Óbudai University **Alba Regia Technical Faculty**		

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Name of the subject and Neptun code: Multiplatform graphical applications
 ECTS: 3

Faculty: Alba Regia Technical Faculty

Subject leader:	Éva Hajnal PhD.	Teacher:	Gaye Ediboglu Bartos
Prerequisites			

Weekly hours:	Lecture: 1	gs:0	Lab: 2	Consultation: 0
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.

Curriculum:

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: Holistic Game Development With Unity ISBN 10 : 9781317497233* *ISBN 13 : 1317497236*