

## DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Operations Research				
<b>Study programme</b>	Professional undergraduate study Information Science				
<b>Status of a course</b>	Elective				
<b>Year of study</b>	2	<b>Semester (Winter/Summer)</b>	S	<b>ECTS credits</b>	5
<b>Goals of a course</b>					
The aim of the course is to introduce and teach students how to use methods that solve some business decision-making problems and methods to optimize them.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 11: Apply mathematical and statistical methods in information science.					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>1. Explain concepts from the basics of linear programming.</li> <li>2. Solve problems from the basics of linear programming.</li> <li>3. Explain concepts from the basics of transport problem.</li> <li>4. Solve problems from the basics of transport problem.</li> <li>5. Explain concepts from the basics of networks.</li> <li>6. Solve problems from the basics of networks.</li> </ol>					
<b>Content of a course</b>					
<p>Linear programming problems, simplex method, revised simplex method, dual simplex method, integer linear programming. Problems of transport and distribution. Quadratic programming. Dynamic programming. Network planning. Theory of strategic games. Redundancy models. New areas of operational researches.</p> <p>Application of theoretical tenets presented during lectures, through some tasks. Students, working in teams, have to present a problem selected from environment. The usage of specific software packages is supported.</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>Grading, evaluation and monitoring of students' work continuously during lectures and exams</b>					
Grading is based upon evaluation 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.					