CPSC 440 Game Programming
Summer 2024
Professor Jennifer A. Polack

Contact Information:

- Phone: 540-654-1318,
- Email jenniferpolack@gmail.com or canvas email
- Office: Trinkle B21

Office Hours:

- Online, request a meeting for zoom. Give me at least three different times you can meet. The best thing to do is asks questions via discord

Email Correspondence:

- Email response during Monday – Friday 9-5pm should be within the day. If you do not hear from me email me again.
- If it outside those hours during the week I will respond within 12 hours.
- Make sure to email me at jenniferpolack@gmail.com or canvas email
- I do not guarantee weekend correspondence.

Course Objectives

1. Learn fundamental foundations of the field of Game Programming
2. Sharpen C/C++ programming skills while implementing concepts in the development of gaming applications
3. Sharpen presentation skills by giving formal presentations of individually designed and implemented games

Required Text

- NA

Grading

- In order to pass this course, programming assignments, game presentations and labs average must have a 60% or higher.

Grading Criteria	*Weights*
Programming Assignments	45%
Game Presentations	15%
Lab	40%

Final letter grades will be determined according to the following department grading scale. I reserve the right to lower these standards, but will not raise them.

A 90-100%	B- 79-82%	D+ 67-68%
A- 89%	C+ 77-78%	D 60-68%
B+ 87-88%	C 73-76%	F below 60%
B 83-86%	C- 69-72%	

Responsibilities

- You need to watch each video in the entirety.
- You are responsible for the content of reading assignments, lectures, video activities and handouts.
- You are responsible for checking your campus email for updates or modifications to assignments, lectures, etc.

Programming Projects

- There will be approximately 5 programming projects assigned during the semester. Each programming project should be completed without assistance with other students.
- Please refer to the attached honor code statement for details of the honor code's application to this course.

Grading for Programming Assignments

- **Source code** must be submitted for each assignment. Some assignments may also require additional data files.
- The code must **compile and run.**
- **If the program does not compile or does nothing you will receive a zero**
- The code must be **substantially your own work** and any resources and code used, as

A. Program Design

Rating	Criteria
25	Solution well thought out
15	Solution partially planned out
05	ad hoc solution; program "designed at the keyboard"

B. Program Execution (20%)

Rating	Criteria
20	Program runs correctly
12	Program produces correct output half of the time
04	Program runs, but mostly incorrectly
0	Program does not compile or run at all

C. Specification Satisfaction (25%)

Rating	Criteria
25	Program satisfies specification completely and correctly
15	Many parts of the specification not implemented
05	Program does not satisfy specification

D. Coding Style (20%)

Rating	Criteria
20	Well-formatted, understandable code; appropriate use of language capabilities
12	Code hard to follow in one reading; poor use of language capabilites
04	Incomprehensive code, appropriate language capabilites not used

E. Comments (10%)

Rating	Criteria
10	Concise, meaningful, well- formatted comments
06	Partial, poorly written or poorly formatted comments
04	Wordy, unnecessary, incorrect, or badly formatted comments
0	No comments at all

Labs

Labs will reinforce specific techniques that I am trying to teach you. The labs will allow you to practice and manipulate different types of programming in game programming. ***If a lab does not compile it will receive a 0.*** Each lab will be graded on the following scale

90-100% A: The student's code is complete (i.e. meets all requirements), free from programming errors, and well organized (consistent variable naming, consistent formatting, well commented). The student applies existing skills in new ways and/or learns new skills to complete the lab. All program output is well formatted. The lab demonstrates that the student fully understands the concepts and is willing to explore beyond concepts presented in class to apply them in new ways. This lab contains elements of problem solving, creativity, and originality. It is among the best.

80-89% B: The student's code is complete (i.e. meets all requirements), free from programming errors, and is well organized (consistent variable naming, consistent formatting, well commented). The student applies existing skills in new ways to complete the lab. All program output is well formatted. The lab demonstrates that the student has a solid understanding of the concepts presented in class. This project is an excellent lab.

70-79% C: The student's code is complete but may contain some programming errors. Code is fairly well organized but may not be consistent in formatting, variable naming and/or commenting. The student applies concepts discussed in class to solve the problem. Program output may not be consistently well formatted. The lab demonstrates that the student understands most of the concepts presented in class but may not fully grasp everything. This is a good lab but may be at a basic level and/or have some weak areas.

60-69% D: The student's code meets most of the requirements and contains logically programming errors. Code is not consistently well organized and may contain haphazard formatting, variable naming and/or commenting. Program output may be incorrect and/or may not be well formatted. The lab demonstrates that the student only partially understands the concepts presented in class.

A grade below 60% is an F.

Game Presentation
Each game that is developed must be demoed in an interactive screencast. You are to play the game and give a detail walkthrough of the developed game in terms of game play. It should show winning, losing and mistakes that can occur during game play.

