

Study program: Information Technology			
Type and level of studies: Master studies (second level of studies)			
Course unit: Digital Game Design			
Teacher in charge: Veljko Aleksić			
Language of instruction: English			
ECTS: 6			
Prerequisites: -			
Semester: Winter			
Course unit objective Introduction to the principles of digital game design, concepts, structures and game schemes. Mastering the basic skills needed to design digital games. Encouraging creative and critical use of development tools. Exploring a wide range of digital games to understand the impact of game design and mechanics. Evaluation of components and design characteristics of commercial and non-commercial (research, education, medicine, etc.) digital games.			
Learning outcomes of Course unit At the end of the course, the student is expected to functionally use tools and apply appropriate skills and techniques for digital design of game elements (graphics, sound, interface, narrative). The student is able to design characters, AI of the game (motion control, trajectory planning, decision system, etc.), sound effects and background, user interface and integrate narrative into the game. The student identifies the mechanics and dynamics of different types of digital games.			
Course unit contents <i>Theoretical classes</i> Elements of interactive entertainment: types of digital games, history, aesthetics, cultural aspect, social significance. Design analysis of different types of representative digital games. Digital game conceptualization and prototype. Computer animation. Game mechanics. Documentation. Analysis of narratives, logs, iterations and the effects of playing on the player. Gamification (acquisition, retention, monetization, persuasion, manipulation, addiction). <i>Practical classes</i> Digital object modeling, motion detection, lighting, texture mapping, rendering. Using 2D and 3D digital design tools. User interface design. Design and implementation of game tempo, weight curves and event script. Testing and checking the quality of games. Deconstruction of the game to individual mechanics, documenting the design and explaining the correlations.			
Literature [1] Nystrom, R. (2014). Game programming patterns. Genever Benning [2] McGonigal, J. (2011), Reality is Broken: Why Games Make Us BETter and How They Can Change the World. New York: Penguin Press [3] Squire, K. (2011). Video games and learning. Teaching and participatory culture in the digital age. Teachers College Press [4] Barkley, E. (2010). Student Engagement Techniques: A Handbook for College Faculty. San Francisco: Jossey Bass			
Number of active teaching hours			Other classes
Lectures: 2	Practice: 2	Other forms of classes: Independent work:	
Teaching methods On-line lectures; Case studies, discussions via forums and wikis; Practical work in computer laboratory.			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	10	oral examination	30
Practical classes/tests	20	written examination	
Seminars/homework		
Project	40		
Grading system			
Grade	No. of points	Description	
10	91-100	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	less than 51	Failing	