

Study program: Information Technology			
Type and level of studies: Undergraduate studies			
Course unit: Digital Games Development			
Teacher in charge: Veljko Aleksić			
Language of instruction: English			
ECTS: 6			
Prerequisites: -			
Semester: Summer			
Course unit objective Introduction to the principles of digital games functioning, development environment characteristics and basic design concepts. Gaining basic skills required for digital games development. Encouragement of creative and critical use of development tools. Concept analysis, strategies and psycho-social aspects of various digital game genres. Evaluation of the components and characteristics of commercial digital games (computer, video and mobile).			
Learning outcomes of Course unit Upon the successful completion of the course, students will be able to: Functionally use visual development environment (Unity etc.) and apply basic skills and techniques in developing computer game prototype; Control player and camera movement; Create game objects; Apply the physical simulation in 2D and 3D virtual worlds; Create and adapt user interface; Understand digital game influence on the players and society.			
Course unit contents <i>Theoretical classes</i> Concept, historical development, types and characteristics of digital games. Principles of game functioning. Basic design concepts. Organization of a digital game development project. Objects in digital games. Defining stage structure and lighting. Solids and colliders. Scripts in digital games. Navigation, trajectory and obstacle avoidance. Controlling the behavior of players, allies and enemies. The user interface. Social effects of playing digital games and influencing player behavior <i>Practical classes</i> The visual interface of the visual development environment. Sprites. Animation of objects. Selection, structuring and design of digital game elements. Script code analysis. Player and camera movement. Scenario. Creating and testing a game.			
Literature [1] Bond, J. G. (2014), Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C#. Addison-Wesley Professional. [2] Nystrom, R. (2014), Game Programming Patterns. Genever Benning. [3] Hocking, J. (2015), Unity in Action: Multiplatform Game Development in C# with Unity 5. Manning Publications. [4] Squire, K. (2011), Video Games and Learning: Teaching and Participatory Culture in the Digital Age (Technology, Education--Connections). New York: Teachers College Press. [5] 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: 3	Other forms of classes: / Independent work: /	
Teaching methods Interactive lectures; Case studies and discussions; 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	10
Practical classes/tests	20	written examination	20
Seminars/homework	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	