

(Vilniaus universiteto studijų dalyko (modulio) aprašo tipinė forma anglų kalba)



**COURSE UNIT (MODULE) DESCRIPTION**

Course unit (module) title	Code
Analysis and Specification of IS Requirements	

Academic staff	Core academic unit(s)
Coordinating: Prof. Audrius Lopata Other:	Kaunas Faculty Institute of Social Sciences and applied Informatics

Study cycle	Type of the course unit
First <input checked="" type="checkbox"/> Second <input type="checkbox"/>	Compulsory Course <input checked="" type="checkbox"/> Optional Course <input type="checkbox"/> Course Unit (Module) of the General University Studies <input type="checkbox"/> Course Unit (Module) of Individual Studies <input checked="" type="checkbox"/> Interdisciplinary Studies Course Unit (Module) <input type="checkbox"/>

Mode of delivery	Semester or period when it is delivered	Language of instruction
Auditorial	First	English/ Lithuanian

Requisites	
Prerequisites: None	Co-requisites (if relevant): None

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	130	48	82

Purpose of the course unit
To develop the skills of identifying, specifying and validating the user requirements for information systems as well as develop the ability to evaluate and select the necessary methods and tools in order to complete user requirements acquisition and specification process successfully.

Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
The student will be able to apply various requirements elicitation and analysis techniques in practice, including interviews, prototyping, and scenarios; model requirements using UML Use Case and Sequence diagrams; and document non-functional requirements.	Lectures, Individual Work	Final Exam
The student will be able to prepare a structured Software Requirements Specification (SRS), link requirements to test cases, conduct validation and verification activities, manage requirements changes, and perform impact analysis. Additionally, he will be	Individual project	Final Exam, Project presentation, defence of practical works

proficient in using requirements management tools and properly preparing technical documentation.		
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Content	Contact hours							Individual work: time and assignments	
	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Practice	Contact hours, total	Individual work	Tasks for individual work
1. Requirements for information systems engineering concept. Requirements hierarchy. Technical task.	2						2	2	Individual studies of Literature ([1] Chapter No.1), Practical work.
2. Functional and Non- Functional Requirements. Reuirements fos system's maintenance.	2				4		6	10	8 Individual studies of Literature ([1] Chapters No. 10, 11), Labs in computer classroom.
3. Composition of functional and non-functional requirements. Participants of requirements specification process.	2				6		8	10	Individual studies of Literature ([1] Chapter No. 3), Individual project, labs in computer classroom.
4. Methods and techniques of user requirements acquisition and documentation procedures. User requirements acquisition and specification templates. Linking requirements to project decisions.	2				4		6	10	Individual studies of Literature ([1] Chapter No. 2), Individual project, labs in computer classroom.
5. Requirements analysis. Prioritization of user requirements. Identification of user requirements using objects of activity. Requirements overlap and ambiguity. Validity of requirements. Requirements testability.	2				6		8	10	Individual studies of Literature ([1] Chapter 17), Individual project, labs in computer classroom.
6. Validation of user requirements, the review of user requirements. Prototyping and user requirements. Approvement of user requirements.	2				6		8	10	
7. Requirements management. Constant and changing requirements. Requirements change management. Requirement traceability.	2				4		6	10	Individual studies of Literature ([1] Chapter No. 9), Individual project, labs in computer classroom.
8. Computer-aided requirements specification tools and technologies	2				2		4	20	Individual project, labs in computer classroom..
<b>Total</b>	<b>16</b>				<b>32</b>		<b>48</b>	<b>82</b>	

