1.	Course Title	Video games programming		
2.	Code	F18L3W152		
3.	Study program	Software engineering and information systems		
4.	Study Program Organizer	Faculty of Computer Science and Engineering		
5.	Degree (first, second, third cycle)	first cycle		
6.	Academic year / semester 4 / winter / mandatory	7. ECTS credits 6		
8.	Teacher	full professor Suzana Loshkovska		
9.	Course enrollment prerequisites	Алгоритми и податочни структури		
10.	Course program goals (competencies): The purpose of the course is to introduce students to the process of video game programming. For this purpose students will be introduced to the basic components of video games and video game programming approaches. Upon completion of the course, the candidate is expected to understand the concepts for video games programming and to be able to program alone or in a team simple video game.			
11.	Course program content: Introduction, a brief history, classifications and game types. Architecture of the game. Game initialization and shutdown. Game actors and component architecture. Controlling the main loop. Loading and cashing game data. Programming input devices. User interfaces programming. Game event management. Adding and controlling sound. Basic principles of game graphics. Representation of graphic objects. Using textures. Representation and programming of 3D scenes. Physics in games. Collision programming. Artificial intelligence. Techniques for describing the behavior of virtual actors.			
12.	Learning methods: Lectures using presentations, interactive lectures, exercises (using equipment and software packages), teamwork, case studies, invited guest lecturers, independent preparation and defense of a project assignment and seminar work.			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	30 + 45 + 15 + 15 + 75 = 180 hours		
15.	Teaching activity forms	15.1.	Lectures – theoretical teaching	30 hours
		15.2.	Exercises (laboratory, auditory), seminar papers, teamwork	45 hours

16.	Other activity forms	16.1.	Project Tasks	15 hours
		16.2.	Independent Learning Tasks	15 hours
		16.3.	Home learning	75 hours

17.	Assessment methodology		
	17.1.	Tests	points
	17.2.	Seminar paper/project (presentation: written and oral)	100 points
	17.3.	Activity and learning	0 points
	17.4.	Final exam	0 points

18.	Assessment criteria (points/grade)	up to 50 points	5 (five) (F)
		51 to 60 points	6 (six) (E)
		61 to 70 points	7 (seven) (D)
		71 to 80 points	8 (eight) (C)
		81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)
19.	Course completion and final exam requirements	Realized activities 15.1 and 15.2	
20.	Teaching Language	Macedonian and English	
21.	Teaching quality evaluation method	Internal evaluation mechanisms and questionnaires	

22. Course Material

22.1. Mandatory course material

No.	Author	Title	Publisher	Year
1	Mike McShaffry, David “Rez” Graham,	Game Coding Complete	GENGAGE Learning	2013
2	Sanjay Madhav	Game Programming Algorithms and Techniques	Pearson Education, Inc.	2014
3	Jason Gregory	Game Engine Architecture	A K Peters, Ltd. Wellesley, Massachusetts	2009

22.2. Additional course material

No.	Author	Title	Publisher	Year