

# GAME 490: Senior Game Design Capstone

George Mason University  
College of Visual and Performing Arts  
Computer Game Design  
V1.1

Term: Fall 2023  
Section: DL3  
Virtual Office Hours: 1-3 Wednesdays and by appt.  
In-Person Office Hours by appt.

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[Blackboard Virtual Classroom](#)  
2023 Art and Design Building

*Note: This syllabus may change according to class needs. Students will be advised of any changes immediately through George Mason e-mail and/or through Blackboard.*

## Course Description

This course represents the capstone experience of the Game Design Major, and serves to prepare students to pursue further game education or possibly to enter the game design and development workforce. This course requires 6 credits to complete and is designed to be completed over two semesters. The first semester will result in a project being 'greenlit' and include a fully fleshed out design document and production plan as well as a demo or vertical slice of the game design. The second semester takes the 'greenlit' game and uses it as a blueprint for a fully functional game that will be developed by the student or student team and be presented to a panel of colleagues, instructors, and industry professionals at the end of the semester.

Along with the production of the game, students will analyze their designs in relation to gaming theory and historical precedence. Students will analyze their gaming methodologies and compare them to similar games in history, with the understanding that this context will help solidify the focus of their project.

The end goal of the class will be to present a fully functional game based on their design that will demonstrate the design skills they have learned and will highlight their area of study within the Computer Game Design program. For example, a student with an area of study in "Sound and Music" will create a game project that will showcase the student's work in developing sound effects, voiceover and music.

## General Education Synthesis Requirement

As a Computer Game Design capstone, this course fulfills the General Education Synthesis Requirement. Games are by their nature synthesis products of several disciplines, and it is in the senior project that students are expected to demonstrate a broad array of skills learned throughout their undergraduate careers as well as focus their project toward an area of interest to the student. Computer scripting, 3D modeling, 3D animation, UI design, game audio, game music, game mechanic design, level design, interactive writing, prototyping, play-balancing, scheduling, testing, teamwork, and public presentations are all skills that will come to bear on a student's senior project. While each project will be unique in its focus, all projects will showcase several of the aforementioned disciplines.

## Course Objectives

- Understand, follow, and utilize the game development framework.
- Write, design, and continuously develop a set of professional Game Design Documents.
- Compose and follow a comprehensive and itemized development schedule and agile development.
- Design, conduct and assess a prototyping and playtesting process for their game design.
- Produce a fully functioning platform, PC, or mobile game.
- Present their game, game design, and process publicly to a group of peers, instructors and industry professionals.

Additionally, the goal of this class is for students to apply critical thinking skills in each phase of game development beginning with assessment of the game concept, generating and testing design assumptions, planning and scheduling the game's development, and in preparing a presentation of their game's design as well as final product.

Finally, the class is geared to allow you to demonstrate your individual skills in a team environment that allows you to produce work that will showcase your talents for this class and beyond. It is a capstone experience.

## Team versus Solo Projects

Students may choose to work with a team of developers on their senior project or decide to develop a project on their own. Historically, students have worked with other students enrolled in the senior project. Some student teams are comprised of students both enrolled in the senior project and those who are not (either CGD underclassmen or students in the Computer Science game concentration).

The core elements of this course involve teamwork, participation and working with others. Video game development is not typically a solo endeavor, but requires being able to work as part of a team, and the prime objective of this class is to prepare students for that dynamic. Generally solo projects have a more difficult time than teams do, and teams usually develop projects that are more robust and feature-complete.

It is recommended that if you embark on a team project with other CGD Major students enrolled in the senior project, so that you share the same motivation, timeframe and requirements with your teammates. The dangers of accessing resources outside the project are that they may become unreliable and your grade and project might suffer. This has occurred in the past and it is why it is strongly recommended to choose teammates who share the same deliverable goals and responsibilities each semester. All teams will be approved by your instructor prior to development.

## Project Focus

The focus of a student's senior project should function as a synthesis of what they have learned in the Computer Game Design curriculum. Game development is a multidisciplinary field, and our students often have different areas of interest and expertise. The project should be a representation of both your skills and your passion in the form of a game.

*For example, if you aspire to become a character animator in the game design industry, your project should be a game which shows off your character animation above all else. Nonetheless, it may require you to do some character modeling and rigging, level design and scripting, but the primary focus will be to demonstrate your animation.*

*Alternatively, if your focus is on game design, your project needs to show off game mechanics, level design and scripting ability. As in the animator example above, it may require you to create some art assets, animations etc., but the focus should be on showing off the design elements in your game (whether mechanical or aesthetic).*

## Course Structure

This course will include the following:

1. Video tutorials and lectures
2. Examples to use as reference
3. Forum discussions and critiques
4. Group assignments
5. Group presentations

This course will be delivered in person, but may rely on online access using a blended asynchronous and synchronous format via Blackboard. You will log in to the Blackboard (Bb) course site using your Mason email name and email password.