	4 Awesome Screencast 4 pts.	**3 Cool Screencast 3 pts.**	**2 O.K. Screencast 2 pts.**	**1- Re-do Screencast 1 pts.**
Introduction to Screencast	-Purpose of screencast clearly & creatively stated -Draws the audience in with compelling questions or exciting hook. -Screencaster(s) introduced clearly & creatively	-Purpose of screencast is clearly stated -Appeals to audience with a question or hook. -Introduces screencaster	-Purpose of screencast stated (but unclear) -Lacks appeal or relevance for audience. -Name stated, but not clear	-Revise script to include the purpose of screencast -Revise script to appear more interesting or relevant to audience. -Make sure to include screencaster introduction

Visual Quality	-Student finds creative ways to show or demonstrate the term on screen.	-Every movement on screen has a purpose that supports the description of the term.	-Some accidental or unrelated movements on-screen.	-Re-record screencast with movements or actions that support the term.
Audio Quality	-Extremely well rehearsed, smooth delivery in a conversational style -Voice is clear, expressive, and enthusiastic -Voice volume enhances presentation. -Free of background noise, fumble sounds or dead space	-Well-rehearsed & almost always smooth delivery -Voice is clear and expressive -Voice volume fits presentation -Some extra noise or dead space that does not interfere with meaning.	-Adequate rehearsal, but sometimes mechanical -Some parts of the audio need to be re-recorded to increase clarity or expression -Too noisy in background -Try re-recording in a quieter room or use a different microphone.	-Practice your presentation until it doesn't sound like you are reading -Make sure your voice sounds expressive & rhythmic -Speed up or slow down -Re-record your screencast in a quiet room, without any long pauses or "ums."
Use of Technology	-Screencast length keeps the audience interested & engaged.	-Screencast length is just right (not too long, not too short)	-Screencast length is adequate.	-Rehearse some more. Cut down or add on to best use screencast technology.

Honor Policy

Students are expected to conduct themselves in a manner consistent with the letter and spirit of the Honor Constitution. You may discuss the assignments with other students, but all of your work must be your own. You must yourself type and understand every line of code in each assignment you submit. You cannot post entire assignment/labs on any websites such as stack overflow and you cannot search or use and code gotten from websites such as gitHub. It is an honor code violation to copy code directly from another student either by copy and paste or by transcription. For more information, please refer to the computer science department policy or contact me.

Disability Statement

The Office of Disability Services has been designated by the University as the primary office to guide, counsel, and assist students with disabilities. If you already receive services through the Office of Disability Services and require accommodations for this class, make an appointment with me as soon as possible to discuss your approved accommodations needs. Please bring your accommodation letter with you to the appointment. I will hold any information you share with me in the strictest confidence unless you give me permission to do otherwise. If you have

not contacted the Office of Disability Services and need accommodations, I will be happy to refer you. The office will require appropriate documentation of disability. Their phone number is 540-654-1266. The office is located in Lee Hall, Room 401.

Weekly Schedule (Tentative, subject to change without notice)

Week(s)	TOPICS
1	Overview Getting Started with Microsoft Visual Studio and Allegro Basic 2D Graphics Programming with Allegro Programming the Keyboard and Mouse
2	Introduction to Game Design Basic Bitmap Handling Basic Sprite Programming (Collision Detection)
3	Advanced Sprite Programming (Animation) Programming Tile-Based Backgrounds with Scrolling Timers, Interrupt Handlers, and Multi-Threading
4	Creating a Game World: Editing Tiles and Levels Vertical Scrolling Arcade Games Horizontal Scrolling Platform Games
5	Mastering the Audible Realm

Honor Policy

Students are expected to conduct themselves in a manner consistent with the letter and spirit of the UMW Honor Constitution, as well as the CPSC department honor policy. For this class in particular:

For labs, collaboration is OK. The goal of the labs is to ensure you understand the concepts we are going over.

For individual projects, you may not discuss the project with others, the code in your project must be entirely written by you. It is an honor code violation to copy code directly from someone else, either by copy and paste or by transcription, or to copy from the web.

It is a violation to pay anyone to write any code for you

If you have any questions or need clarification, please don't hesitate to contact me!

Title IX Non-Discrimination Statement

The University of Mary Washington complies with Title IX 34 C.F.R. part 106 as it is amended from time to time and does not discriminate on the basis of sex in its programs, activities, admission or employment. Inquiries about the application of Title IX and 34 C.F.R. part 106 may be referred to the University of Mary Washington's Interim Title IX Coordinator, Terri Arthur, at the contact information available on this website, to the U.S. Department of Education, Office for Civil Rights, Assistant Secretary for Civil Rights, or both. The University of Mary Washington's grievance procedures and grievance process, including how to file a complaint of sex discrimination, how to report or file a formal complaint of sexual harassment, and how UMW will respond is available in the Prohibited Conduct Policy.

Terri Arthur, Interim Title IX Coordinator

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