Assessment strategy	Weight %	Deadline	Assessment criteria
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Practical works, Individual project (PW)	40%	9th and 13th week	Laboratory works and their defense; practical exercises performed by the lecturer's instructions in the class. Each work is graded. At the end of the semester prepared workshops report. Assessed in grades 1-10 rating scale: 10-9: Excellent knowledge and skills. Evaluation level. 90-100% correct answers. 8-7: Good knowledge and skills may be minor errors. Synthesis level. 70-89% of correct answers. 6-5: The average knowledge and skills, there are errors. Level of analysis. 50-69% of correct answers. 4-3: Knowledge and skills are below average, the (material) errors. Knowledge application level. 20-49% of correct answers. 2-1: Does not meet minimum requirements. 0-19% of correct answers.
Midterm exam (M)	20%	9th week	1-4 Topics from the list of topics listed above. Assessed in grades 1-10 rating scale: 10-9: Excellent knowledge and skills. Evaluation level. 90-100% correct answers. 8-7: Good knowledge and skills may be minor errors. Synthesis level. 70-89% of correct answers. 6-5: The average knowledge and skills, there are errors. Level of analysis. 50-69% of correct answers. 4-3: Knowledge and skills are below average, the (material) errors. Knowledge application level. 20-49% of correct answers. 2-1: Does not meet minimum requirements. 0-19% of correct answers.
Exam (E)	40%	At session time	The exam consists of questions from all the course material. Assessed in grades 1-10 rating scale: 10-9: Excellent knowledge and skills. Evaluation level. 90-100% correct answers. 8-7: Good knowledge and skills may be minor errors. Synthesis level. 70-89% of correct answers. 6-5: The average knowledge and skills, there are errors. Level of analysis. 50-69% of correct answers. 4-3: Knowledge and skills are below average, the (material) errors. Knowledge application level. 20-49% of correct answers. 2-1: Does not meet minimum requirements. 0-19% of correct answers.

#### REGARDING THE EXTERNAL EXAMINATION OF THE COURSE UNIT

Mark <input checked="" type="checkbox"/>		If permitted, please provide the conditions	
Not permitted	<input type="checkbox"/>	Permitted	<input checked="" type="checkbox"/>
<p>For those wishing to take the external examination of this course unit, the course assessment consists of a project or essay (40%), which must be submitted to the lecturer via email (or uploaded to the e-learning platform) no later than 5 days before the exam, and an exam (60%).</p> <p>When evaluating a project/essay and an exam, the same criteria are applied as when studying the subject regularly.”</p>			

#### REGARDING THE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE (GenAI) TOOLS (SUCH AS "CHATGPT", ETC.) WHEN STUDYING THE COURSE UNIT

Mark <input checked="" type="checkbox"/>		If permitted, please provide the conditions	
Not permitted	<input type="checkbox"/>	Permitted	<input checked="" type="checkbox"/>
<p>GenAI may only be used if the lecturer specifies that a particular assignment may be completed using GenAI; otherwise, it will not be graded.</p> <p>If the use of GenAI tools is permitted for completing assignments, the citation requirements set forth in the <a href="#">Guidelines for the Use of Artificial Intelligence at Vilnius University</a> must be strictly followed.”</p>			

#### REGARDING ACADEMIC PROGRESS

A student who (1) **throughout the semester consistently** fails to demonstrate **progress in achieving the expected learning outcomes of a subject (module)** during the practical classes (seminars, exercises, laboratory work, etc.) and (2) fails to complete all interim assessment requirements and tasks within the time specified in the course description, is not allowed to participate in the examination session.

Author (-s)	Publishing year	Title	Issue of a periodical or volume of a publication	Publishing house or web link
<b>Required reading</b>				
S. Robertson, J. Robertson	2023	Mastering the Requirements Process: Getting Requirements Right (Third edition)	ISBN: 0321815742	Addison-Wesley Professional.
R. R. Young	2022	The Requirements Engineering Handbook	ISBN: 1580532667	Artech House Publishers.
<b>Recommended reading</b>				
G. Kotonya, I.Sommerville	2021	Requirements Engineering: Processes and Techniques.	ISBN-10: 0471972088	Wiley.
D. C. Hay	2021	Requirements Analysis. From Business Views to Architecture		Prentice-Hall PTR.
E. Gottesdiener	2020	Requirements by Collaboration: Workshops for Defining N	ISBN-10: 0201786060	Addison-Wesley Professional.
E. Gottesdiener	2005	The Software Requirements Memory Jogger: A Pocket Guide to Help Software and Business Teams Develop and Manage Requirements	ISBN 978-1-57681-060-6	Goal Q P C Inc.

*NOTE: Including Open Educational Resources in the reading list is recommended*