

## DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Software Engineering				
<b>Study programme</b>	Specialist professional graduate study of Information Technology in Business Systems				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	1	<b>Semester (Winter/Summer)</b>	S	<b>ECTS credits</b>	4
<b>Goals of a course</b>					
Acquiring knowledge and competencies in engineering approach to software development and application of various systems development models. Acquisition of software development competencies using the selected software development model when designing and designing software.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 1: Apply information and communication systems design methods. Outcome 6: Apply appropriate tools in the implementation of information and communication systems. Outcome 7: Apply methods and techniques for creating and managing databases. Outcome 8: Apply methods and techniques for managing security and data protection in information and communication systems.					
<b>Expected learning outcomes on a level of a course</b>					
<ol style="list-style-type: none"> <li>1. Explain the scope and range of software engineering activities.</li> <li>2. Explain the procedure of system development process, create a system development plan, and explain the characteristics and problems of legacy systems.</li> <li>3. Explain software development activities, and formulate project documentation for the assigned software being developed.</li> <li>4. Explain software development models, select the appropriate model, and use the selected development model to develop the assigned software.</li> <li>5. Analyse the development of other systems, and propose technological and technical improvements.</li> </ol>					
<b>Content of a course</b>					
Concept of program engineering. Formal principles of program engineering. Methods and phases in developing program system. Techniques for modelling program system. Modelling object structures. Modelling processes, namely objects' behaviour. Shaping processes in a logical and physical level. Shaping program modules with emphasis put on uniform approach. Shaping users' interface. Aims and techniques of programming. Organisation of program team. Overview of program languages and tools. Creation of a prototype. Fast development of applications and usage of RAD tools. Managing program system. Planning and managing development project. Evaluation of program system's costs. Maintenance of program system. Managing configuration of program system. Quality insurance. Documenting program system.					
<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.					