THEA5860 Interactive Media as Drama I

Intro to Game Design & Unreal Engine 5
Tuesday/Thursday 9:30am – 10:50am
Fine Arts Room 255

Paul Markert
Paul.Markert@uga.edu
Office Hours: Tuesday/Thursday 4:30-6pm, Room 255

Overview

THEA 5860 will provide a beginner's overview of both Unreal Engine 5 and the principles of game design. Students will have an introduction to how Unreal works as well as a chance to create their own game mechanics and environments. The class uses Unreal's Blueprint Visual Scripting System. No previous coding experience is required. On completion of the class, students will have the skills and understanding necessary to develop games on their own, and to continue to expand their skills using the Unreal Game Engine.

Know that this is the first time this class has ever been offered, so aspects of our schedule and the syllabus may be subject to change.

We will begin with the basics of the scripting system through a project controlling simple geometry. As we continue, students will be given assets and learn how to control animations through the engine. Throughout the semester, we will discuss selected readings and videos on game design concepts.

Unreal can be daunting when you first start, and some of the topics and assignments will be time consuming. If you do not have a computer that can run Unreal, be prepared to use the Computer Lab hours (M-F 5:15 - 9pm)

What this class is not

This class is not a modeling class. Though we will cover some landscape tools, lighting and texturing, students should not feel pressured to create their own assets. Nor will students get extra points for creating their own assets. Assets for assignments will be provide.

Required items

Students should have a dedicated flash drive, SSD or external hard drive for this class. The computer labs do not have a lot of memory and are regularly wiped. The flash drive should be at least 64 GB.

Class Texts

Reading Assignments will be uploaded on eLC. We will be pulling from:

- *A Theory of Fun* by Raph Koster
- *Level Up* by Scott Rogers
- *Game Design Workshop* by Tracy Fullerton

Honor Code and Academic Honesty Policy

All academic work must meet the standards contained in "A Culture of Honesty" which can be found at www.uga.edu/ovpi. Each student is responsible to inform themselves about those standards before performing any academic work. Students are expected to adhere to the University Honor Code and Honesty Policy.

Class Etiquette

This class is intended to be a positive atmosphere for learning and creative work. As such, students should be respectful of each other work and provide proper feedback to each other. Any threats of violence or intent to make others feel unsafe will be met with immediate class removal.

Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit https://sco.uga.edu. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services. UGA has several resources for a student seeking mental health services (https://www.uhs.uga.edu/ bewelluga/bewelluga) or crisis support (https://www.uhs.uga.edu/info/emergencies). If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (https:// www.uhs.uga.edu/bewelluga/bewelluga) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center. Additional resources can be accessed through the UGA App.

Downloading Unreal

There is a video on eLC with a step-by-step guide on how to download Unreal 5. System requirements are as follows:

Mac

Operating System	**Latest MacOS Monterey**
Processor	Quad-core Intel, 2.5 GHz or faster
Memory	8 GB RAM
Video Card	Metal 1.2 Compatible Graphics Card

PC

Operating System	Windows 10 64-bit

Processor	Quad-core Intel or AMD, 2.5 GHz or faster
Memory	8 GB RAM
Graphics Card	DirectX 11 or 12 compatible graphics card
RHI Version	DirectX 11: Latest drivers DirectX 12: Latest drivers Vulkan: AMD (21.11.3+) and NVIDIA (496.76+)

Grade Breakdown

Quizzes/Attendance	10%
Class Projects/Assignments	40%
Mini Research Project	15%
Game Pitch	10%
Final Project	25%

Grading Scheme: A: >=94% A-: 94% - 90% B+: 89% - 87% B: 86% - 83.5% B-: 83% - 80% C+:79% - 77% C: 76% - 73.5% C-: 73% - 70% D: 69% - 60% F: < 60%

Attendance

Attendance is incredibly important as we will be building on each class. It will be difficult for students to be able to catch up. Over 2 unexcused absences will begin to detract from your final grade.

