne inicijative u zajednici kroz volonterski rad. Smart – Udruga za razvoj civilnog drustva, Rijeka, ISBN 953-98751-0-2, 207 str.
5. Ledic, J.: Croatia Above All: Values/messages in Croatian Elementary School Curriculum. (in: Christoper Day, Dolf van Veen (eds.) Educational Research in Europe, Yearbook 2001. Leuven/Apeldoorn, Garant Publishers, 57-93.
6. Kovač, Vesna; Ledić, Jasminka and Rafajac, Branko (2002). Upravljanje visokoškolskim institucijama: problemi i pristupi rješenjima (Governance of Higher Education Institutions:

Problems and Approaches to Solutions). Društvena istraživanja: Journal for General Social Issues. 11, 6, pp 1013-1030.

7. Kovač, Vesna; Ledić, Jasminka and Rafajac, Branko (2003). Academic Staff Participation in University Governance: Internal Responses to External Quality Demands. Tertiary Education and Management. 9, 3, pp 215-232.
8. Ledic, J.: Volunteering in Croatia: Searching for a Younger Generation's Motivation. in: M. Kralik (ed.) University and College Level Third Sector Studies in Countries of Central and Eastern Europe. Budapest 2003, The Third Sector Studies in Central and Eastern Europe International Academic Network, p.63-80)
9. Ledić, J: The Third Sector Research and Teaching in Croatia: Moving Forward at a Slow Pace.. (in: M. Kralik (ed.) University and College Level Third Sector Studies in Countries of Central and Eastern Europe. Budapest 2003, The hird Sector Studies in Central and Eastern Europe International Academic Network, p. 41-44.

Ostale kvalifikacije za izvođenje nastave kolegija

Rad na projektima/programima (izbor)

CARDS project: Reform of the Judiciary – Support to the Judical Academy of Croatia» (EuropeAid/115163/C/SV/HR) – ekspert za obrazovanje (2004-2005)
Development of Quality Assurance System in Higher Education» (TEMPUS JEP Project; 2002.); kontakt osoba za Sveučilišta u Rijeci.
«Preduvjeti osiguranja kvalitete u visokom školstvu» (0009004); glavni istraživač, MZOŠ
"Establishing and Strengthening a Core Network Promoting Third Sector Studies in the Central and Eastern European Region" član međunarodnog projektnog tima, 2001.

"Uključenost građana u civilne inicijative u zajednici kroz volonterski rad" ("Citizens' involvement in civic initiatives through volunteering"); nositelj projekta udruge SMART.

“Kvaliteta visokoskolske nastave: kriteriji, stanje i model usavrsavanja visokoskolske nastave u cilju izgradnje “kulture kvalitete” (000913); glavni istraživač, MZOŠ

"Pretpostavke i kriteriji efikasnosti visokoskolske nastave" (5-07-071) *(“The Presumptions and the Criteria of University Teaching Efficiency”*); (project of the Croatian Ministry of Science and Technology; associate and head of the project); 1990-1995.

Članstvo u udrugama (izbor)

Udruga za razvoj visokoga školstva "Universitas"; jedan od osnivača i predsjednica (2000-2004), član Upravnog odbora 2005;

Udruga “Zlatni rez”; jedan od osnivača i član Upravnog odbora, 2004;

Forum za slobodu odgoja, pridruženi član (2004);

SMART - Udruga za razvoj civilnog društva; osnovana 1999, član Upravnog odbora 1999-2001; član Savjetodavnog odbora (2001 – tekuće);

Regionalni centar za razvoj neprofitnih organizacija Rijeka - RI-CENTAR; jedan od osnivača

2002, predsjednica (2000-2002), istupila iz članstva 2004.

Djelatnost na usavršavanju visokoškolske nastave (izbor)

Program inicijalnog osposobljavanja visokoškolskih nastavnika za rad u nastavi – INIOS, nositelj projekta Udruge za razvoj visokoga školstva «Universitas» 2003-2004

Tribine o visokom obrazovanju - nositelj projekta Udruge za razvoj visokoga školstva «Universitas» 2003-2004

«Razvoj kurikuluma poslijediplomskog stručnog studija «Suvremeni trendovi u obrazovanju učitelja» - nositelj projekta za Visoku učiteljsku školu u Rijeci, 2003.

«Management of Change», polaznik radionice, 14.10.2002.

«Na putu prema Europskom prostoru visokoga obrazovanja: prednosti, slabosti, mogućnosti i opasnosti»; voditelj radionice, Rijeka, 19. 02. 2002.

"Peer groups and peer review (Nature, Elements and Tasks)", sudionik radionice, Commission for Higher Education Quality of Slovenia Maribor, Slovenija, May 14, 2003.

«Korištenje informacijskih tehnologija u visokom obrazovanju»; sudionik radionice, Rijeka, 20. 02. 2002.

«Aktivno učenje studenata»; sudionik radionice, Rijeka, 21. 02. 2002.

"Unapređivanje kvalitete visokoškolske nastave" nositelj projekta Udruge za razvoj visokoga školstva Universitas, 2001

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Web stranice:	
Ustanova nositelja kolegija	Odsjek za filozofiju, Filozofski fakultet u Rijeci
Zvanje nositelja kolegija	Izvanredni profesor
Datum zadnjeg izbora u zvanje	2002.

