

**GAD
4014**

IN-GAME LIGHTING DESIGN

Lecturer Server Zafer MASALCI

INSTRUCTOR

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COURSE INFORMATION¹

Terms	: Fall 22/23
Time	: 9:30-12:20 (Thursday-F2F)
Course	: 3/5
Credit/ECTs	
Classroom	: GLTSC02
Course Type	: F2F - Elective

COURSE OBJECTIVE AND LEARNING OUTCOMES

The main objective of this course to build a solid and comprehensive understanding of lighting pipeline in games by utilizing the fundamentals of lighting and color theory with Unreal Engine 5

This course contains both theoretical and practical applications on lighting design. There will be a final project which students are required to create their own lighted scene with the points taught during the classes. The most fundamental aspects of lighting, color and composition of scene will be explained, and students will be expected to complete assigned projects to demonstrate and develop their skills with the programs.

By the end of this course, each student should:

1. Have a comprehensive understanding of the lighting pipeline for games.
2. Learn core elements of lighting, color, composition, and theories behind it.
3. Get a complete introduction to core competency with the Unreal Engine 5.
4. Learn how create well designed and composed lighted scenes.
5. Learn how to use baked and real-time rendering scenarios.
6. Learn how to use light in game for different gameplay scenarios.

COURSE STRUCTURE

This course will be carried out as course hours face to face in classroom (GLTSC02)

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

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.

ONLINE OFFICE HOURS

You can get an appointment to meet me on < Monday to Friday 9.30-17.30>. To get one, please contact me via serverzafer.masalci@comm.bau.edu.tr. To book a reservation for a MS Teams call or face to face meeting please contact me 24 hours beforehand.

COURSE POLICIES

Communication Channels and Methods

The lecture will be held on Microsoft Teams/GLTSC02. Students who want to contact me outside class hours can reach me via e-mail, MS Teams, or Discord.

Usage of Digital Tools

Usage of Computers: A computer capable of running MS Teams will be sufficient for the course. Additionally, the computer is expected to be used only for learning purposes during the course and not for any other reason. Students are to respect the lecturer and other students in the course by not disturbing and/or ignoring the course material during class hours.

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.

Assignment and Project Deadline

- All your homework will be sent via MS Teams platform.
- Please do not send your homework to me via e-mail. Assignments sent directly to me via e-mail will not be accepted.
- For each late submission, the grade will be reduced by 10% (per day).

Attendance

School policy allows every student to be absent for a maximum of 4 total lectures. Otherwise, the student will fail the course. (30%)

If you are going to be absent from a course, please inform the instructor that you will not be attending the lesson by e-mail or using another communication method.

You can contact the instructor of the lesson about the lessons you did not attend and ask what was taught in that lesson. It is your responsibility to complete the assignments and tasks not done for that lesson on time and keep up with the content covered.

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 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.

Oral and Written Communication Ethics

During the lesson you must 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

- Level Design: Concept, Theory, and Practice. R.Kremers (2009)
- Level Up! The Guide to Great Video Game Design
- The Art of Game Design: A Book of Lenses. J.Schell (2008)
- Color and Light: A Guide for the Realist Painter. J. Gurney(2010)
- Colour: A Workshop for Artists and Designers. D. Hornung(2005)

GRADING AND EVALUATION

Assignment	Description	Scoring	Weight (%)
Midterm Project	You will be given an assignments which will have specific deadlines. The score will be counted as your midterm score.	100	25
Process	You will create different scenes with the topics covered in courses. Step-by-step instruction presentations will be provided for these practices. Each practice will have specific points. 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 lighting project (Solo). You are required to show weekly process of your project by coming to the practice hours (4 Weeks - 4 Point Each)	100	40
TOTAL			100

Grading

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

COURSE CALENDAR

Week/Place	Course Topic	To Do	Assignments & Deadline
W1 F2F	Introduction to In-Game Lighting Design and Course Overview		
W2 F2F	There's a dark side to everything: Understanding The Light		Asgmt #1: Lighting Examples
W3 F2F	Introduction to Unreal Engine 5 Light Actors, Grey boxing, Lighting with Lumen I		Practice #1: Creating Basic Scene with UE5
W4 F2F	Evoking The Feelings: Understanding Color		Practice #2: Adding Colors and Materials
W5 F2F	Lighting with Lumen II		Practice #3: Lighting Design with Lumen
W6 F2F	Beyond The Rule of Thirds: Understanding Composition		Asgmt. #2 Composition Examples
W7 F2F	Midterm Presentations		Midterm Presentations
W8 F2F	Believe in Light Through Darkness: Using Contrast in Lighting Design		Asgmt. #3: Analyze a Game' Lighting Design
W9 F2F	Bake Lighting I		Asgmt. #3 Presentation
W10 F2F	Bake Lighting II		Practice #4: Lighting Design for Baked Scenarios
W11 F2F	Interaction with Light		Practice #5: Creating Interaction with Lights Using Blueprints
W12 F2F	May The Light Be with You: Guiding player with Light		Final Project Feedbacks
W13 F2F	Using RTX, Path Tracer and Octane Renderers in UE5		Final Project Feedbacks
W14 F2F	Lighting Optimization Techniques		Final Project Feedbacks

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 4.27.2 / 5.0.3 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 overcome 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.

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