

DESCRIPTION OF A STUDY COURSE – SYLLABUS

Title of a course	System and Information				
Head of course	PhD Elena Krelja Kurelović, College Professor				
Study programme	Professional undergraduate study Information Science				
Status of a course	Obligatory				
Year of study	1	Semester	II	ECTS credits	4
Teaching plan (L + E + S+ Pr)	2+0+1+0				
Goals of a course					
To give theoretical foundations on which modern information and communication technology is based. Introduce students to transfer of information in communication system and information measures, and to solving problems using the system approach.					
Conditions for enrolling course					
No conditions					
Learning outcomes on a level of a study programme which includes course					
Outcome 2: Apply business information system design methods. Outcome 11: Apply mathematical and statistical methods in information science. Outcome 12: Apply engineering methods and principles in information science. Outcome 14: Participate in teamwork. Outcome 15: Independently present professional content in written and spoken form in Croatian and English.					
Expected learning outcomes on a level of a course					
<ol style="list-style-type: none"> 1. Describe transfer of information through Shannon's communication system 2. Apply basic measures for information quantity 3. Distinguish types of channels and sources of information, types of codes and procedures for encoding information 4. Define a system through its composition, properties and regularities, and justify the use of the systemic approach 5. Determine the impact of cybernetics and compare manners of system management 					
Content of a course					
Introduction into information science. Definitions of information. Relevance of information. Data transfer. Shannon's model of information system. Syntactic, semantic and pragmatic aspects of data. Usefulness of data. System of informing, of information and communication. Entropy. Personal information, a measure for data quantity. Types of channels and their characteristics. Channel capacities, data transfer rate. Types of data sources. Encoding and codes, codes optimality. Digital data transfer. Security and protection. Concept of system. System configuration, characteristics, rules. Types of systems. System access. Algorithms and heuristic methods. Technique of representing systems and their relationship. Models of a system in informatics. Basics of cybernetics. System management.					
Teaching modes	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
Comments					
Students' obligations					
Grading, evaluation and monitoring of students' work continuously during lectures and exams					

Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students.

Continuous check-up:

Outcomes	Written exam	Practical tasks	Threshold	Max
Outcome 1	20		10	20
Outcome 2	10	10	10	20
Outcome 3	10	10	10	20
Outcome 4	10	10	10	20
Outcome 5	20		10	20
Percentage of ECTS	70	30		
Total	3	1	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Exam term:

Outcomes	Written exam	Oral exam	Max
Outcome 1	10	10	10
Outcome 2	20		20
Outcome 3	10	10	30
Outcome 4	10	10	20
Outcome 5	10	10	20
Percentage of ECTS	2,5	1,5	
Total	60	40	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

Grading:

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome.

If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good (4)	B
60,00 – 74,99	Good (3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

Obligatory literature

1. Krelja Kurelović, E. (2014). Sustav i informacija. Veleučilište u Rijeci. Rijeka
2. Pandžić, I.S. (2007). Uvod u teoriju informacije i kodiranje. Element. Zagreb

Additional literature

1. Pauše, Ž. (2003). Uvod u teoriju informacije. Školska knjiga. Zagreb
2. Radošević, D. (2001). Osnove teorije sustava. Nakladni zavod matice Hrvatske. Zagreb

