



MODULE DESCRIPTION

Module title	Module code
Software projects and quality management	

Lecturer(s)	Department where the module is delivered
Coordinator: assoc. prof. dr. Valdas Undzėnas	Department of Software Engineering Faculty of Mathematics and Informatics Vilnius University
Other lecturers:	

Cycle	Type of the module
First	Compulsory

Mode of delivery	Semester or period when the module is delivered	Language of instruction
Face-to-face	7 semester	Lithuanian

Prerequisites
Prerequisites: Software engineering I and II

Number of credits allocated	Student's workload	Contact hours	Self-study hours
5	144	72	72

Purpose of the module: programme competences to be developed		
Purpose of the module – to develop the student's analytical and critical thinking related to software (SW) project initiation, development, SW quality assurance and control issues; to develop the student's ability to plan, carry out and complete the projects of SW development, installation and maintenance.		
Generic competences: <ul style="list-style-type: none"> • Life-long learning (<i>GK2</i>). • Social responsibility (<i>GK3</i>). 		
Specific competences: <ul style="list-style-type: none"> • Software development knowledge and skills (<i>SK5</i>). • Technological and methodological knowledge and skills, professional competence (<i>SK6</i>). 		
Learning outcomes of the module: students will be able to	Teaching and learning methods	Assessment methods
An ability to undertake literature searches and analysis, and to use data bases and other sources of information.	Interactive lectures, looking for information, individual reading, consulting, case analysis, discussions.	Practice tests in written form, examination in written form.
An ability to analyze the economic, social, ethical, and legal impact of engineering solutions on individuals, organizations, and society.		
An ability to select the software life cycle suitable for building new, and maintaining and commissioning existing, software systems.		
An ability to select and use appropriate current techniques, models, solution patterns, skills, and tools necessary for software engineering practice involving emerging application areas.		
An ability to formulate acceptable, cost-effective and time-efficient problem solutions using essential knowledge and methods of estimating and measuring cost and productivity.		
Awareness of project management, quality assurance, and process improvement practices and abilities to apply them.		

Content: breakdown of the topics	Contact hours						Self-study work: time and assignments		
	Lectures	Tutorials	Seminars	Practice	Laboratory work (LW)	Tests during practice	Contact hours	Self-study hours	Assignments
1. Project and its management concept. Software development and deployment particularities.	3			3			6	4	Individual reading, case analysis
2. Project life cycle, main project management process groups: initiating, planning, executing, monitoring and controlling, closing. Project initiation.	4	1		3		1	8	7	
3. Project planning: scope planning, create WBS, project time and cost management.	4			4			8	6	
4. Project planning: human resource, quality, risk, communications, procurement planning, and writing of comprehensive project plan.	3	1		3		1	7	6	
5. Project executing: team development, perform according to plan.	3			3			6	5	
6. Project executing: information distribution, vendor contract administration.	5	1		4		1	10	8	
7. Project monitoring and controlling: integrated change control, quality control.	2			4			6	5	
8. Project monitoring and controlling: risk control, performance reporting. Project closing.	4	1		4		1	9	8	
9. Agile methods of Project management. Project quality concept, link between product quality and development process quality. Factors affecting the quality of software. International standards concerning system and software quality models.	4			4			8	7	
10. Preparation for exam; exam in written form.		2					4	16	
Total	32	6		32		4	72	72	

Assessment strategy	Weight %	Deadline	Assessment criteria
Four tests during practice	40	During semester	Passing all the tests student can collect up to 4 points. Every test – up to 1 point. If student collect less than 2 points from all practice tests, he/she is not allowed to take the exam.
Exam in written form	60	Exam session	Assessment: 6 - excellent knowledge and abilities; 5 – good knowledge and abilities; 4 – mediocre knowledge and abilities; 3 – minimal knowledge and abilities; 2 – weak knowledge and abilities; 1 - complies with the minimum requirements; 0 – not complies with the minimum requirements. Final assessment: the sum (rounded) of all tests and exam assessment points.

Author	Publis hing year	Title	Number or volume	Publisher or URL
Required reading				
Valdas Undzēnas	2011	Software projects and quality management. Teaching material.		www.mif.vu.lt/~valund
Recommended reading				
Project Management Institute	2004	A Guide to the Project Management Body Of Knowledge, 4th edition		Project Management Institute
Parviz F. Rad	2002	Project Estimating and Cost Management, Management Concepts		www.bookos.org
Kenneth H. Rose	2005	Project Quality Management		J. Ross Publishing
ISO	2011	ISO/IEC 25010:2011 Systems and software engineering -- Systems and software Quality Requirements and Evaluation (SQuaRE) -- System and software quality models		www.iso.org