

# Programming for Designers

GAME399  
TR 1:30 pm – 2:45 pm

Fall 2017  
A&D1018

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Instructor: Rob Dieterich  
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Office: A&D 2021  
Office Hours\*: MW 10:00 am – 11:30 am

\* Other times by appointment. The best way to reach instructors is via email.

## MASON MISSION STATEMENT

Mission-Who we are and why we do what we do

A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital Region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world.

## MASON GAME DESIGN MISSION STATEMENT

The Mission of the Computer Game Design Program at George Mason University is to prepare students for employment and further study in the computer game design and development field, doing so with a curriculum designed to reflect the gaming industry's demand for an academically rigorous technical program coupled with an understanding of the artistic and creative elements of the evolving field of study.

## CATALOG DESCRIPTION

This class covers basic programming concepts, data structures, and techniques specifically relevant to game design. The techniques covered in this class will provide a fundamental understanding of programming with regards to game design that is independent of any particular engine or toolset.

## COURSE OVERVIEW

In this course, you will learn the fundamental techniques necessary to build a game using C/C++ without relying on a game engine. Through this process, you will learn how to organize game-relevant data and break-down game designs into logical, implementable chunks. The fundamental ideas and techniques learned during this course will help you construct game logic in other projects regardless of the tools required.

## STUDENT LEARNING OBJECTIVES

Upon completion of this course, students will

- Be able to use of a C/C++ compiler to produce a working executable
- Have a fundamental understanding of basic features of C/C++
- Better understand to how to organize game data in a logical fashion
- Have created several simple 2D games without having relied on a game engine
- Be able to use a debugger to diagnose coding errors

## REQUIRED TEXTS

There's no required text for this course. Necessary materials will be distributed online if applicable.

## REQUIRED SOFTWARE

Students will be required to have access to the following software in order complete the required assignments:

Windows 7+  
Visual Studio Community 2017

In addition, students will need access and ability to produce 2D game art on a suitable graphics program like Adobe Photoshop / Illustrator. The usage of this software will not be specifically covered in-class.

## GRADING & ASSESSMENT OVERVIEW

Course work will include:

- 35% Assignments (7 Fix My Code Assignments at 5% each)
- 30% Projects (2 Programming Projects 10% for first, 20% for second)
- 30% Final Project (Individual Project to be presented on Final Exam Day in lieu of an exam)
- 5% Attendance\*

\* Note that if you are having trouble in the class, need an extension on a given assignment, or things outside of class are affecting your ability to do the work, talk with me about it sooner. In general, we can work something out.

Projects are graded on a combination of technical and creative competence.  
29 class meetings including the final presentation

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

## CLASS POLICIES

Cell phones must be turned off or turned to "silent" mode.

Please do not text during class.

No food is allowed in the classroom unless related to class activities.

## ATTENDANCE

Attendance will be taken daily. The basic expectation for this class is that **all students will attend every class** (once they are enrolled). You are, however, permitted **one** absence.

Beyond the one 'free' absence, I expect to be notified of reasons for absence. Preferably, notification should be done prior to the absence via e-mail. As attendance does affect your grade, it is in your best interest to make sure I am notified of your absences and check whether or not I have marked them as excused.

If you expect to be late or absent from a class, please let me know by e-mail or some other suitable method.

## EXCUSED ABSENCES

Students have the right to miss class for religious observances. Students wishing for time off for this reason should let the instructor know within the first two weeks of class. Sometimes absences from class are unavoidable because of illness. Emergencies, other than illness, could cause absence from class. In these cases, students are expected to meet with the instructor as soon as possible after the crisis has passed and arrange to make up any missed work. However, a written document that proves your absence was unavoidable must be submitted, and the instructor reserves the right to determine whether or not to excuse such an absence.

## ACADEMIC HONESTY

For complete information about the University's policies on academic honesty, please see:

[http://www.gmu.edu/cte/Teaching/Getting\\_Started/Designing\\_Syllabus/academic\\_honesty.html](http://www.gmu.edu/cte/Teaching/Getting_Started/Designing_Syllabus/academic_honesty.html)

## **GMU HONOR CODE**

<http://www.gmu.edu/catalog/apolicies/index.html#Anchor12>

Honor Code: 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.

## **ADDITIONAL RESOURCES**

GMU Student information and resources: <http://www.gmu.edu/mlstudents/>.

The University Libraries maintain info guides for various majors. You can find links to various game design resources on the Computer Game Art & Design info guide:

<http://infoguides.gmu.edu/games>

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474. All academic accommodations must be arranged through that office. Students must inform the instructor at the beginning of the semester, and the specific accommodation will be arranged through the Disability Resource Center.

## **DISCLAMIER**

In this class, I reserve the right to show a broad range of course materials, some of which assume the audience to be adult in age and demeanor. Should you at any time in the course of the class feel offended by something you have seen or heard, we would appreciate you staying to be part of a dialogue. If you feel that you cannot stay, remove yourself from the classroom as discretely as possible. You may be asked to report on your response.

## **PRIVACY**

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.

## **COURSE SCHEDULE**

Please, refer to the class Blackboard for the course schedule as well as important dates, such as assignment due dates, exam dates, and so on.