## Requirements and Evaluation

Each week, students should be prepared to discuss and demonstrate the state of their game project or design.

The teams will formally present their progress two times during the semester: at mid-term and again at end-of-term. This will take place in person, unless circumstances change.

In the first half of this two-semester course, students will develop their game design in what the game industry refers to as the “pre-production” phase of development. During this phase, the game idea will be refined, the scope will be determined, the look and feel of the game will be decided, and all necessary assets and functionality will be defined. Once the core design is complete, the student will design, conduct and assess prototypes needed for the development of this game. It is the goal of George Mason University - College of Visual and Performing Arts - Game Design Program these prototypes to determine the final target feature set of the game and to test any design assumptions the student’s design may pose. The final project for this course is a presentation of the design and prototyping process along with analysis, followed by a presentation of the completed game design, accompanied by a demo or vertical slice of the game as developed via the prototyping phase.

During the second half of the two-semester course, students will focus solely on the production phase by developing the game described and prototyped from the first semester. The focus for the second semester is on “production” and “testing” phase of development. At the conclusion of the second semester, students will present a professional presentation of their final fully functioning game.

**NOTE:** Attendance is part of the Participation grade and is therefore required for this course. More than 2 absences may result in a reduction of the final individual grade.

## Required Texts/Materials:

### Textbook Required:

- None. All reading, lectures, and other assignments will be given virtually.

### Software Required:

- Web browser (See Blackboard Support for supported web browsers)
- Blackboard Courses (<http://mymason.gmu.edu>)
- Blackboard Collaborate (select from the course menu)
- Kaltura CaptureSpace Desktop recorder (free for students via Blackboard) OR other screen-recording software.
- Zip or RAR archive program
- Access to all software needed for development of the project as appropriate to your role and position. (ex. Unity, 3DSMax, Photoshop, Office)

### Software Suggested:

- Online backup and collaboration software (ex. Google Drive, Dropbox)
- Online communication software (ex. Slack, Discord, Google Hangout)
- Production planning and version control software.

### Hardware Required:

- Access to Desktop/Laptop that is capable of running the software needed for production.
- Access to any platform specific devices – For development, testing, and presentation of project (as applicable).
- Access to fast, reliable broadband internet connection.
- A webcam and headset microphone for virtual meetings.

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Details on presentation requirements and course schedules will be available on Blackboard under Course Content.

## Grading

Grading will be based on a number of criteria based on the portion of the class being taken. In general, the following will be used as a guideline for what will be evaluated.

- Participation in weekly status updates and demonstrations.
- Development of design documents, production plans and relevant plans.
- Presentation of documentation and projects.
- The final product (vertical slice or fully functional game).

For the first portion (semester) of the class, developing the game design and vertical slice, the following is a guideline for expectations on grading:

- Participation – (10%)
  - Attendance and contribution to team activities
  - Stand-ups and Feedback Sessions
  - Assignments on Blackboard (marked as such)
  - Forum activity
- Midterm Grading – (40%)
  - Developing a game design treatment (10%),
  - Developing a style guide (5%)
  - Developing an asset list/schedule (5%)
  - Developing a game design document (10%)
  - Presentation of the game (10%)
- Final Grading – (50%)
  - The completed game design documentation (20%)
  - Presentation of the game (10%)
  - The completed vertical slice of the game (20%)

For the second portion of this class, the following is a guideline for expectations on grading:

- Participation in weekly status updates and demonstrations - (10%)
  - Attendance and contribution to team activities
  - Stand-ups and Feedback Sessions
  - Assignments on Blackboard (marked as such)
  - Forum activity
- Midterm Grading – (40%)
  - Developing a production schedule (5%)
  - Updated design documentation (5%)
  - Alpha Build of the game (15%)
  - Presentation of the game (15%)
- Final Grading- (50%)
  - The completed game design documentation (10%)
  - The completed game build (20%)
    - The final game and design will be reviewed for the following:
      - Requirements met, analyzed, and results documented.
      - Design goals met and realized. George Mason University - College of Visual and Performing Arts - Game Design Program
      - Aesthetics / Usability / Quality Assurance.
      - Teamwork / Production ethics.
  - Presentation of the game (20%)

Presentation is an important part of the grade. The midterm and final both require students to pitch their projects.

The midterm and final both require students to pitch their projects. This will be done in person during the scheduled time periods (see Schedule under Course Content). The presentations are recorded for review of content and presentation style. This footage will be provided to the group for their own evaluation.

## Grading Criteria

Specific grading criteria for each graded work are given in Blackboard.

## Grading Scale

Grading will be assigned based on the following scale once all grades have been given, weighted, and assessed.

