GAD2018

Game Development II
Lecturer Galip Kartoğlu

Instructor

Office: BAU Galata, GLTSC03

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Office Hours: 10:30 – 18:30 (Wednesdays)

CV (link): http://www.stun-games.com/data/Resume-Galip-Kartoglu.pdf

Course Information[1]

Terms	: Spring 2021/2022
Time	: 08:30-10:20 Tuesday /// 10:30-12:20 / 12:30-14:20 / 14:30-16:20 / 16:30-18:20 Wednesday
Course Credit/ECTs	: 3/5
Classroom	: GLTSC03
Course Type	: Hybrid

Course Objective and Learning Objectives

The main objective of this course to build a solid and comprehensive understanding of game development pipeline by utilizing the fundamentals of Unreal Engine 4 – an industry leading professional development tool/editor for creating interactive experiences and/or enterprise fields of real time training simulation, visualization, and media/entertainment-.

This course contains both theoretical and practical applications on game development. There will be a final project which students are required to build a game of their own with the points taught during the classes. The most fundamental aspects of Unreal Engine 4 will be explained and students will be expected to complete assigned projects to demonstrate and develop their skills with the editor.
By the end of this course, each student should:

1.   Have a comprehensive understanding of the game development pipeline
2.   Learn how to break down a game into its core elements and work/think individually on each of them
3.   Get a complete introduction to core competency with the editor,
4.   Learn how the engine works and how it works to help make one's project run efficiently
5.   Learn about the tools and strategies to debug errors.

Course Structure

This course will be carried out as course hours (on the online platform over the virtual classroom) and as practice hours (which will be held face to face).

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[1] It is essential that the syllabus announced at the beginning of the term is not changed except when necessary. When a requirement occurs, the curriculum can be changed by the lecturer of the course by notifying this situation in writing or verbally beforehand. It is the student's responsibility to follow the current program.

Practice Hours: Every week, 2 hours of the course time would take place in GLTSC03 classroom which we will be called as "Practice Hours". During these practice hours, you may:

- Work on specific mini-game projects, which of details will be explained during course hours. And show the lecturer that they are complete and working.
- Show your working Assignment #1: Simple game project.
- Make your presentation for Assignment #2: Classic game breakdown.
- Ask me any development-related question.

All students are expected to follow the courses in the virtual classroom during the course hours.

Online Office Hours

You can meet me during practice sessions. Please send a private message to me on itslearning platform at least before 24 hours before the office hours, so i can confirm and tell you a specific time to talk in person.

Course Policy

Communication Channels and Methods:

The lecture will be held on Microsoft Teams. Students who want to contact me outside class hours can reach me via private message on itslearning.

Its Learning platform will be used to share all presentations and documents with the students, as well as it will also be used for delivery of the final project submissions.

Usage of Digital Tools:

Mobile Technologies: Mobile technologies such as mobile phones, tablet computers, laptop computers can only be used for teaching purposes. Please respect the lecturer and your friends by turning off the volume or turning off your mobile phone.

Cell Phone: Your cell phones should be muted or turned off before class. There may be some important situations in our lives (health, family, personal) in such cases, please turn your phone to vibration and if you really need to talk, leave the class and talk outside and come back to the lesson.

Assignments, Practice Sessions and Project Deadline:

   • All assignments will be uploaded to submitted to Itslearning platform.
   • Please do not send me any content mentioned above via e-mail unless we specifically talked about it.
   • You will be given 2 assignments which will be counted as a mid-term and will have specific due dates which will be announced later.
   • Practice hour projects may have specific due dates (mostly in 1-2 weeks) or no dates at all (Will be required to be finished on the same day.)

Attendance:

There will be grading for the attendance for both online/offline classes. Students who have a valid reason to miss the class should inform me beforhand via itslearning private messaging.

Disabled Student Support You can contact me directly regarding the issues that may be an obstacle for you (vision, hearing, etc.). In addition to this, there is a Disabled Student Unit in order to minimize the difficulties that our disabled students will encounter due to their disabilities and to eliminate the obstacles. You should contact this unit regarding your situation. Click to access the web page of this unit.

Oral and Written Communication Ethics: During the lesson you have to express yourself

respectfully in your communication with your friends and with me. In addition, you are responsible for maintaining this respect in discussions, homework and correspondence on the online platform.

Privacy and Copyright: In accordance with the Personal Data Protection Law, the courses will be recorded on the online platform within the scope of your approval and knowledge. In addition, it is strictly forbidden to register the participants (students and instructors) during the course.

