

RTU Course "Software Engineering"

0L000 Liepāja Academy

General data

Code	LA1466
Course title	Software Engineering
Course status in the programme	Compulsory/Courses of Limited Choice
Responsible instructor	Dzintars Tomsons
Volume of the course: parts and credits points	1 part, 3.0 credits
Language of instruction	LV, EN
Annotation	In the theoretical part of the course, students gain knowledge and understanding of IT project development, software development life cycle, methodologies used in IT projects. In the practical part, students acquire the skills to use and use in practice the project management tool JIRA or any other similar project management tool. Students gain knowledge about Git, GitHub and will know how to use basic Git commands to be able to use them in practice, on a daily basis.
Goals and objectives of the course in terms of competences and skills	The goal of the course is to develop an understanding of IT project development, versioning, as well as software requirements definition and documentation. Course objectives: 1. To create an understanding of IT project development models among students; 2. To create an understanding of the software life cycle among students; 3. To provide students with knowledge of user understanding and requirements definition in IT projects; 4. To provide students with knowledge of development and management tools used in the industry.
Structure and tasks of independent studies	1. User understanding, target audience: Group work: prepare presentation materials on one topic for different target audiences. 2. Determining requirements in user stories: Create user stories for the selected product; Add acceptance criteria to each user story. 3. Usability of the version control system: Create a new project in GitHub, clone the available code from an existing repository (given); Create new branches according to the instructor's instructions; Make changes to the code according to the instructor's instructions, add comments for each change made, push changes to the branch; Create a code review request, push changes to the main ("Master") branch. 4. Project management tool JIRA or another comparable project management tool: Create a project and adjust it in relation to the software development life cycle specified by the instructor; Develop and post user stories, tasks for the work to be done in the created project.
Recommended literature	Obligātā/ Obligatory: 1. Scott Chacon, Ben Straub. Pro Git. Second edition. Apress: 2022. 513.lpp. 2. Git, [Elektroniskais resurss] – Tiešsaistes raksts. Pieejas veids: tīmeklis www. URL: https://git-scm.com/about – Apskatīts 2022.gada 12.februārī. Papildu/ Additional: 1. Lewrick, M.The Design Thinking Playbook Hoboken : Wiley, 2018. 352 p.
Course prerequisites	-

Course contents

Content	Full- and part-time intramural studies		Part time extramural studies	
	Contact Hours	Indep. work	Contact Hours	Indep. work
IT project organisation, development	4	6	0	0
Development lifecycle basics	2	4	0	0
Agile methodologies	2	6	0	0
Understanding the end user, target audience, requirement collection methods	4	8	0	0
Versioning tool Git and versioning basics for product development Common Git commands GitHub tool and it's usability	4	12	0	0
Project management tools and their application in IT projects Practical assignment with project management tool Jira or other comparable project management tool	2	8	0	0
Development tools widely used in the industry	2	8	0	0
Requirement definition as user stories	4	8	0	0
Total:	24	60	0	0

Learning outcomes and assessment

Learning outcomes	Assessment methods
Knowledge: Knows at the level of conceptual understanding about software development project management; Knows what an IT project is and what their development models are; Knows what the software development life cycle is; Knows what types of activities are in the software development life cycle; Knows what types of methodologies are used when developing IT products in the software development life cycle; Knows what a user story and requirements are; Knows what a project management tool is; Knows how to use project management tools for IT projects; Knows what versioning is; Knows what Git is; Knows what GitHub is;	Practical work submitted and defended within the specified deadlines. Successfully passed the exam.
Skills: Able to classify what is a requirement and how to create user stories; Able to use Git or another comparable version control system; Able to use basic Git commands to clone, merge code, create code review requests, create branches and move between them; Able to create projects in the project management tool JIRA or a comparable project management tool;	Practical work submitted and defended within the specified deadlines. Successfully passed the exam.
Competence: Able to create user stories, structure requirements in them in the project management tool JIRA or a comparable project management tool; Able to create tasks in relation to the needs of an IT project in the project management tool JIRA or a comparable project management tool.	Practical work submitted and defended within the specified deadlines. Successfully passed the exam.

Evaluation criteria of study results

Criterion	%
Practical works submitted and defended within the specified deadlines	60
Successfully passed exam	40
Total:	100

Study subject structure

Part	CP	Hours			Tests		
		Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	12.0	12.0	0.0		*	