COURSE UNIT DESCRIPTION

Course unit title	Course unit code
Human Computer Interaction	

Lecturer(s)	Department where the course unit is delivered
Coordinator: Kristina Lapin **Other lecturers:** assoc. prof. Vytautas Čyras, lect. Tomas Tumasonis	Department of Software Engineering, Institute of Computer Science, Faculty of Mathematics and Informatics, Vilnius University

Cycle	Type of the course unit
1st (BA)	Compulsory

Mode of delivery	Semester or period when the course unit is delivered	Language of instruction
Face-to-face	5th semester	Lithuanian, english

Prerequisites
Prerequisites: -

Number of credits allocated	Student's workload	Contact hours	Individual work
5	136	68	68

Purpose of the course unit: programme competences to be developed

The purpose of the course is to help students develop human-centered design skills that ensure consideration of end-users needs at all stages of software design process. Student will learn how to apply well-established methods and techniques in a creation of usable user interfaces with any technology.

Generic competences:

- Communication and collaboration *(GK1).*
- Life-long learning *(GK2).*
- Social responsibility *(GK3).*

Specific competences:

- Knowledge and skills of underlying conceptual basis *(SK4).*
- Software development knowledge and skills *(SK5).*
- Technological and methodological knowledge and skills, professional competence *(SK6).*

Learning outcomes of the course unit: students will be able to	Teaching and learning methods	Assessment methods
Function effectively on multidisciplinary teams to accomplish a common goal.	Group project, brainstorming seminars, group discussions.	The presentation of the group project assignments, peer assessment
Independently acquire new knowledge, modern wireframing and prototyping tools, user study, interaction design and evaluation methodologies to apply them in practice.	Study of literature, case study, group project	Exam (open and close questions as well as tasks), written reports of group project assignments.
Understand professional and ethical responsibility doing user studies in a natural environment as well as usability testing	Lecture, augmented with written information and images (interface examples, diagrams, tables, conceptual schemes and video) on slides, case-based teaching, data gathering in a natural environment, demonstration, group	
Apply foundations of mathematics, psychology, ethnography and sociology, knowledge of engineering, computer science theory in software systems development.		

Become familiar with new software engineering applications, to appreciate the extent of domain knowledge, to evaluate the complexity of the problems and the feasibility of their solution.	discussion, group project, peer assessment.	
Design, implement, and evaluate a user interface to meet desired needs		
Select and use appropriate current techniques, models, solution patterns, skills and tools, necessary for the creation of user interface mockups and prototypes involving emerging application areas.		
Use existing hardware, software and application systems, to identify, understand and apply the promising technologies.		

Course content: breakdown of the topics	**Contact hours**							**Individual work: time and assignments**	
	Lectures	Tutorials	Seminars	Practice	Laboratory work (LW)	*Tutorial during LW*	**Contact hours**	**Individual work**	**Assignments**
1. Evolution of Human Computer Interaction, usability of interactive systems.	2						**2**	2	Individual reading of literature.
2. User needs analysis: studying characteristics of users, activities, usage context and technologies.	6				6		**12**	8	Group project assignments: 1) users' needs analysis, 2) alternative mockups, 3) heuristic evaluation, 4) high-fidelity prototype 5) usability testing.
3. Guidelines, principles and theories	2				2		**4**	2	
4. User-centered design processes, methods, tools, practices and patterns.	2				2		**4**	2	
5. Interaction styles	2					*6*	**2**	2	
6. User interface design: navigation, content organization, attention control, colors, etc.	6				10		**16**	14	
7. Data visualization.	2				2		**4**	4	
8. Information search.	2				2		**4**	4	
9. Documentation and user support	2				2		**4**	4	
10. Usability evaluations	6				6		**12**	10	
11. Preparation for and taking an exam		2					**4**	16	2 hours – consultancy 2 hours – exam taking 16 hours – preparation.
Total	**32**	**2**	**0**	**0**	**32**	*6*	**68**	68	

Assessment strategy	**Weight %**	**Deadline**	**Assessment criteria**
Group project assignments	50	During the semester	5 group project assignments – of 1 point. It is required to participate in at least 3 presentations. In case this requirement is violated – the grade of is reduced by 10%.
Mini tests	5	During the semester	Correct answers to questions during the lecture.
Reviews of peers' projects	5	During the semester	Ability to argument the benefits and drawbacks of the peers' assignments.
Exam	40	Exam session	Ability to demonstrate and apply the knowledge. Exam contains open and close questions as well as practical task.

Author	Publishing year	Title	Number or volume	Publisher or URL
Required reading				
K. Lapin	2016	Course slides and group project assignment descriptions and requirements		Virtual learning environment of Vilnius University
B. Shneiderman, C. Plaisant, M. Cohen, S. Jacobs, N. Elmqvist, N. Diakopolous	2018	Designing interactive systems: people, activities, contexts, technologies		Pearson
Recommended reading				
D. Benyon, P. Turner, S. Turner	2014, 2010, 2005	Designing interactive systems: people, activities, contexts, technologies		Addison-Wesley
K. Lapin	2008	Žmogaus ir kompiuterio sąveika		Vilnius,TEV
D.A. Norman.	2002	The Design of Everyday Things		Basic Books; Reprint edition