Course Resources

Unreal Engine Instructor Guide
Real-time Rendering (Tomas Akenine-Mo¨ller, Eric Haines, Naty Hoffman)
Mathematics for 3D Game Programming and Computer Graphics (Eric Lengyel)

Grading and Evaluation

Assignment	Desciption	Scoring	Weight (%)
*Midterm	You will be given 2 assignments which will have specific deadlines. Their average score will be counted as your midterm score.	100	25
*Labworks	You will be asked to build 3 mini-game projects along with shorter tasks to be performed during practice hours with the topics covered in the courses. Step-by-step instruction presentations will be provided for these except the last one. There will be also specific deadlines for these mini-games/task and you are required to show a proof that you've completed them to get graded. If you were unable to attend with an acceptable reason, you may present your proof with a video.	100	35
*Final Project	You will be asked to build a complete game project with a team of maximum 2 people. (Solo teams are also accepted.) You are required to show weekly process of your project by coming to the practice hours. And the whole project will be evaluated based on the items which will be explained later.	100	40
TOTAL		100	100

Course Calendar

Week	Course Topic	Comments	Assignments & Labworks
W1	Introduction to Game Development II & Unreal Engine		
W2	Introduction to Blueprints and Editor Interface		Labwork #1: Teleport and Coordinate system practice. (2 Pts)
W3	Basic Blueprint Programming Concepts		Labwork #2: Time Bomb (2 Pts)
W4	Building and Using Actor Classes		Labwork #3: Endless Runner Prototype (3 Pts)
W5	UE4 Gameplay Framework Classes	Assignment #1 introduced	Labwork #4: A Simple Game (4 Pts)
W6	A Breakdown of the Elements	Assignment #2 introduced	Labwork #5: A Simple Platform Game. (8 Pts)
W7	Complex Variable Types		Extra Labwork hours for completing #4 and #5.
W8	Flow Control		Labwork #6: A Simple Puzzle Game. (8 Pts)
W9	Mathematical Operations and Coordinate System		Assignment #2 Presentations.
W10	Trace Channels, Collisions, Animation and UMG		Labwork #7: Chest Game. (8 Pts)
W11	Advanced Blueprint Concepts	Fill the Final Project Submission Form	Assignment #2 Presentations.
W12	Combat Mechanics Fundamentals	**Final Projects Start!**	Final Project Progress meetings
W13	FPS Mechanics Fundamentals		Final Project Progress meetings
W14	Adventure Game Mechanics Fundamentals		Final Project Progress meetings

Grade Scale

Grade Range	Letter Equivalent
95-100	A
90-94	A-
85-89	B+
80-84	B
75-79	B-
70-74	C+
65-69	C
60-64	C-
55-59	D+
50-54	D
0-49	F

Matters Needing Attention

1- Attend the classes actively every week.
2- Joining practice hours has the utmost importance! You'll find opportunities to ask questions directly and we'll have a chance to work together.
3- Make sure you read the weekly course materials of the courses that you've missed.
4- Students who have a valid reason to miss the class and would not be able to attend the class live at class hour should inform me beforehand.
5- Participate positively in classroom activities and discussions.
6- Unreal Engine 4.26.2 or newer versions of the Unreal Engine will be used in the class. Versions older than that might cause some confusion about the workflow due to some updated properties and functions.

Academic Integrity, Cheating and Plagiarism

Hexham (2005) defines plagiarism as a planned deliberate action to deceive the reader by pretending to be someone's word or words. Academic plagiarism is also in the form of an author's use of more than four words in his own research, without using quotation marks from a written source, without a precise reference to the original source published before, or in the form of similar fraudulent behavior in scholarship-application forms he wrote to contribute to his research. defines.
• Actions that can be defined as contrary to publication ethics in the scientific community are defined as follows;
- plagiarism, - cheating, - paraphrasing,

- fabrication and falsification of data,
-to help copying and plagiarism, -To prevent others from accessing a source or data,
- Appearing as a writer in joint studies without contributing,
-Use of widely known / anonymous information, -No regular attribution,
-Self plagiarism etc.
• Not everything on the Internet is public and cannot be obtained without permission or reference.
• Studies conducted without proper reference are graded with a score of zero.
• Large amounts of manuscripts copied without being quoted will be considered plagiarism and you will be responsible.
• Please be aware that the penalties for plagiarism can range from grading homework to dropping you out of class.
• If you copied, plagiarized or copied / pasted, do not expect the instructor of the course to write you a reference letter or to be your advisor.
• How is plagiarism penalized?
If it is revealed that you have overcame the course, the instructor of the course will refer to the program coordinator. Depending on the seriousness of the situation, the Program Coordinator decides with the committee the appropriate penalty from giving a grade of 0 from the homework grade to leaving the course. In any case, the student has the right to defend himself.

ARTICLE 25 – (1) In case it is doubled that a student cheats or attempts to cheat, commits plagiarism or similar violations defined in the applicable disciplinary regulation in any exam, assignment or other assessment activities, a disciplinary proceeding is brought against the student. Such activity is not assessed during the proceedings. A student who is found guilty is assigned zero point in addition to the disciplinary punishment. If the student is found innocent as a result of disciplinary proceeding, the exam taken by the student shall be assessment or a make-up exam or activity is provided.