

Óbudai University			
Alba Regia Technical Faculty			
<i>Name of the subject and Neptun code: Multiplatform graphical applications</i>			
<i>ECTS: 3</i>			
Faculty:			
Subject leader:	Éva Hajnal PhD.	Teacher:	Gaye Ediboglu Bartos
Prerequisites			
Weekly hours:	Lecture: 1	gs:0	Lab: 2
Way of assessment:	Exam		
Description of the subject:			
Aim: Improving game feel. Using advanced AI in the game. Developing cross-platform applications. Integrating Unity Ads into the game. Developing mobile games. AR applications. Controlling the games with Microsoft Kinect. VR game development using Oculus. Publishing games in different platforms.			
<i>Curriculum:</i>			
Contents			Hours
Lecture:			
Virtual reality and extended reality. Immersion systems and the role of the immersion.			1
Rendering in VR. Graphics and visualization.			1
Audio- and haptic representation			1
Interactions with virtual world. Manipulation, Navigation. Collaborations			1
Physical modeling. Collision detection. Deformations. Calculations of forces. Connection between virtual and real physics.			1
Extended reality systems. Information layer.			1
Pasting virtual elements into the reality and real elements into the virtual reality. Image based modelling, 3D reconstruction			1
VR standards. Network, internet solutions.			1
Human factor. Health problems. VR sickness.			1
Good practices.			1
Test			
Practice:			
Cameras and Lighting			2
Basics of Character Animation			2
Basics of Particle Systems			2
Sound and Effects			2
Advanced AI			2
Setting up Monetization for Mobile Games			2
Using Windows Kinect for Controlling a Game			2
Understanding AR applications			2
Creating an AR app Using Vuforia Engine			2
Virtual Reality Game Development and Prototyping			2
Using Unity to Develop VR Experiences using Oculus			2
Publishing the Game in Different Platforms			2
Connecting the Game to the Internet			2
Project Presentations			2
Requirements			
Finish the game development task of the computer laboratory practice			
Written exam at least 50% achievement			

	grades 50% - 62% 2 63% - 74% 3 75% - 85% 4 86% - 5

References:	
	1. Alan Thorn: Game Development Principles ISBN 10 : 9781285427065 ISBN 13 : 1285427068
	2. Penny de Byl: <i>Holistic Game Development With Unity</i> ISBN 10 : 9781317497233 ISBN 13 : 1317497236