Kratki životopis

Rođen u Rijeci 1949. Studirao filozofiju i sociologiju u Zagrebu. Magistrirao 1986. u Zagrebu s temom o Habrmasovoj filozofiju. Doktorirao 1996. u Ljubljani iz područja logike i filozofije uma. Danas predaje Filozofiju uma na Filozofskom fakultetu u Rijeci. U koautorstvu je uredio dva zbornika (zajedno s Nenadom Miščevićem), iz područja teorije činjenja *Namjera i čin*, te iz područja filozofije psihologije *Računala, mozak i ljudski um* (2000.). Knjiga: *Priroda prirodnog zaključivanja*, Filozofska istraživanja 2004. Autor je niza članaka objavljenih u domaćim i stranim filozofskim časopisima.

Popis relevantnih radova za izvođenje kolegija

1. «Priroda prirodnog zaključivanja», *Filozofska istraživanja*, Zagreb 2004.
2. What are Logical Intuitions?, *Synthesis Philosophica*, No. 29-30., 85-97, 2000.
3. Ali ljudje sklepajo racionalno?, *Analiza*, **3-4**; str. 13-39. Ljubljana, 1997.
4. Intentionalism and Rationality, *Acta analytica* **14**; str. 101-111. Ljubljana 1995.

Ostale kvalifikacije za izvođenje nastave kolegija

Ime nositelja kolegija	Dr. sc. Vesna Kovač
Email:	vesna.kovac1@ri.htnet.hr
Web stranice:	www.pedagogija.skretnica.com/vesna
Ustanova nositelja kolegija	Filozofski fakultet u Rijeci, Odsjek za pedagogiju
Zvanje nositelja kolegija	Docent
Datum zadnjeg izbora u zvanje	8. ožujka 2005.

Kratki životopis

Vesna Kovač rođena je 22. svibnja 1971. godine u Čabru gdje je nakon završenog studija pedagogije zasnovala prvi radni odnos kao pedagog u OŠ „Petar Zrinski". Od studenog 1995. godine zaposlena je na Filozofskom fakultetu u Rijeci kao znanstveni novak. Akademski stupanj **doktora znanosti stekla je 19. ožujka 2004. godine** na Filozofskom fakultetu u Rijeci obranivši doktorski rad *Koncepcije upravljanja visokoškolskim institucijama kao podrška uvođenju sustava osiguranja kvalitete.*
Aktivno govori engleski jezik (TOEFL = 560), a služi se slovenskim i njemačkim jezikom.
Aktivno sudjeluje u izvođenju nastave na studiju pedagogije (kolegiji: Povijest odgoja i obrazovanja, Pedagogija slobodnog vremena, Didaktika, Metodologija istraživanja u odgoju, Seminar diplomskog rada).
Sudjelovala je kao voditelj ili suradnik na više stručnih i znanstvenih projekata. Kao znanstveni novak radila je na tri znanstveno-istraživačka projekta Ministarstva znanosti, obrazovanja i športa Republike Hrvatske, od kojih još uvijek na projektu "Preduvjeti osiguranja kvalitete u visokom školstvu" (0009004) čiji je voditelj prof. dr. sc. Jasminka Ledić.
Aktivno se stručno i znanstveno usavršavala u zemlji i inozemstvu i sudjelovala na više znanstvenih i stručnih skupova u zemlji i inozemstvu.
Pohađala je brojne seminare i radionice iz područja usavršavanja kvalitete visokoškolske nastave i politike visokog obrazovanja. Članica je više domaćih i inozemnih znanstvenih i stručnih udruga. Predsjednica je i jedan od osnivača Udruge za razvoj visokoga školstva «Univeristas». Predstavnica je Universitasa u međunarodnoj organizaciji *International Consortium for Educational Development in Higher Education* (ICED) čiju godišnju skupštinu 2005. godine organizira u Rijeci kao predsjednica organizacijskog odbora.
Aktivna je članica akademske zajednice u kojoj se ističe organizacijom i provođenjem seminara, tribina i skupova vezanih uz politiku visokog obrazovanja.

Popis relevantnih radova za izvođenje kolegija

Knjige, monografije

1. Kovač, V. (2001). *Osposobljavanje i usavršavanje visokoškolskih nastavnika.* Rijeka: Filozofski fakultet u Rijeci. **ISBN:** 953-6104-34-2

Znanstveni radovi objavljeni u časopisima citiranim u tercijarnim i sekundarnim publikacijama (a1)

1. Ledić, J., Rafajac, B. i Kovač, V. Položaj studenata na sveučilištu u svjetlu analize kvalitete nastave (Students' position regarding the quality of the teaching process at the university). *Društvena istraživanja: časopis za opća društvena pitanja* (1330-0288) **7** (1998), 4-5; 619-637

2. Ledić, J., Rafajac, B., Kovač, V. : Assessing the Quality of University teaching in Croatia. // *Teaching in higher education*. 4 (1999), 2; 213-235.

3. Kovač, V., Ledić, J., Rafajac, B.: Upravljanje visokoškolskim institucijama: problemi i pristupi rješenjima.// *Društvena istraživanja*, 62 (2002), 6; 1013-1030.

4. Kovač, V., Ledić, J., Rafajac, B. : Academic Staff Participation in University Governance: Internal Responses to External Quality Demands. // *Tertiary Education and Management*. 9 (2003), 3; 215-232.

Znanstveni radovi objavljeni *in extenso* u ostalim časopisima ili zbornicima s međunarodnih znanstvenih skupova s međunarodnom recenzijom (a2)

1. Kovač, V. Preduvjeti uspješnosti osiguranja kvalitete u visokom obrazovanju (Preconditions for successful quality assurance in higher education). Odgoj, obrazovanje i pedagogija u razvitku hrvatskog društva / Vrgoč, Hrvoje (ur.). - Zagreb : HPKZ , 2003. 515-521.

