GAD2014 SERIOUS GAMES

instructor | Dr. OĞUZ ORKUN DOMA
2023-2024 fall · thursday 14:30-17:20 · GLTVR

BAU Bahçeşehir University
Department of Digital Game Design

course information	Semester	Theory	Practice	Credit	ECTS
	3 / 5	3	0	3	5

instructor

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Office hours: 3h · Thursdays, 10:00-13:00 (GMT +3)
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course description

GAD2014 Serious Games is a course that provides a foundation in instructional game design, game mechanics, and game development principles for the design and development of serious and learning games. In this course, students will learn how to create engaging, interactive gamified learning experiences through the development of serious games. They will develop the skills necessary to create and evaluate digital game-based training programs and to use them to teach technical, academic, safety, regulatory, and other skills. Topics addressed will include instructional design, game design, game mechanics, and more.

learning outcomes

Upon completion of GAD2014 Serious Games, students will be able to:

- Understand the principles of game design and programming.
- Understand the applications and potential of serious games.
- Gain knowledge about Virtual Reality and video game engine technologies.
- Design and develop serious games for better user experience and engagement.
- Understand the potential of leveraging serious games for learning and training purposes.

course structure

The course will be conducted face-to-face in the GLTVR classroom during the scheduled course hours.

online office hours

The instructor will be available for online office hours on a flexible schedule. To schedule an appointment, please contact the instructor via oguzorkun.doma@ou.bau.edu.tr or MS Teams. To ensure a reservation for a MS Teams call or face-to-face meeting, please contact at least 24 hours in advance. The online office hours are on Thursdays between 10:00-13:00 (GMT +3).

communication channels and methods

The course will be held face-to-face. MS Teams will be used for announcements and course communications. Students who want to contact the instructor outside of the office hours can contact via MS Teams or Discord. The instructor's Discord handle will be provided at the beginning of the course.

computer, software, hardware and lab use

For this course, each student must have access to a computer that meets the following minimum specifications (or better): CPU · Intel Core i5+-7500+, GPU · NVIDIA GeForce GTX 1070+/RTX 2060+, RAM · 12+ GB, and Windows 10 or higher.

Students are also recommended to have installed the following software: Unreal Engine 5.2 (with prerequisites), PowerPoint and/or InDesign, Notepad++, 7-zip, Adobe Reader or Acrobat.

A computer capable of running MS Teams will be sufficient for attending the course. While using the PCs in the course lab is an option, bringing a laptop with the above specifications is highly recommended to ensure optimal performance during class activities and assignments.

mobile technologies: Mobile technologies such as mobile phones, tablet computers, and laptops can be used during the class only for educational purposes. We kindly request that you respect your classmates and instructor by silencing your devices and refraining from using them for non-course-related activities.

cell phone: Please make sure that your cell phone is either muted or turned off during class time to avoid any disturbance or distraction to the class. We understand that there might be some urgent situations (health-related, family, or personal) that require you to take a call, in which case, we request you to leave the class quietly and attend the call outside the classroom (or mute yourself during the online sessions), to minimize the disturbance to your classmates.

assignment and project deadline

Formal digital submissions must be made via MS Teams. Large files can be submitted by uploading them to MS Teams' cloud platform (i.e., OneDrive).
It is important to note that email submissions will not be accepted.
All assignments and projects must be submitted on time, and the due date is one hour before the lesson. Late submissions will be penalized, and the grade will be reduced by 10% per day for each late submission.

attendance

Attendance is essential to your success in this course. If you are unable to attend a class, please notify the instructor in advance by email or Discord. You are responsible for completing any missed work and keeping up with the content covered in the class. Please contact the instructor if you have questions about material covered during your absence.

other course policies

disabled student support

You can contact the instructor directly regarding the issues that may be an obstacle for you (vision, hearing, etc.) In addition, 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

It is expected that you communicate respectfully with your peers and instructors during the lessons. In addition, you are responsible for maintaining this respect in discussions, homework submissions, and correspondences on the online platforms (e.g., MS Teams, ItsLearning).

privacy and copyright

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

course resources

- *Serious Games: Games That Educate, Train, and Inform* – D. R. Michael, and Sandra L. Chen, 2005.
- *Persuasive Games: The Expressive Power of Videogames* – Ian Bogost, 2007.

