



COURSE UNIT DESCRIPTION

Course unit title	Course unit code
Software Acquisition and Maintenance	PMIP7134

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

Cycle	Level of course unit	Type of the course unit
Second	-	Optional

Mode of delivery	Semester or period when the course unit is delivered	Language of instruction
Face-to-face	Spring semester, first year of study	Lithuanian, English

Prerequisites and corequisites	
Prerequisites: Requirement Engineering	Corequisites (if any): -

Number of ECTS credits allocated	Student's workload	Contact hours	Self-study hours
6	150	66	84

Purpose of the course unit: programme competences to be developed		
Course is designed to train students about what organization actions constitute software (SW) acquisition and maintenance, to form abilities of students to define need of SW, to formulate requirements, to plan, execute and manage SW acquisition process, to evaluate quality of SW, to organize and perform SW maintenance, to train users.		
Learning outcomes of the course unit: students will be able to	Teaching and learning methods	Assessment methods
Formulate needs of organizations for program systems, requirements for program systems Deal with customer and contractor issues concerning legal, organizational and technological problems in program system acquisition and maintenance phases.	Interactive lectures, Seminars, Individual reading.	Discourse in seminars (oral) and paper (written), Exam (written).

Course content: breakdown of the topics	Contact hours						Self-study work: time and assignments		
	Lectures	Tutorials	Seminars	Practice	Laboratory work	Practical training	Contact hours	Self-study hours	Assignments
1. The Nature of Software. Different perceptions of software. Attitudes towards software acquisition.	3		3				6	6	Individual reading, Discourse in seminars and paper, Problem solving.
2. Sequence of acquisition activities. Building a team. Planning the acquisition project.	4	1	3				8	10	
3. Developing requirements and management requirements. Build/buy decision(s). Selecting the supplier (developer).	4	1	3				8	10	
4. Identifying the software environment. Resolving the intellectual property rights. Acquisition project scheduling.	3		3				6	10	
5. Software acceptance testing. Training, operations, and software maintenance.	3		3				6	8	
6. Acquisition project management. Software configuration management. Acquisition project risk management. ISO/IEC standards concerning software acquisition.	5	1	4				10	8	
7. Nature of Maintenance. Need for maintenance.	2		2				4	6	
8. Categories of maintenance. Maintenance processes.	4	1	3				8	8	
9. Techniques for maintenance. ISO/IEC standards concerning software maintenance.	4		4				8	10	
10. Preparation for the exam; exam in written form.							2	8	
Total	32	4	28				66	84	

Assessment strategy	Weight %	Deadline	Assessment criteria
Discourse in seminars (oral) and paper (written)	30	During the semester	Assessment: 3 – a student has made excellent discourse in seminars and has prepared a paper, active participation in seminar discussions; 2 – good discourse in seminars and the paper, participation in seminar discussions; 1 – weak discourse in seminars and the paper; 0 – a student has not made discourse in seminars and has not prepared a paper. Are not allowed to keep the exam.
Exam (written)	70	Exam session	Assessment: 7 - excellent knowledge and abilities; 6 – good knowledge and abilities; 5 – satisfactory knowledge and abilities; 4 – minimal knowledge and abilities; 0 – minimal requirements are not satisfied. Final assessment: assessment of discourse in seminars and paper plus result of passed exam.

Author	Publishing year	Title	Number or volume	Publisher or URL
Required reading				
1. Valdas Undzēnas	2007	Software acquisition and maintenance. Teaching material		www.mif.vu.lt/~valund
2. B.Craig Meyers, Patricia Oberndorf	2001	Managing Software Acquisition: Open Systems and COTS		Addison-Wesley Professional, ISBN 0201704544
3. Penny Grub, Armstrong A.Takang	2003	Software Maintenance: Concepts and Practice		World Scientific Printers, ISBN 981-238-425-1
Recommended reading				
1. Software Engineering Institute	2010	CMMI for Acquisition, Version 1.3		Carnegie Mellon University http://www.sei.cmu.edu
2. Han van Loon, Ann Cass, Christian Steinmann, Terry Rout, Angela Tuffley, Bruce Hodgen.	2004	Process Assessment and ISO/IEC 15504		Springer
3. Executive Editors: Alain Abran, James W. Moore.	2004	Guide to the Software Engineering Body of Knowledge (SWEBOK)		http://computer.org Washington • Brussels • Tokyo.
4. ISO	2006	ISO/IEC 14764 Software Engineering -- Software Life Cycle Processes -- Maintenance		www.iso.org
5. ISO	2008	ISO/IEC 12207 Systems and Software Engineering -- Software Life Cycle Processes		www.iso.org