2. Kovač, V., Ledić, J., Rafajac, B.: Prema sveučilištu kao organizaciji koja uči. // Odnos pedagogijske teorije i prakse, Rosić, V. (ur.), Rijeka, Filozofski fakultet u Rijeci, 2002. 41-49.

3. Kovač, V., Ledić, J., Rafajac, B.: Uvođenje i pripremanje asistenata na visokim učilištima za nastavu. // Zbornik radova s Drugog međunarodnog znanstvenog kolokvija Nastavnik-čimbenik kvalitete u odgoju i obrazovanju (The Teacher as a Contributor to Quality in Education) / Rosić, V. (ur.),Rijeka, Filozofski fakultet u Rijeci, 1999. 41-48.

4. Elton, Lewis; Kovač, Vesna. Research students as teachers: Support or hindrance of research? Proceedings of The second Postgraduate Experience Conference - Developing Research Capacity in Southern Africa / Parsons, Phillip ; Meyer, J.H.F. (ur.). - Capetown : Cape Technikon, Teaching Developement Unit ; University of Cape Town , 1999. 11-17.

5. Kovač, V. Suvremene nastavne metode kao kriterij kvalitetne visokoškolske nastave: kolegijalno tutorstvo (Contemporary teaching methods as a criteria of the quality of teaching in higher education: peer tutoring). Zbornik radova sa Međunarodnog znanstvenog kolokvija Kvaliteta u odgoju i obrazovanju (The Quality in Education and Teaching) / Rosić, Vladimir (ur.). - Rijeka : Pedagoški fakultet u Rijeci , 1998.. 132-138.

6. Rafajac, B., Ledić, J. i Kovač, V. Kvaliteta visokog obrazovanja (The Quality of Higher Education). Zbornik radova sa Međunarodnog znanstvenog kolokvija Kvaliteta u odgoju i obrazovanju (The Quality in Education and Teaching) / Rosić, Vladimir (ur.). - Rijeka : Pedagoški fakultet u Rijeci , 1998. 19-27.

7. Kovač, V., Ledić, J. i Rafajac, B. Kriteriji uspješne visokoškolske nastave: pristup istraživanju (The quality criteria of higher education teaching: approach to a research). Napredak: časopis za pedagogijsku teoriju i praksu (1330-0059) **139** (1998), 3; 298-306

8. Kovač, V. Diskusija kao nastavna metoda u visokoškolskoj nastavi: prilog za poticanje dubinskog pristupa učenju. Napredak : časopis za pedagogijsku teoriju i praksu (1330-0059) **138** (1997), 3; 433-440.

9. Berendt, Brigitte; Kovač, Vesna. Hochschuldidaktische Aus-, Fort- und Weiterbildung in Grossbritannien 1996/97 (University teaching improvement in Great Britain 1996/97.).

Handbuch Hochschuliehre (1997); 2-26.

10. Ledić, J., Rafajac, B. I Kovač, V. The Quality of teaching in higher education: the Croatian case. 44th ICET World Assembly Proceedings, volume II International Yearbook on Teacher Education 1997 Promoting Quality teacher education for and interconnected world / Klassen, Sandra (ur.). - Muscat, Oman : ICET , 1997. 716-728.

Znanstveni radovi prezentirani na međunarodnim znanstvenim skupovima i objavljeni u formi sažetaka

1. Kovač, V. Organisational Culture of Universities: towards the desired model. Book of abstracts, First International Congress on University Education «Perspectives on University Education in the 21st Century», 27-29 svibnja 2004. godine, Istanbul, Turska. Istanbul: Fatih University, str. 87.
2. Kovač, V. i Rafajac, B. Introducing Teaching Assistants into Academic Community: A Croatian Perspective. Book of Abstracts, ECER (European Conference on Educational Research) 98 Ljubljana : Faculty of Education University of Ljubljana , 1998.

Stručni rad objavljen u međunarodnom časopisu

1. Kovač, V. (2001). Academic Staff About the Governance of Higher Education Institutions. *Unisono. Zeitschrift der Universitat Klagenfurt*. 14, 52, str. 8.

Stručni radovi objavljeni u zborniku radova s domaćeg stručnog skupa

1. Piršl, E. i Kovač, V. (1996). Učenje ekološkog sadržaja preko vještina prosocijalnog ponašanja. *(Learning of ecological content through skills of prosocial behaviour) In: Collections of paper: Dani predškolskog odgoja u Čakovcu.* Čakovec: Zrinski d. d., pp. 112-118.
2. Kovač, V. Pokretačke snage dobrog odnosa između učitelja i učenika (Encouraging good relationship between teachers and students). Pedagogija i hrvatsko školstvo: jučer i danas za sutra / Vrgoč, Hrvoje (ur.). - Zagreb : Hrvatski pedagoško-književni zbor , 1996. 523-525.
3. Kovač, V., Ledić, J., Rafajac, B.: Governance and Leadership at the Croatian Universities: Academic Staff Point of View. // RI KVAŠ 21 Svaki učenik može uspjeti/ Tonšić-Krema, J. i dr. (ur.), Rijeka, 2002. 30-39.