- Minecraft Education Edition (2018)
- Kerbal Space Program (2015)
- Discovery Tour: Ancient Egypt (2018)
- Discovery Tour: Ancient Greece (2019)
- Maestro VR (2022)
- Meet the Miner - WDR VR Bergwerk (2018)
- IKEA VR Pancake Kitchen (2017)
- PC Building Simulator (2019)
- Space Engine (2019)
- Cell to Singularity (2021)

assignments and assessment

Assignment	Description	Weight
Assignment I	Analyze and evaluate a serious game and prepare a short presentation reviewing its theme, design, and elements.	10%
Assignment II	Basic level design of a game environment. The level design of the room should demonstrate an understanding of basic game design principles, such as player movement and interaction with objects	10%
Midterm Project	Implement a basic crafting (bringing correct items together in correct order to craft a new item) gameplay. The crafting gameplay should be functional, incorporate incorporates specific mechanics, such as points systems or progress bars, and demonstrate an understanding of basic gameplay programming and scripting interfaces.	30%
Final Project	Work in groups to design and develop a serious game prototype using the skills and knowledge acquired throughout the course. (Prefinal submission: 10% + Final submission: 30% = 40%)	40%
Participation	Attendance and active participation in class discussions, group activities, and critiques will be evaluated	10%

Students are required to provide thorough documentation and demonstrations of their project submissions, including screen capture videos, presentations in given formats, design and development documentation, and project files. This documentation will be used for a careful assessment of the quality of the student's work and their understanding of the concepts covered in the course.

grading scale

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

suggested weekly course plan

WEEKS	GAD2014 – SERIOUS GAMES	DATE
1	Introduction and Course Overview	2023-10-05
2	***Lecture:*** Introduction to Serious Games 📖 ***Reading:*** *How Will Games Change The Way We Learn And Teach?* – Forbes, June 23, 2023. ▶ ***Video:*** *How Video Games Can Level Up the Way You Learn* –Kris Alexander on TED, March 2023. ***Assignment I:*** Analyze a Serious Game (due on W4)	2023-10-12
3	***Lecture:*** Introduction to Game Design Documents and One Page 💬 ***Discussion:*** The impact of games on learning and teaching ***Review:*** Present Assignment I progress	2023-10-19
4	***Lecture:*** A Brief History of Computer Graphics, Video Games & Game Engines ***Presentation:*** Submit and present Assignment I ***Assignment II:*** Foundational Level Design (due on W6)	2023-10-26
5	***Lecture:*** A Brief History of VR & VR Headsets ***Presentation:*** Present Assignment I (continued) 📖 ***Reading:*** The video game prescribed by doctors to treat ADHD – BBC News, July 11, 2022. 📖 ***Reading:*** How Video Games Are Saving Those Who Served – Wired, October 20, 2020.	2023-11-02
6	***Lecture:*** Serious Games for Social Impact ***Presentation:*** Submit and present Assignment II ***New Assignment:*** **Midterm Project** - Implementing Basic Interactive Gameplay (due on W9) 💬 ***Discussion:*** Implications of using video games as a form of treatment	2023-11-09
7	***Presentation:*** Present Assignment II (continued) ***Review:*** Present Midterm Project progress 📖 ***Reading:*** *Gaming for skills: Can video games foster empathy?* – LogoPsyCom, October 28, 2021.	2023-11-16
8	**Review:** Midterm project review (pitch slides, playthrough video, and one page) 💬 ***Discussion:*** How video games can foster understanding? *Papers, Please*, *LiS* and *This War of Mine*.	2023-11-23
9	***Presentation:*** Submit and present Midterm Project review ***New Assignment:*** **Final Project** - Edutainment Game Prototype Development – Introducing the final project and its requirements, Forming groups and brainstorming ideas for the final project	2023-11-30
10	***Presentation:*** Present Midterm Project review (continued) 📖 ***Reading:*** *Inside the Pentagon's long debate: Do gamers make good troops?* – The Washington Post, June 10, 2022. ▶ ***Podcast:*** Call of Duty – Recode Daily by Vox, August 2020.	2023-12-07
11	💬 ***Discussion:*** Ethical implications of using video games for military recruitment and training ***Review:*** Final Project – Preliminary design overview	2023-12-14
12	***Review:*** Final Project - Development, user experience and performance optimization 📖 ***Reading:*** *How Online Gaming Could Enhance Your Career Prospects* – Wallinheimo et al., 2021.	2023-12-21
13	***Review:*** Final Project – Preparing the prefinal submission presentation and demo preview. 💬 ***Discussion:*** The impacts of online gaming on soft skills and career development	2023-12-28
14	***Review:*** **Final Project** – Prefinal submission ***Presentation:*** Preliminary presentation (pitch slides, playthrough video, and one page)	2024-01-04
	End of 2023-2024 Fall Term	2024-01-05
	Final Project Submission ***Presentation*** and assessment of the Final Project.	TBA
	Announcement of the final grades	2024-01-23