Quizzes

There will be short quizzes periodically uploaded to eLC. These are designed to see if the concepts we have been discussing are clicking, and if we need to adjust our schedule.

Class Games/Assignments

We will work together to create 2 projects this semester, one with basic geometry and another with character animation. Though most of these projects will be made in class, students will have assignments to expand on the work discussed that day. This could range from debugging to creating their own mechanics or gameplay loops. The final assignment for each project will be to take the mechanics we've built and create a small game.

Mini Research Project

Halfway through the semester I will have a list 12-15 small game mechanics. These will be a) easy to research and b) simple to implement. Students will choose one mechanic from the list and make a 5 min tutorial video on how to implement this mechanic into a game. The video

should be a recording of the student building the game mechanic and not a video they found online. These will be posted on eLC for the rest of the students to use during their Final Game Project.

Game Pitch

A one-page pitch on what your final game will be. This will include the gameplay loops, the mechanics and how the student intends to construct it. When these are submitted, I will either give notes or we will meet to discuss your pitch.

Final Project

The Final Project be dependent on the semester. The goal for the Final Project will be for students to create their games from their Game Pitches. However, if we need to take extra time for the topics covered in class, we will instead make the final assignment the 2nd class project the final.

Proposed Schedule

August

Week 1

Thursday, August 18th

- Class Overview
- Review of the Syllabus
- Discussion: What is a game?

Week 2

Tuesday, August 22nd

- Unreal Breakdown
    - Overview of system and shortcuts
- Assign Readings

Thursday, August 25th

- Reading Discussion
- Finish Unreal Breakdown

Week 3

Tuesday, August 30th

- Quiz Assigned
- Grey Block Project
- Assign readings

September

Thursday, September 1st

- Reading Discussion
- Continuing Grey Block Project Assignment
- Wrap up and work on in class

Week 4

Tuesday, September 6th

- Turn in Grey Block Project
- Events and Basic Nodes
- Assign Readings

Thursday, September 8th

- Reading Discussion
- Finish Events and Basic Nodes

Week 5

Tuesday, September 13th

- Quiz Assigned
- Actor Blueprints

Thursday, September 15th

- Finish Actor Blueprints

Week 6

Tuesday, September 20th

- Quiz Assigned
- Widgets

Thursday, September 22nd

- Finish Widgets
- Begin Design Overview
- Assign reading

Week 7

Tuesday, September 27th

- Quiz assigned
- Design Overview

Thursday, September 29th

- Class Project 1 wrap up
- Reading Discussion
- Mini Research list released

October

Week 8

Tuesday, October 4th

- Intro to animations
- Importing Assets
- Assign Readings

Thursday, October 6th

- Setting Up Animation Blueprint and Blendspace
- Readings Discussion
- Class Project 1 File Due

Week 9

Tuesday, October 11th

- Setting up Crouching and Sprinting Animations
- Actor Blueprints (Cueing Animation Montages)

Thursday, October 13th

- Actor Blueprints (cont)
- Socket Items and connections

Week 10

Tuesday, October 18th

- Actor Blueprints wrap up
- 3D AI
    - (Asset set up to be done by now)
- Mini Research Project Due

Thursday, October 20th

- 3D AI continued

Week 11

Tuesday, October 25th

- HUDs and Progress Bar

Thursday, October 27th

- Material and Texturing
- Game Pitch Due

November

Week 12

Tuesday, November 1st

- Materials and Texturing

Thursday, November 3rd

- Game Packaging
- Class Project 2 File Due
- Assign Readings

Week 13

Tuesday, November 8th

- Reading Discussion
- Workday
- Assign Readings

Thursday, November 10th

- Reading Discussion
- Workday

Week 14

Tuesday, November 15th

- Workday

Thursday, November 17th

- Workday

Week 15

Tuesday, November 22nd

- Workday

December

Week 16

Tuesday

- Class Wrap up
- Workday

Final – Get together and play the final games!