Ostale kvalifikacije za izvođenje nastave kolegija

Sudjelovanje u organizaciji i izvođenju Programa inicijalnog osposobljavanja visokoškolskih nastavnika za rad u nastavi (INIOS) u veljači 2004. godine od kojih ističem teme „Osnove politike visokog obrazovanja"; "Diskusija kao nastavna metoda u visokoškolskoj nastavi"; „Kultura kvalitete u visokoškolskoj nastavi: principi i kriteriji uspješne visokoškolske nastave"; „PBL - problemsko učenje"; „Priprema studenata za samostalno učenje"; „Vrednovanje učenja, nastave i nastavnika".
Autor i voditelj tribine "*Akademska plemena i tertoriji*: kako upravljati sveučilišnim kulturama?" u okviru projekta "Tribine o visokom obrazovanju" što ga Udruga za razvoj visokoga školstva

Universitas izvodi u okviru programa *Developing public awareness* Instituta *Otvoreno društvo* – Hrvatska.
Vođenje projekta "Quality Management in Higher Education" u listopadu 2002. godine (projekt odobrili Ministarstvo znanosti i tehnologije Republike Hrvatske i Britanski savjet u Hrvatskoj);

Prezentirani radovi na međunarodnim znanstvenim skupovima od kojih ističem:

- International Congress on Higher Education: „Perspectives on University Education in the 21st century". Fatih University istanbul, Turkey od 27-29. svibnja 2004. (Organisational Culture of Universities: Towards ther Desired Model")
- 26th Annual Forum "*Knowledge Society Crossroads", 5 - 8. rujna 2004. u Barceloni, Španjolska* ("Development of quality assurance processes at Croatian universities: strategies and aims")
- Joint EAIR (European Association for Institutonal Research in Higher Education) and AIR (American Association for Institutional Research) Seminar on Access, Cost and Quality Dilemma in Higher Education od 13.15. siječna 2005. godine na University of Miami, Florida SAD (A Micropolitical View on Quality Assurance at Croatian Universities).

Certifikat sa Central European University Summer School (A Program for University Teachers and Professionals in the Social Sciences and Humanities). Course: Education Policy, 1 – 12. srpnja 2002., Budimpešta, Mađarska.
Sudjelovanje na radionicama za osposobljavanja sveučilišnih nastavnika za rad u nastavi, od koji ističem certifikat "Aktivno učenje za kritičko mišljenje u visokoškolskoj nastavi", u organizaciji Foruma za slobodu odgoja.
Suradnja u radu projekata koji se bave politikom visokog obrazovanja (Regional University Network on Governance and Management of Higher Education in South East Europe; TEMPUS UM_JEP-16015-2001 "QUASIS": Development of Quality Assurance System in Higher Education; HERN (Higher Education Reform Network) Seminar 4: "Domain: Governance. Governance Challenges for Different Nation Institutions in Managing Change).

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Email:	jzlokovic@pefri.hr
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Zvanje nositelja kolegija	docent
Datum zadnjeg izbora u zvanje	8.travnja, 2003
Kratki životopis	

Dr.sc. Jaminka Zloković, doc.

Rođena 1964. godine u Rijeci. Državljanka Republike Hrvatske. Studij pedagogije Pedagoškom fakultetu u Rijeci 1987. godine. Od 1987. do 1996. godine radila kao školski pedagog školama i dječjem vrtiću na području Primorsko-goranske županije. Magistarski rad *Model rada p poboljšanju uspjeha učenika osnovne škole* obranila 1995. godine i stekla stručni naziv magistre polja pedagogije.

U popis znanstvenika i istraživača Ministarstva znanosti i tehnologije RH, upisana 1996. asistent (matični broj 209026).

Na Pedagoškom fakultetu u Rijeci, Odsjek za pedagogiju, zasnovala radni odnos 1996. znanstveni novak na projektu: "Pedagoški aspekti curriculuma inovativne osnovne škole" (od 19 godine i od 2001 do 2005. godine), glavnog istraživača dr. sc. Marka Mušanovića, red. prof. (š 000916 i 0009025).

Od 1997 do 2001. godine radila i na samostalnom poticajnom znanstvenom projektu za mlad Ministarstva znanosti i tehnologije RH *Pedagoški aspekti rada učitelja sa neuspješnom djecom* (š 009023).

Doktorski rad *Pedagoški aspekti rada učitelja sa zapuštenom djecom* obranila 17.05.2001 Filozofskom fakultetu u Rijeci i stekla akademski stupanj doktora znanosti iz područja društver polja odgojnih znanosti, znanstvene grane sustavna pedagogija. ž

Član je znanstveno-istraživačke skupine za izradu kurikuluma prevencije ovisnosti, voditelj proj istraživač dr.sc. Marko Mušanović, red. prof.

Od 2002 do 2004. godine sudjelovala u izvedbi projekta Ministarstva znanosti i tehnologij Hrvatske «Afirmacijom pozitivnih vrijednosti protiv nasilja».

U 2005. godini član je znanstveno-istraživačke skupine za ispitivanje i prevenciju nasilja u starijim osobama, voditelj projekta i glavni istraživač dr.sc. Vlasta Spitek-Zvonarević.

Na Filozofskom fakultetu u Rijeci od 1996 do 2003. godine izvodi vježbe i seminare na nastavničkim studijima, studiju pedagogije i slobodnih kombinacija iz kolegija - Opća pedagogija, Metodika rada školskog pedagoga, Didaktika, Obiteljska pedagogija i curriculum predškolskog odgoja i Teorije odgoja i obrazovanja. Na studiju razredne nastave bila je voditelj stručne prakse.

U znanstveno-nastavno zvanje docenta izabrana je 8.travnja, 2003. godine za kolegije Obiteljska pedagogija i Opća pedagogija.

