

Subject code	Credits
INF5025	6

Course title in Lithuanian

ŽAIDYBINIŲ APLINKŲ TECHNOLOGIJOS

Course title in English

GAMING ENVIRONMENTS AND TECHNOLOGIES

Short course annotation in Lithuanian (up to 500 characters)

Dalyke nagrinėjama žaidimų kūrimo teoriniai pagrindai, žaidybinimo principai, žaidimų stiliai ir scenarijų tipai, pagrindiniai žaidimų kūrimo dizaino elementai, esminiai žaidimų kūrimo etapai ir technologijos; žaidimai kaip realaus laiko sistema; žaidimų mechanika, programavimo žingsniai ir procedūros, žaidimų architektūra, žaidimų pasauliai ir personažų kūrimas; naratyvas ir scenarijai; žaidimų varikliai; žaidimų platformos; žaidimų kultūra; dirbtinio intelekto taikymai žaidimuose; rimtieji žaidimai.

Short course annotation in English (up to 500 characters)

Course teaches, describes and analyses but is not limited to: basic descriptions of play and game; progressive and emergent gameplay; essential game design elements and the role of a game designer; key game development stages and principles of agile game development; interpretations game like magic and real-time systems; game mechanics; programming steps and procedures for game code structuring; key concepts of game architecture; game worlds and characters; narratives and stories; game engines and the relationship of games to other data-driven applications; games as iterative step-by-step processes (selecting, implementing and testing); game rules, balances, fairness and biases; physics for realistic force-based movement, individual characters and groups creation; game culture (deviant cultures, violence, sex, race); AI techniques for game characters behaviour; serious games. Theory and practices combined.

Prerequisites for entering the course

Spatial image synthesis, Computer graphics, Graphical design, Multimedia and animation, Augmented reality technologies

Course aim

Get acquainted with gamification theory; select and adapt technical and programmical technologies for game creation

Content

No	Content (topics)
1	Gamification technologies: introduction. Basic steps of game creation.
2	Narrative creation. Game worlds and characters.
3	Game engines. Software platforms for game development.
4	Interactive gaming applications. Progressive and emergent gameplay. Games as iterative step-by-step processes.
5	Game mechanics and physics for realistic force-based movement.
6	Interpreting games. Rules, balances, fairness and biases.
7	Gaming culture (deviant cultures, violence, sex, race).
8	MMORPG games. Individual characters and groups creation.
9	Augmented reality, virtual reality, immersive gaming.
10	AI techniques for game characters behaviour.
11	Serious games.

Distribution of workload for students (contact and independent work hours)

Lectures	30 hours
Group work	15 hours
Laboratory work	15 hours
Individual students work	100 hours
Total:	160 hours

Structure of cumulative score and value of its constituent parts

Written mid-term exam – 30%, group-work and laboratory work – 30% and written exam – 40% of final evaluation.

Recommended reference materials

No.	Publication year	Authors of publication and title	Publishing house	Number of copies in		
				University library	Self-study rooms	Other libraries

Basic materials					
1.	2005	Ward A. Game character development with Maya	New Riders		1 copy
2.	2010	Adams E. Fundamentals of Game Design	New Riders		1 copy
3.	2006	Moore M.E. Game Design and development	Pearson		1 copy
Supplementary materials					
	2013	Amor, J. The four pillars of Agile game development.		http://www.develop-online.net/features/1934/The-fourpillars-of-agile-game-development	
	2014	Tilo Hartmann, K. Maja Krakowiak & Mina Tsay-Vogel. How Violent Video Games Communicate Violence: A Literature Review and Content Analysis of Moral Disengagement Factors, Communication Monographs, 81:3, 310-332, DOI: 10.1080/03637751.2014.922206	Taylor&Francis online	http://www.tandfonline.com/doi/pdf/10.1080/03637751.2014.922206	
	2007	Bogost, I. Persuasive Games: The Expressive Power of Videogames.	Cambridge: The MIT Press.		Self-study room
	2011	Henricks, T. Caillois's Man, Play, and Games.			journalofplay.org
	2014	Juul, J. Half-Real: A dictionary of video game theory.		http://www.half-real.net/dictionary	
	2013	Juul, J. <i>The art of failure: An essay on the pain of playing video games.</i>	MIT press		Self-study room
	2013	Domsch, S. <i>Storyplaying: Agency and narrative in video games</i> (Vol. 4).	Walter de Gruyter		Self-study room

Course programme designed by

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