- 90 – 100 = A
- 80 – 89 = B
- 70 – 79 = C
- 60 – 69 = D
- 0 – 59 = F

Please note that the scale is only full grades, no negatives or plusses are given.

## Late Work and Make-up Policy

Late work is only accepted at the instructor's discretion, and a deduction will be applied to the grade in most situations. Failure to turn in work on time will result in a zero for the assignment. Meeting deadlines is one of the most important aspects of production. Please pay careful attention to the DUE DATE & TIME for each assignment.

If extenuating circumstances prevent a team from finishing an assignment, the student must contact the instructor BEFORE the assignment is due.

## Expectations

### Course Week:

Given the nature of this class, we will be setting our course week and due dates based on the following: Every week will begin on Friday morning and end the following Thursday evening. Keep this in mind when viewing the weekly content in Blackboard.

### Log-in Frequency:

Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least twice times per week. In addition, students must log-in for any scheduled online synchronous meetings.

### Participation:

Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.

### Technical Competence:

Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services. George Mason University - College of Visual and Performing Arts - Game Design Program

### Technical Issues:

Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.

### Workload:

Please be aware that this course is not self-paced. Students are expected to meet specific deadlines and due dates listed in the Class Schedule section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due. Instructor Support: Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet

with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.

#### **Netiquette:**

The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. Be positive in your approach with others and diplomatic in selecting your words. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

#### **Accommodations:**

Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

#### **Screen-Sharing:**

There are some class activities that require you to share your screen with me via Blackboard Collaborate. It is your responsibility to make sure you protect your privacy and the sensitivity of others. Keep your operating system desktop free of passwords or inappropriate imagery.

## **General Information**

### **ACADEMIC INTEGRITY**

Mason is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

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### **MASON EMAIL ACCOUNTS**

Students must use their MasonLIVE email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information. All digital communication with the professor must be made using your "masonlive" email account.

### **OFFICE OF DISABILITY SERVICES**

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS.  
<http://ods.gmu.edu>

### **GMU Add/Drop Policy**

The last day to drop this class without any penalty is provided on the GMU academic calendar page <http://registrar.gmu.edu/calendar/>. It is the student's responsibility to check to verify that they are properly enrolled as no credit will be awarded to students who are not.

### **OTHER USEFUL CAMPUS RESOURCES:**

WRITING CENTER: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>

UNIVERSITY LIBRARIES "Ask a Librarian"



<http://library.gmu.edu/mudge/IM/IMRef.html>

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS): (703) 993-2380;

<http://caps.gmu.edu>

## UNIVERSITY POLICIES

The University Catalog, <http://catalog.gmu.edu>, is the central resource for university policies affecting student, faculty, and staff conduct in university academic affairs. Other policies are available at <http://universitypolicy.gmu.edu/>. All members of the university community are responsible for knowing and following established policies.

## Other Information

### Honor Code

This course will be conducted in accordance with the GMU Honor Code, and all students are expected to abide by it. The GMU Honor Code, as found in the University Catalog, is as follows: To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work. <http://mason.gmu.edu/~montecin/plagiarism.htm>

If you have questions about when the contributions of others to your work must be acknowledged and appropriate ways to cite those contributions, please talk with the professor or utilize the GMU writing center.

### Plagiarism and the Internet

Copyright rules also apply to users of the Internet who cite from Internet sources. Information and graphics accessed electronically must also be cited, giving credit to the sources. This material includes but is not limited to e-mail (don't cite or forward someone else's e-mail without permission), newsgroup material, information from Web sites, including graphics. Even if you give credit, you must get permission from the original source to put any graphic that you did not create on your web page. Shareware graphics are not free. Freeware clipart is available for you to freely use. If the material does not say "free," assume it is not. Putting someone else's Internet material on your web page is stealing intellectual property. Making links to a site is, at this time, okay, but getting permission is strongly advised, since many Web sites have their own requirements for linking to their material.

<http://mason.gmu.edu/~montecin/plagiarism.htm#plag-int>

### Academic Integrity & Inclusivity

This course embodies the perspective that we all have differing perspectives and ideas and we each deserve the opportunity to share our thoughts. Therefore, we will conduct our discussions with respect for those differences. That means, we each have the freedom to express our ideas, but we should also do so keeping in mind that our colleagues deserve to hear differing thoughts in a respectful manner, i.e. we may disagree without being disagreeable.

<http://oai.gmu.edu/>

### Diversity, Religious Holiday

Please refer to George Mason University's calendar of religious holidays and observations (<https://ulife.gmu.edu/religious-holiday-calendar/>) It is the student's responsibility to speak to the instructor in advance should their religious observances impact their participation in class activities and assignments.

## Student Privacy Policy

George Mason University strives to fully comply with FERPA by protecting the privacy of student records and judiciously evaluating requests for release of information from those records. Please see George Mason University's student privacy policy <https://registrar.gmu.edu/students/privacy/>