matters needing attention

weekly readings
It is important to read all weekly course materials to stay up-to-date with the course content and be prepared for class discussions and assignments.

active participation
Students are expected to participate positively in classroom activities and discussions. This includes contributing to group work and respecting the opinions of others.

attendance
Attendance is crucial for success in this course. Students are expected to attend all classes actively every week and engage in the course material.

collaboration
As the final project is a group project, students should learn how to collaborate effectively with their teammates. This involves communication, sharing ideas, and resolving conflicts in a constructive manner.

academic integrity
Students should be aware of academic integrity and avoid plagiarism, cheating, or any form of academic misconduct.

academic integrity, cheating and plagiarism

Hexham (2005) the deliberate act of deceiving the reader by presenting someone else's work or words as one's own. Academic plagiarism occurs when an author uses more than four words from a written source in their research without using quotation marks or providing a precise reference to the original source.
The following actions are considered contrary to publication ethics in the scientific community:

- Plagiarism
- Cheating
- Paraphrasing
- Fabrication and falsification of data
- Assisting others in copying and plagiarism
- Preventing others from accessing a source or data
- Appearing as a writer in joint studies without contributing
- Using widely known or anonymous information without proper attribution
- Not providing proper attribution
- Self-plagiarism

Please do consider the following:

- Not everything on the internet is public domain, and they cannot be used without permission or proper reference.
- Assignments submitted without proper references will be graded with a score of zero.
- Large amounts of copied text without quotation/attribution will be considered plagiarism, and you will be held responsible.
- Please be aware that the penalties for plagiarism can range from a reduced grade for the assignment to being dropped from the course.
- If you are found to have copied or plagiarized, you should not expect the instructor of the course to provide a reference letter or serve as your advisor.
- How is plagiarism penalized?
  If plagiarism is detected, the instructor of the course will notify the program coordinator. Depending on the severity of the situation, the Program Coordinator, along with the committee, will determine the appropriate penalty, which may include a grade of zero for the assignment or being dropped from the course. The student has the right to defend themselves in any case.

"Copying and Plagiarism
ARTICLE 24 - (1) If there is suspicion that a student has cheated, attempted to cheat, plagiarized, or committed similar violations stated in the current disciplinary regulations during exams, assignments, or other evaluation activities, a disciplinary investigation is initiated. During the investigation period, the related activity is not evaluated. If found guilty, the student receives a grade of zero for the activity in addition to the disciplinary penalty. If found innocent, the student's exam is evaluated.**"**

You can access Bahçeşehir University Undergraduate Education Regulations by clicking this sentence.