Aktivno se služi engleskim jezikom.

Objavila 4 znanstvene knjige s područja Obiteljske i Opće pedagogije, jednu samostalno i koautorstvu s međunarodnom recenzijom. Aktivno sudjelovala na međunarodnim i domaćim skupovima. Održala brojna pozvana i javna predavanja na međunarodnim i domaćim znanstvenim Bila je član Organizacijskih odbora međunarodnih i domaćih znanstvenih skupova. Objavila broj znanstvene radove s međunarodnom recenzijom.

Izdavačke kuća Znamen, d.o.o., Zagreb, za potrebe objavljivanja prvog Pedagoškog leksikona Hrvatskoj, tijekom 2004. godine angažirala je u izradi dionice leksikona «Nasilje nad djecom» odrednica. Godine 2005. u timu autora sudjelovala u izradi priručnika za nastavnike i razrednike kuće Ljevak, d.o.o., Zagreb.

Članica Hrvatskog pedagoško-književnog zbora, strukovne udruge pedagoga; nezavisne i neprofitne organizacije Amnesty International Hrvatske (AI) i Društva pedagoga.

Popis relevantnih radova za izvođenje kolegija

Knjige

1. Zloković, J. (1998), Školski neuspjeh – problem učenika, roditelja i učitelja. Rijeka: Filozofski fakultet u Rijeci, Odsjek za pedagogiju.
2. Rosić, V., Zloković, J. (2002), Prilozi obiteljskoj pedagogiji. Rijeka: Graftrade, Filozofski fakultet u Rijeci, Odsjek za pedagogiju.
3. Rosić, V., Zloković, J. (2003), Modeli suradnje obitelji i škole. Đakovo: Tempo.
4. Bilić, V., Zloković, J. (2004), Fenomen maltretiranja djece - Oblici pomoći obitelji i školi. Zagreb: Naklada Ljevak, d.o.o.

Znanstveni radovi

1. Zloković, J. (1996). Rad pedagoga na poboljšanju uspjeha učenika osnovne škole. Zbornik radova Sabora hrvatskih pedagoga: Pedagogija i hrvatsko školstvo – jučer i danas, za sutra. Zagreb: (Ur. Vrgoč, H.) HPKZ, str. 507–511.
2. Zloković J. (1996), Pristupi poučavanju i uspjeh učenika. Bjelovar: Strugar, V. (ur.) Bjelovarski učitelj, časopis za odgoj i obrazovanje, Ogranak HPKZ, br. 3, str. 96–102.
3. Zloković, J. (1996), Uloga obitelji za učenikov uspjeh. Zagreb: Jurić, V (ur.) Napredak, HPKZ, br. 4, (137), str. 415– 423.
4. Zloković, J. (1998), Unapređivanje odgojno–obrazovnog rada - prioritetna zadaća u radu pedagoga. Zagreb: Previšić, V. (ur.), Napredak, HPKZ, br. 2, (139), str. 23–29.
5. Zloković, J. (2000), Primjena različitih modela discipline u nastavnoj praksi. Zagreb: Previšić, V. (ur.), Napredak, HPKZ, br. 3, (141), Zagreb, str. 340-346.
6. Zloković, J. (2000), Prinos istraživanju profila rizične obitelji. Zagreb: Previšić, V. (ur.), Napredak, HPKZ, br.1, (141), Zagreb, str. 35-43.
7. Zloković, J. (2000). Poticanje roditelja na bolju suradnju sa školom - primjena suvremene obrazovne tehnologije. Zbornik radova: Nastavnik i suvremena obrazovna tehnologija. Međunarodni znanstveni kolokvij, Collection of scientific papers: The Teacher and Modern Educational Tehnology, (Ur. Rosić, V.), Filozofski fakultet u Rijeci, Odsjek za pedagogiju, Rijeka, str. 243–250.
8. Zloković. J. (2001), Collaboration of Schools and Parents in Encouraging the Development of Gifted Children. U: Blažič, M. (ur.) Sodelovanje šole in staršev pri spodbujanju razvoja nadarjenih otrok. Pedagoška fakulteta Univerze v Ljubljani, Slovensko združenje za nadarjene Novo Mesto, Visokošolsko središče Novo Mesto, str. 5-11.
9. Zloković, J. (2001), Construction of the Measuring Scale for the Investigation of the

