

### DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Logical Elements of Information				
<b>Head of course</b>	MSc Antonija Mihaljević, Lecturer				
<b>Study programme</b>	Professional undergraduate study Information Science				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	1	<b>Semester</b>	I	<b>ECTS credits</b>	4
<b>Teaching plan (L + E + S+ Pr)</b>	2+1+0+0				
<b>Goals of a course</b>					
The objectives of the course are to enhance expertise in formal logic and to strengthen technical competencies in the fields of logical, analytical and critical thinking.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 1: Describe the architecture and working principle of computers and components, and the basic features of operating systems.					
Outcome 11: Apply mathematical and statistical methods in information science.					
Outcome 12: Apply engineering methods and principles in information science.					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>1. Identify and analyse logical thought patterns and logical operators (concept, judgment, conclusion)</li> <li>2. Build categorical, hypothetical and disjunctive syllogisms</li> <li>3. Build true tables of complex logical shapes (judgment, pair of judgments, conclusion)</li> <li>4. Analyse and translate complex statements of standard language into the language of statement logic</li> <li>5. Verify the true value of logical forms using the methods of true tables and reduction ad absurdum</li> </ol>					
<b>Content of a course</b>					
<p>Logic and its area. Development of logic from Aristotle to modern symbolic logic. Basic problems of elementary logic: concept, proposition, inference, conclusion.</p> <p>Problem of truth and the problem of usefulness for researching informatics.</p> <p>Elements of mathematical logic. Logical starting point of Boolean algebra, proposition, operations with propositions, logical expression of algebraic propositions. Computer logic: basic logic circuits, complex logic circuits, operations with logic circuits, the use of logic assemblies in a computer. Errors in computer logic.</p>					
<b>Teaching modes</b>	<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 _____		
<b>Comments</b>					
<b>Students' obligations</b>					
<b>Grading, evaluation and monitoring of students' work continuously during lectures and exams</b>					
<p>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.</p>					

**Continuous check-up:**

Outcomes	Pre-exam I	Pre-exam 2	Assignment / test	Threshold	Max
Outcome 1			20%	10%	20%
Outcome 2	20%			10%	20%
Outcome 3	20%			10%	20%
Outcome 4		20%		10%	20%
Outcome 5		20%		10%	20%
Percentage of ECTS	1,5	1,5	1,0		
Total	40%	40%	20%	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	Assignment/ test	Max
Outcome 1		20%	20%
Outcome 2	20%		20%
Outcome 3	20%		20%
Outcome 4	20%		20%
Outcome 5	20%		20%
Percentage of ECTS	3,0	1,0	
Total	80%	20%	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. Srećko Kovač (2016) Logika. Hrvatska sveučilišna naklada

**Additional literature**

1. Teaching materials

