Logan Kemper
Contact: Via Canvas Mail
Optional Live Class Sessions:
M | 7:00 PM – 8:00 PM (EST)
Office Hours: Online via Zoom
M | 8:00 PM – 9:00 PM (EST)
R | 7:00 PM – 8:00 PM (EST)

DIG3878 GAME SYSTEMS DEVELOPMENT 2
Spring 2026

Course Meetings: Via Zoom Monday 7:00 PM – 8:00 PM Eastern Time

Course Mode: Sync or Async (Optional weekly live session will be held on Mondays. Attendance is highly recommended but not mandatory. Live session recordings will be posted within 24-48 hours)

Course Location: Online

Course Description

This course will cover the fundamental principles of game engine programming such as collision detection, input detection, game object instantiation and destruction, and code architecture.

Course Prerequisites

BA in Digital Arts and Sciences major, DIG3873 with minimum grade of C.

Learning Outcomes

By the end of this course, students will be able to:
- Practice working with a game engine interface and features
- Apply the basics of game engine scripting to a game development project
- Develop minigames that incorporate physics, player feedback, and 3D environments.

Materials & Books

Required

- Unity Hub and Unity 6.x (Free registration required)
- Visual Studio (or similar code editing tool)

Supplemental
- https://learn.unity.com
- GitHub (Free registration required)
- LinkedIn Learning Online Unity Tutorials (Free access for UF students)
- Official Unity Development Community https://unity3d.com/community

Technology Requirements
- Laptop or desktop computer able to run specified version of Unity software. A dedicated graphics card is extremely encouraged.

Course Schedule

This schedule is only a guide and is subject to change. Unless otherwise indicated, assignments and readings are due the day they are listed on the syllabus, not the following day.

Week	Subject	Assignments
0	Class Introduction, Learning Objectives, Game Engine Installation	**Syllabus Quiz**
1	User Interface, Collision Detection, Prefabs	**Assignment 1**
2	Input, GameObject Lifecycle	**Assignment 2**
3	Translate and Force Movement, Simple Timer, Materials	**Assignment 3**
4	Audio, Trigger Collision, Button.	**Assignment 4**
5	Adding Components, Following Object, Score, Name-vs-Tag	**Assignment 5** **Challenge 1**
6	Coroutines, Finding Distance, Switching Scenes, UI (Button, Image, etc)	**Assignment 6**
7	Workshop: Minigame Development	**Assignment 7** **Challenge 2**
8	Workshop: FPS Game Development	**Assignment 8** **Midterm Project**

9	Final Project Explanation	Meeting Report + Game Design Document
10	Advanced Concepts pt. 1: Data Structures	Meeting Report Checkpoint 1: Alpha
11	Advanced Concepts pt. 2: More with Coroutines	Meeting Report
12	Advanced Concepts pt. 3: Statics and Persistence	Meeting Report Checkpoint 2: Beta
13	Advanced Concepts pt. 4: Events and Delegates	Meeting Report Checkpoint 3: RC
14	Final Remarks	Final Project

Grading Criteria

Assignment / Assessment	Total Points	% of Grade
Weekly Assignments	15	15%
Two **Challenges** – There will be 2 Challenges to examine student's proficiency of certain topics	10	10%
Midterm– Students are expected to individually develop a mini-game for the Midterm	25	25%
Three Checkpoints – students will form a group for the Final Project. Each checkpoint will be a deliverable of the game at different development stages.	15	15%
Final Project – Each group will develop a game to show their abilities to satisfy requirements given by instructor	35	35%

Grading Scale

Letter Grade	% Equivalency
A	94 – 100%
A-	90 – 93%
B+	87 – 89%
B	84 – 86%

B-	80 – 83%
C+	77 – 79%
C	74 – 76%
C-	70 – 73%
D+	67 – 69%
D	64 – 66%
D-	60 – 63%
E, I, NG, S-U, WF	0 – 59%

More information on grades and grading policies is here: https://catalog.ufl.edu/UGRD/academicregulations/grades-grading-policies/

Materials, Supply, and Equipment Fees

Material and supply and equipment use fee information are available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total course fee for sections where students are located on-campus is $26.05 as they have access to the Digital Worlds Computer and Design Lab. The total course fee for each course is listed on the UF Schedule of Courses. (https://registrar.ufl.edu/soc/)

Course Policies

Attendance Policy, Class Expectations, and Make-Up Policy

The instructor is responsible for communicating the specific details of what percentage of your grade (if any) will be assigned to participation, and how class participation will be measured and graded. The UF Digital Worlds Institute is committed to the idea that regular student engagement is essential to successful scholastic achievement. No matter if the class is held in a traditional classroom, an online classroom, or a combination of the two, interaction with your peers and the instructor will empower you to greater achievement.

This is an asynchronous online course, so students may watch the video lectures at their own pace. However, students are expected to complete weekly assignments and submit them via Canvas by the due date. There will be real-time sessions (RTS) held live via Zoom. Attendance to these is recommended but not mandatory, however, it is expected that those students who do not attend live RTS will watch the video recordings of those sessions. Things may be said in those sessions that are important, and students are expected to know.