Parents-Child Relationship. U: Rosić, V. (ur.) Collection of scientific papers, Theoretical and Methodological Foundation of Educational Research, Opatija 27-28, april, 2001, Filozofski fakultet u Rijeci, Odsjek za pedagogiju, str. 266-281.
10. Zloković, J. (2002), Risky Families and Neglected Children – A Personal and Social Problem. U: Tivadar, B. and Mrvar, P. (ur.) «Young People in Risk Society», International Conference in Ljubljana Novembar 30 – Decembar 2, 2000, The Alps-Adriatic Working Community. Ljubljana: Centre for Social Psychology, Faculty of Social Sciences, University of Ljubljana, Slovenia, 2000, str. 225-229.
11. Zloković, J. (2002). Obitelj i dijete - odgoj i obrazovanje stvaralački proces. Međunarodni znanstveni i stručni skup: Drugi dani Mate Demarina, Kvalitetna edukacija i stvaralaštvo, Zbornik znanstvenih i stručnih radova, knjiga I, Brijuni-Pula, 14-16. Lipnja, 2001, Sveučilište u Rijeci, Visoka učiteljska škola u Puli, HPKZ, (Ur. Tatković, N. i Muradbegović, A.), Pula, str. 113-120.
12. Zloković, J. (2003), Pravo djece na zaštitu i pružanje pomoći u obitelji, školi i okolini. U: Vrgoč, H. (ur.) Zbornik radova sabora pedagoga hrvatske, Odgoj, obrazovanje i pedagogija u razvitku hrvatskog društva, Zagreb: HPKZ.
13. Mušanović, M., Vrcelj, S., Zloković, J. (2003), Pleasantness and unpleasantness in school environment - the children's perspectives. Teaching and Learning for Intercultural Understanding, Human Rights and Culture of Peace, Jyvasklyla: Institute for Educational Research.
14. Zloković, J. (2004), Students Perception of a Safe and Humane School and Family. XIV World Congreso Mundial de Ciencias da la Education «Educadores para una nueva cultura» 10-14. May, 2004, Chile, Santiago de Chile: Chatolica University.
15. Zloković, J., Cindrić, A. (2004), «Hidden» Abuse of Children in Family and School. Kuba, Havana: XII World Congreso on Comparative Education, 25th-29.th of October, 2004, Mundial De Education Comparada.
16. Vrcelj, S., Zloković, J. (2004), Pedakoški vidiki razvoja in spodbujanja odgovornosti. Novo mesto: Blažič, M. (ur.) Didactica Slovenica – pedagoška obzorja, Znanstvena revija, br. 1, str.38-53.

Ostale kvalifikacije za izvođenje nastave kolegija

Od 1987. do 1996. godine radila kao školski pedagog u osnovnim školama Primorsko-goranske županije, te stekla praktična iskustva u odgojno-obrazovnom radu sa učenicima, roditeljima i učiteljima.

Suradnik (asistent/viši asistent)

Ime i prezime suradnika	mr. sc. Aleksandra Golubović
Email:	agolub@pefri.hr
Web stranice:	
Ustanova suradnika	Filozofski fakultet Rijeka
Zvanje	asistent
Datum zadnjeg izbora u zvanje	21. 05. 2002.
Kratki životopis	
Rođena sam 24. lipnja 1972. u Rijeci. Nakon završene srednje škole upisala sam petogodišnji fakultet Teologije u Rijeci, koji sam završila kao diplomirani teolog (1996.). Po završetku fakulteta odlazim u Rim, na magisterij filozofije koji sam pohađala na Papinskom sveučilištu Gregoriana. 10. lipnja 1999. stječem "naslov" magistre filozofije. Na Gregoriani u Rimu odslušala sam i položila dva doktorantska seminara, a na Filozofskom fakultetu u Zagrebu upisala sam doktorat i dogovorila temu za doktorsku disertaciju. Obrana doktorske disertacije planirana je za ljeto ili jesen 2005. (u suglasnosti sa mentorima). Na Teologiji u Rijeci honorarno predajem kozmologiju. Na Filozofskom fakultetu u Rijeci radim od jeseni 2001. i predajem opći predmet Filozofija, te asistiram na predmetima Povijest hrvatske filozofije i Metodika nastave filozofije.	
Popis **relevantnih** radova	
1. Filozofijsko trunje ili Trunak filozofije, RTČ. (15) 2000, br. 1, str. 298-302. 2. Kierkegaardova egzistencijalistička antropologija, RTČ. (16) 2000, br. 2, str. 423-447.	

Ime i prezime suradnika	Mihaela Matešić
Email:	mihaela.matesic@ri.t-com.hr
Web stranice:	
Ustanova suradnika	Filozofski fakultet u Rijeci
Zvanje	asistent
Datum zadnjeg izbora u zvanje	18. 3. 2003.
Kratki životopis	
Diplomirala 1997. godine na Filozofskom (tada Pedagoškom) fakultetu u Rijeci, smjer *Hrvatski jezik i književnost*. Radila u Obrtničkoj i tehničkoj školi u Ogulinu te kao lektorica na Hrvatskoj radioteleviziji. Zaposlena na Filozofskome fakultetu u Rijeci od 1998. godine kao znanstvena novakinja na projektu *Dijalektološka istraživanja u sjeverozapadnom čakavskom arealu*. Sudjeluje u izvođenju nastave na studiju *Hrvatskoga jezika i književnosti* na kolegijima: *Jezični seminar* i *Hrvatski standardni jezik—fonologija* na prvoj studijskoj godini, te *Informatički seminar za kroatiste* na drugoj studijskoj godini. Na Visokoj učiteljskoj školi u Rijeci na prvoj i drugoj studijskoj godini smjera *Razredna nastava* od akademske godine 2000./2001. do 2003./2004. izvodila nastavu iz kolegija *Hrvatski jezik*. Magistrirala na poslijediplomskome studiju *Lingvistike s osobitim obzirom na dijalektologiju hrvatskoga jezika* na Filozofskome fakultetu u Rijeci 2002. godine s temom *Nepromjenjive riječi u "Kastavštini" Ive Jardasa*. Sudjeluje na znanstvenim skupovima u Hrvatskoj i inozemstvu (Mađarska) s radovima standardnojezične i dijalektološke problematike.	
Popis **relevantnih** radova	

