COURSE UNIT DESCRIPTION

Course unit title	Course unit code
Software Process Assessment and Improvement	**PMKV7124**

Lecturer(s)	Department
Coordinate: assoc. prof. dr. Antanas Mitašiūnas **Other:**	Department of Computer Science Faculty of Mathematics and Informatics Vilnius University

Cycle	Level of course unit	Type of the course unit
Second		Compulsory

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 co-requisites	
Prerequisites: **-**	**Co-requisites (if exists):** -

Number of ECTS credits allocated	Student's workload	Contact hours	Self-study hours
6	160	65	95

Purpose of the course unit: programme competences to be developed		
To increase knowledge and understanding, to improve ability to apply process capability assessment and improvement approach in process oriented activities		
Learning outcomes of the course unit	**Teaching and learning methods**	**Assessment methods**
Deep understanding of the concepts of software process area.	Lectures and seminars at the level of state-of-the-art and beyond on process capability assessment and improvement.	Practical tasks to assess the understanding and ability of application of theoretical knowledge.
Ability to apply process capability improvement approach to the improvement of outcomes of process oriented activity.	Link of theoretical materials with experience from practice.	
	Learning by experimentation.	Review of process capability guided self-assessment and improvement report.

| 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. ISO/IEC 15504 conformant process capability assessment and improvement	2		2				4	6	Process capability guided self-assessment and improvement
2. ISO/IEC 15504 software and systems process assessment model	2		2				4	6	Process capability guided self-assessment and improvement
3. ISO/IEC 15504 service management process assessment model	2	1	1				4	6	Process capability guided self-assessment and improvement
4. ISO/IEC 15504 organizational maturity model	2		2				4	6	Process capability guided self-assessment and improvement
5. CMMI for development	2		2				4	6	Process capability guided self-assessment and improvement
6. CMMI for acquisition	2		2				4	6	Process capability guided self-assessment and improvement
7. CMMI for services	2		2				4	6	Process capability guided self-assessment and improvement
8. iCMM architecture	2	1	1				4	6	Process capability guided self-assessment and improvement
9. iCMM organizational process areas	2		2				4	6	Process capability guided self-assessment and improvement
10. iCMM life cycle process areas	2		2				4	6	Process capability guided self-assessment and improvement
11. iCMM support process areas	2		2				4	5	Process capability guided self-assessment and improvement
12. Enterprise SPICE domain independent enterprise-wide process model	2	1	1				4	5	Process capability guided self-assessment and improvement
13. Innovation and technology transfer process capability maturity model	2		2				4	5	Process capability guided self-assessment and improvement
14. Education process capability maturity model	2	1	1				4	5	Process capability guided self-assessment and improvement
15. Process capability assessment methods	2		2				4	5	Process capability guided self-assessment and improvement
16. Process capability improvement methods	2		2				4	5	Process capability guided self-assessment and improvement
17. Preparing for the exam and taking the final written exam							1	5	Self-study of literature (5 hours - preparation for exam, 1 hour – exam)
Total	**32**	**4**	**28**				**65**	**95**	

Assessment strategy	Weight %	Duration	Assessment criteria
Exam	50	1 h	Application of theoretical knowledge to the solution of practical tasks.
Seminars and Home work	50	2 h, 2 presentations and 5 incremental phases of the home work according to arranged schedule	Level of operation with the system of notions of process capability modeling and completeness of process capability guided self-assessment and improvement report.

Author	Year	Title	Number or volume	Publisher or URL
Required reading				
Alec Dorling, Terry Rout	2003-2008	ISO/IEC 15504:2003-2008. Information technology – Process Assessment. Part 1-8		http://www.iso.org/
Software Engineering Institute, Carnegie Mellon University	2010	CMMI for DEV v.1.3, CMMI for ACQ v.1.3, CMMI for SVC v.1.3,		http://www.sei.cmu.edu/
Linda Ibrahim and all	2001	FAA-iCMM v.2.0		Published by the Federal Aviation Administration
Recommended reading				
Linda Ibrahim, Antanas Mitasiunas and all	2010	Enterprise SPICE: An Integrated model for Enterprise-wide process assessment and improvement		www.enterprisespice.com
Antanas Mitasiunas and all	2012	Innovation and technology transfer process capability maturity model innoSPICE		http://www.bonita-project.eu/
Antanas Mitasiunas, Leonids Novickis	2012	Education process capability maturity model		BIR 2011 Workshops proceedings Springer Computer Science