SFK MASTER COURSE TEACHING PLAN

Course Name: Introduction To Game Development

Course Description: This course covers the key aspects of programming and game engine knowledge you will need to develop your own game. As a first step in this course, we will cover the basics of programming and the Unity engine, followed by a demonstration of how to create a game using Unity engine. Covering topics such as movement, animation, game logic, game design and etc.

Lecturer: Nima Jamalian

Bio: Lecturer in Games Programming and research in VR (Hand Tracking)

Course Objective:

- Leaning Key Programming Concepts
- Leaning Unity Engine and Key Design Pattern
- Leaning 2D Game Development
- Getting familiar with different features of Unity Game Engine such as animation, audio etc.

Reading in Preparation

Software / Skills required:

- Unity Game Engine (Latest LTS Version Available)
- Visual Studio

Schedule

Session 1 : Introduction to Unity and Programming

☒ Lecture ☐ Workshops ☐ Critiques ☐ Group Discussions ☐ Demonstrations ☐ Seminar ☐ Other

Description: Introduction to Unity and getting familiar with the Unity game engine. C# programming covering key aspects of programming needed for game development.

Assignment:

Session 2 : 2D Game Development – Part 1

☒ Lecture ☐ Workshops ☐ Critiques ☐ Group Discussions ☐ Demonstrations ☐ Seminar ☐ Other

Description: I will demo to the student live how to build a 2D game. Covering key aspects of 2D game development, such as moving objects (transform), collision, collision detection, Physics (Rigibody)

Assignment: Come up with a new feature and add it to the game built during the class.

Session 3 : 2D Game Development – Part 2

☒ Lecture ☐ Workshops ☐ Critiques ☐ Group Discussions ☐ Demonstrations ☐ Seminar ☐ Other

Description: This class will focus on developing game logic and different common game mechanics.

Assignment: It would be a good time for the student to start thinking about their final project idea now. By this session, students have enough knowledge to start building things using Unity, so I want them to come up with their final project idea and start making a prototype.

Session 4 : Intro to 3D Game Development

☒ Lecture ☐ Workshops ☐ Critiques ☐ Group Discussions ☐ Demonstrations ☐ Seminar ☐ Other

Description: This class will cover features unique to 3D games and give students an introductory understanding of 3D game development. We will look at a first-person project example and add new game features, such as Ray Casting.

Assignment: Create a new feature for a 3D game example built during the class.

Session 5 :

Presentation and Project Review