Communications with the students will be done via Canvas Announcements, Canvas Inbox Messaging, assignment submission comments and comments within the assignment rubrics. Students are expected to check Canvas announcements and their email on a regular (daily) basis, so they do not miss any important communications about this class. Students are expected to read the submission and rubric comments in a timely manner. Sometimes these require a timely action or response from the student. Questions or concerns about a graded assignment must be sent to the Professor via Canvas Inbox not the assignment's submission comment.

Students may submit most assignments up to 3 days late, with a penalty of 10% per day. Extensions on due dates will only be given to people with special accommodations from the DRC or with appropriate documentation by going through this web site: https://care.dso.ufl.edu/instructor-notifications/.)

The final project will not be accepted late under any circumstances with no exceptions.

Students may only participate in classes if they are registered officially or approved to audit with evidence of having paid audit fees. The Office of the University Registrar provides official class rolls to instructors. Students are responsible for satisfying all academic objectives as defined by the instructor. Absences count from the first class meeting.

Acceptable reasons for absence from or failure to engage in class include illness; Title IX-related situations; serious accidents or emergencies affecting the student, their roommates, or their family; special curricular requirements (e.g., judging trips, field trips, professional conferences); military obligation; severe weather conditions that prevent class participation; religious holidays; participation in official university activities (e.g., music performances, athletic competition, debate); and court-imposed legal obligations (e.g., jury duty or subpoena). Other reasons (e.g., a job interview or club activity) may be deemed acceptable if approved by the instructor.

For all planned absences, a student in a situation that allows an excused absence from a class, or any required class activity must inform the instructor as early as possible prior to the class. For all unplanned absences because of accidents or emergency situations, students should contact their instructor as soon as conditions permit.

Students shall be permitted a reasonable amount of time to make up the material or activities covered during absence from class or inability to engage in class activities because of the reasons outlined above.

Course Technology
The students will be required to have access to and use a personal computer with access to the Internet. Word editing software will be required for written assignments. A video camera is required for Zoom meetings.

The University of Florida and Digital Worlds requires that students have access to and ongoing use of a laptop/mobile computer for DIG courses to be able to function in the current learning environment. Digital Worlds requires each student's laptop computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met. https://digitalworlds.ufl.edu/programs/ba-in-digital-artssciences/technology-requirements/

Course Communications
Students can communicate directly with the instructor regarding the course material through the course management system (CANVAS) using "Canvas Mail". Students attending Zoom office hours are expected to have their video cameras on.

Course Recordings
Our class sessions may be audio-visually recorded for students in the class to refer to and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally agree to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Creation of Original Content Ethics
For original projects and all assignment deliverables, students should remember that representations of acts of violence, coarse and offensive language, sexual behavior, bodily function and ability, neurodiversity, and personal identity are likely to cause extreme audience response, regardless of the creator's intentions. In addition, the recreation of such actions

and subjects for fictional purposes may unintentionally traumatize or negatively impact those who collaborate in the creation of the images. While the university encourages students to explore themes and tell stories that may include this difficult subject matter, they should be cautioned against modes or styles of representation that might be considered unnecessarily offensive or potentially triggering. Instructors, faculty, and university administrators reserve the right to not show or share any student work they feel is inappropriate for their classroom or for public exhibition, as there may be concerns about the impact of such work on the community. We encourage students to consult with their faculty when producing work that might be considered controversial, and to err on the side of being cautious when it comes to making decisions about a project's content - in other words, make the PG-13 version of your story, not the R version, and certainly not the "unrated" version. This is also to help students understand that most professional creative situations have strict guidelines and limitations on such content and how it is produced: your ability to tell stories effectively with "less" is a strong professional skill that will aid in the dissemination of your work to a broader audience.

Coding Policies

Individual Assignments
-        For all individual assignments sharing/copying, "borrowing" of code structure, looking at code from another student or providing such code, and plagiarism, in addition to other dishonest behaviors, are all considered to be academic dishonesty.
-        **Looking at any piece of external code*, sharing files, searching for solutions found online, using AI-generated or suggested code, using AI-generation tools for writing or translating reports, or using someone else to code your solution is strictly prohibited.**

Group Assignments
 - For all group assignments sharing/copying, "borrowing" of code structure, looking at code from another student OUTSIDE of your group or providing such code, and plagiarism, in addition to other dishonest behaviors, are all considered to be academic dishonesty.

All Assignments
- Any student found to have violated the above rules, whether a provider or receiver or unauthorized help, will be given a **zero** on that assignment **and** a **two-letter final grade decrement** for a first offense. For a second offense, you will get an E grade. Also, for both offenses, you will be reported to the Honor Court. **If you aren't clear on what constitutes plagiarism, ask the course staff.**
- **You may use code provided with the course materials to do your assignments.**

*For the Midterm and Final projects, using code provided from other Digital Worlds classes may be allowed, but this will be detailed by the professor when going over these assignments.

Course Technology Support

UF Computing Help Desk
For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the [UF](.) [Computing Help Desk](.) available 24 hours a day, 7 days a week at 352-392-4357 or [helpdesk@ufl.edu](.).

University Policies

Information about university-wide policies and resources can be found here: https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Disclaimer: This syllabus represents the instructor's current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.