CPSC 362 Video Game Development Syllabus

Instructor: Dr. Durell Bouchard
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Course Objectives

This course focuses on the techniques and technologies of creating real-time interactive video games. Students will learn to create interactive experiences using a game engine and explore applications of new technologies to gaming.

Intended Learning Outcomes: At the end of the course, the successful student will be able to

1. design fun game experiences.
2. create 2D and 3D games using a video game engine.
3. playtest a game to eliminate bugs.
4. optimize the runtime performance of a game.

Course Content

Prerequisites: CPSC170

Text: We will use free online resources instead of a textbook.

Projects: The focus of the course are a 2D midterm project and a 3D final project. These projects are where you demonstrate the tools and skills you have learned throughout the semester.

Assignments: Regular assignments introduce new concepts and technologies. Completing these assignments prepares you for in-class programming activities.

Activities: Activities during class give you a structured experience in game development and increase your ability to use and understand the software tools. The activities connect the reading and lectures and prepare you for the project.

Co-curricular: The Department of Mathematics, Computer Science, and Physics offers a series of lectures designed to engage the campus community in discussions of ongoing research, novel applications, and other issues that face these disciplines. You may submit to Inquire up to two papers reflecting on a talk you attend for extra credit.

Grading: Course grades are assigned based on the following weights and scale:

Grade Weights

Category	Weight
Final Project	35%
Midterm Project	30%
Assignments	10%
Activities	25%

Grade Scale

Grade	Range	Grade	Range
A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Course Policies

Attendance Policy: If you have a temperature of 100.4 or higher or other COVID symptoms, don't come to class. Call Health Services IMMEDIATELY. Do not come to class or go to any public area on campus. For your absence to be excused, you must permit Health Services to notify me that you have consulted them about COVID symptoms. If Health Services informs you that you should isolate and not attend class for multiple days, tell me to make a plan to keep you current in the course. All absences caused by consultation with Health Services about coronavirus symptoms or isolation ordered by Health Services will be excused. Still, you will need to do the work and graded assignments even if we extend your deadline.

Class attendance is vital to your success in this course; the material covered during missed sessions is the responsibility of the student. Conversations in class illuminate the

published class materials and are subject to evaluation on subsequent tests and quizzes. If you anticipate being unable to attend class, email me before class to be excused.

Late Work: If you anticipate being unable to meet a deadline, email me before the deadline to request an extension. Unexcused late work will receive no credit.

Academic Integrity: I expect everyone to follow the Academic Integrity policy detailed in the handbook Academic Integrity at Roanoke College. If you ever have questions about how these policies apply to our class, please contact me. The bottom line is that all work you submit for a grade must be solely your own unless explicitly stated as group work.

Subject Tutoring: Subject Tutoring, located on the lower level of Fintel Library (Room 5), is open 4-9 PM, Sunday-Thursday. Subject Tutors are highly trained, current students who offer free, one-on-one (and small group) tutorials in over 80 courses taught at Roanoke College, including: Business, Economics, Mathematics, INQ 240, Modern Languages, Lab Sciences, and Social Sciences. Check out all available subjects and schedule 30- or 60-minute appointments at <www.roanoke.edu/tutoring>. If you have a question, feel free to stop by, or contact us at subject_tutoring@roanoke.edu or 540-375-2590. See you soon!

Accessible Education Services: Accessible Education Services (AES) is located in the Goode-Pasfield Center for Learning and Teaching in Fintel Library. AES provides reasonable accommodations to students with documented disabilities. To register for services, students must self-identify to AES, complete the registration process, and provide current documentation of a disability along with recommendations from the qualified specialist. Please contact Becky Harman, Assistant Director of Academic Services for Accessible Education, at 540-375-2247 or by email at aes@roanoke.edu to schedule an appointment. If you have registered with AES in the past and would like to receive academic accommodations for this semester, please contact Becky Harman at your earliest convenience to schedule an appointment and/or obtain your accommodation letter for the current semester.

Diversity: I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

Preferred Name/Pronoun: I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester to make appropriate changes to my records.

Course Schedule

This course expects you to spend at least 12 hours of work each week inside and outside of class.

Week	Topic
1	Unity
2	Unity Scripting
3	2D
4	Visual Effects
5	Audio
6	Mobile & Touch
7	2D Project
8	3D
9	Physics
10	Virtual Reality
11	Augmented Reality
12	Artificial Intellegence
13	3D Project