1. *Rudolf Strohal kao dijalektolog*, Riječki filološki dani, Zbornik radova 2 (radovi s Međunarodnoga znanstvenog skupa RFD održanoga u Rijeci 3–5. prosinca 1998), Rijeka 2000, str. 197-201
2. *Uzvici u hrvatskom standardnom jeziku*, Riječki filološki dani, Zbornik radova 5 (radovi s Međunarodnoga znanstvenog skupa RFD održanoga u Rijeci 14–16. studenoga 2002), Rijeka 2004, str. 337-343
3. *Semantika uzvika (uvodne naznake)* – rad predan u tisak za zbornik radova sa *Savjetovanja Hrvatskoga društva za primijenjenu lingvistiku* koje je održano u Splitu, u svibnju 2004. godine)
4. *Korpus hrvatskoga govora* (u suautorstvu sa Sandom Martinčić-Ipšić i Ivom Ipšićem) – rad prihvaćen u časopisu *Govor* (Filozofski fakultet u Zagrebu)

Druge kvalifikacije

Ime i prezime suradnika	Tamara Martinac Dorčić
Email:	tamaram@human.pefri.hr
Web stranice:	
Ustanova suradnika	Filozofski fakultet u Rijeci
Zvanje	asistent
Datum zadnjeg izbora u zvanje	21.05.2002.

Kratki životopis

Rođena 1972. godine. Diplomirala psihologiju 1996. godine na Pedagoškom fakultetu u Rijeci. Magistrirala na Filozofskom fakultetu u Zagrebu, 2002. godine. Na Odsjeku za psihologiju zaposlena od 1997. godine. Uključena u nastavu iz Razvojne psihologije, Razvojne psihologije I i II te Primijenjenih nacrta istraživanja. Bavi se istraživanjem odnosa suočavanja sa stresom, raspoloženja i nekih aspekata obrade emocionalnih informacija.

Popis **relevantnih** radova

1. Bezinović, P., Martinac, T., Pokrajac-Bulian, A., Smojver –Ažić, S., Tkalčić, M., Živčić, I. (1995/1996). Preliminarna analiza psiholoških poteškoća kod studenata Pedagošlog fakulteta. *Godišnjak Odsjeka za psihologiju, 4-5,* 99-105.
2. Kardum, I., Hudek-Knežević, J. Martinac, T. (1998). Odnos između strategija suočavanja i raspoloženja tijekom stresne transakcije. *Društvena istraživanja, 4-5,* 559-579.
3. Martinac Dorčić, T. (2002). Odnos suočavanja sa stresom i raspoloženja – dispozicijski i situacijski definirano suočavanje i raspoloženje. *Psihologijske teme, 11,* 49-70.
4. Smojver-Ažić, S. i Martinac Dorčić, T. (2003). Tjelesna aktivnost i psihološka prilagodba starijih osoba. *Sport za sve, 33-34,* 19-24.

Ostale kvalifikacije za izvođenje nastave

Dosadašnje iskustvo u izvođenju nastave.
Završena edukacija «Pisanje i čitanje za kritičko mišljenje».

Ime i prezime suradnika	Rosanda Pahljina-Reinić
Email:	rosanda@human.pefri.hr
Web stranice:	

Ustanova suradnika	Filozofski fakultet u Rijeci
Zvanje	znastveni novak-asistent
Datum zadnjeg izbora u zvanje	2005.

Kratki životopis

Rođena 1970. godine u Rijeci gdje i trenutno živi. Na studij psihologije na Filozofskom fakultetu u Rijeci, upisuje se 1992. godine. Tijekom studija pokazuje poseban interes za područje kliničke i zdravstvene psihologije. Diplomirala 1998. godine. Iste godine upisuje poslijediplomski znanstveni studij psihologije na Filozofskom fakultetu u Zagrebu gdje magistrira u svibnju 2004. godine s temom "*Uloga percipirane socijalne podrške, percipirane kontrole nad posljedicama oboljenja i strategija suočavanja u emocionalnoj prilagodbi na rak dojke*". Trenutno radi na Odsjeku za psihologiju Filozofskog fakulteta u Rijeci kao znanstveni novak-asistent, na kolegiju: Psihologija odgoja i obrazovanja.

Popis **relevantnih** radova

1. Hudek-Knežević, J., Kardum, I. i Pahljina, R. (2002). Relations among social support, coping, and negative affect in hospitalized and nonhospitalized cancer patients. *Journal of Psychosocial Oncology*, *20*, 45-63.
2. Pahljina-Reinić, R. (2004). Psihosocijalna prilagodba na rak dojke. *Psihologijske teme, 13,* 69-90.

Ostale kvalifikacije za izvođenje nastave

Dosadašnje iskustvo: od 1999. godine sudjeluje u izvođenju nastave iz Edukacijske psihologije, Razvojne psihologije I, Razvojne psihologije II, te Psihologije odgoja i obrazovanja. Godinu dana rada kao psiholog u osnovnoj školi.

Ime i prezime suradnika	Barbara Rončević
Email:	roncevic@human.pefri.hr
Web stranice:	
Ustanova suradnika	Odsjek za psihologiju, Filozofski fakultet u Rijeci
Zvanje	Znanstveni novak – asistent
Datum zadnjeg izbora u zvanje	14.04.2003.

Kratki životopis

Rođena 1977. godine. Diplomirala psihologiju 2001. godine na Filozofskom fakultetu u Rijeci. Na Odsjeku za psihologiju zaposlena od 2003. godine. Asistent na kolegijima Edukacijska psihologija, Pedagoška psihologija (za studente pedagogije), te Praktikum iz metodologije I i II. Znanstveni novak na znanstvenom projektu "Kognitivne strategije, metakognicija i razumijevanje pri čitanju", kojeg vodi dr. sc. Svjetlana Kolić-Vehovec.
Bavi se istraživanjem kognitivnih i motivacijskih faktora čitanja.

Popis **relevantnih** radova

1. Kolić-Vehovec, S., Rončević, B. (2003). Perfekcionizam, ispitna anksioznost i akademsko samopoimanje darovitih gimnazijalaca. *Društvena istraživanja, 67 (5)*, 679-702.

Ostale kvalifikacije za izvođenje nastave

Akademske godine 2002/03 kao vanjski suradnik uključena u nastavu (vježbe) iz kolegija Pedagoška psihologija (za studente pedagogije) i Praktikum iz metodologije I i II (za studente psihologije). Od primanja u zvanje osim na navedenim kolegijima sudjeluje u nastavi iz kolegija Edukacijska psihologija (seminari i vježbe).

4.5. POPIS NASTAVNIH RADILIŠTA ZA PROVOĐENJE PRAKTIČNE NASTAVE

Nastavna praksa studenata iz sadržaja informatike izvodi se u OŠ "Brajda" i „Kozala" Rijeka, i Gimnaziji "Andrija Mohorovičić" Rijeka, te u „Kemijsko-grafičkoj školi" Rijeka..

4.6. OPTIMALAN BROJ STUDENATA KOJI SE MOGU UPISATI

Prostorni, materijalno–tehnički (broj i opremljenost praktikuma) i kadrovski uvjeti su takvi da omogućuju upis optimalnog broja od 30 studenata**.**

4.7. PROCJENA TROŠKOVA STUDIJA PO STUDENTU

Procjena troškova studija po studentu zasnovana je na pretpostavci da bi za svaki studij trebalo biti zaposleno najmanje osam nastavnika u zvanju docenta ili višem. Na temelju ovakve pretpostavke slijedi izračun:

- Za tri godine (Preddiplomski studij Politehnike):

  8 x1,90 (koef.) = 15,20 x 4.414,42 (osn.) = 67.099,19 x 1,15 (admin.-tehn. osoblje) = 77.164,07 x 1,172 (dopr.na pl.) = 90. 436,41 x 12 (broj mj.) = 1.085.236,92 x 1,10 (mat. tr.) = 1.093.760,62 : 75 (broj stud.) = **15.916,79 kuna po studentu.**

- Za dvije godine (Diplomski studij Politehnike i Fizike i Diplomski studij Politehnike i Informatike):

  5,4 (broj nast.) x 1,90= 10,26 x 4.414,42 = 45291,95 x 1,15 = 52.085,75 x 12 = 625.029,00 x 1,172 = 732. 533,99 x 1,10 = 805.787,39 : 50 = **16.115,75 kuna po studentu.**

4.8. NAČIN PRAĆENJA KVALITETE I USPJEŠNOSTI IZVEDBE STUDIJSKOG PROGRAMA

Praćenje kvalitete i uspješnosti izvođenja predloženog Preddiplomskog studija Informatike te predloženog Diplomskog studija Informatike provodit će se u skladu s Pravilnikom o mjerilima i kriterijima za vrednovanje kvalitete i učinkovitosti visokih učilišta i studijskih programa (NN 9/05) posebno uvažavajući metode propisane Člankom 4. stavak 7. koje su namijenjene unutarnjim mehanizmima osiguranja kvalitete na visokim učilištima.

Tijekom izvođenja predloženih studijskih programa provoditi će se kontinuirana samoevaluacija koja će se temeljiti na rezultatima dobivenim kroz:

- anonimne ankete među studentima provođene na kraju svakog semestra u okviru svakog pojedinog kolegija te studija u cjelini,
- analizu rezultata polaganja ispita tijekom zimskih, ljetnih i jesenskih ispitnih rokova,
- analizu upisa studenata na više godine studija (omjeri redovno upisanih studenata, uvjetno upisanih studenata i studenata koji ponavljaju godinu),

- kontaktiranje studenata nakon završetka studija radi uočavanja postojanja eventualnih problema na tržištu rada koji se mogu preduhitriti kroz korekcije u procesu studiranja te za koje bi bilo moguće bolje pripremiti studente tijekom studiranja.

Kroz navedene metode samoevaluacije uočiti će se eventualni problemi koji mogu uzrokovati nekvalitetno, neefikasno ili predugo studiranje pojedinih studenata te će se, uz konzultiranje studenata, identificirati njihovi uzroci te poduzeti neophodni koraci za njihovo uklanjanje.

Također, s ciljem podizanja razine kvalitete predloženih studija, kontinuirano će se raditi na usavršavanju sveučilišnih nastavnika koji u izvođenju predloženih studija sudjeluju, te će se provoditi i godišnja interna evaluacija nastavnog osoblja.

S ciljem poboljšanja količine i kvalitete udžbeničke literature koja bi studentima tijekom studiranja trebala biti dostupna, nastavničko će se osoblje poticati na izdavačku djelatnost te će se osiguravati neophodna financijska podrška u skladu s mogućnostima Filozofskog fakulteta u Rijeci, odnosno, nakon preustroja Sveučilišta u Rijeci, u skladu s mogućnostima Sveučilišnog odjela za informatiku.

5. OSTALE NAPOMENE

5.1. SUGLASNOSTI VANJSKIH SURADNIKA

Za izvođenje kolegija na dvopredmetnom preddiplomskom studiju informatike skupljene su suglasnosti:

dr. sc. Matjaž Gams
dr. sc. Nikola Pavešić
dr. sc. Dragan Čišić
dr.sc. Željko Dobrović