**UNIVERSITY OF
SOUTHERN MAINE**

COS 212 Game Software Development

Department of Computer Science

Instructor Info

Ryan Whittle

Email: ryan.whittle@maine.edu

Office: None. I will be available to you online.
Hours: By Appt.

Course Meetings

Zoom
Mondays & Wednesdays @ 2 pm

Services &
Policies that
Support You

Student Services and Policies Hub[1]

Contents

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[1] https://mycampus.maine.edu/group/usm/student-services-and-policies-hub

1. Course Information

1A. Course Description

This special topic course aims to provide students with a basic understanding of game development and prototyping using Unity.

1B. Course Materials & Books

Required

Textbook:

> Geig, Mike. Sams Teach Yourself Unity Game Development in 24 Hours. 4th ed., Pearson Education, Inc., 2021. 9780137445080

Software:

- Unity Game Development Platform 2022.3.17f1 and a computer that can run it.

Book Files:

- http://fixbyproximity.com/Downloads/UnityBook.html
  - These files are required to complete each hour of the book effectively

    Use Microsoft Edge if Chrome will not open the page.

- There may be supplemental resources provided in Brightspace.

  For Brightspace tech requirements, see the Student Services and Policies Hub[2].

1C. Course Format

This course is an online lecture-based modality. Online attendance and participation is required. There will be additional work assigned outside the classroom on Brightspace.

1E. Course Learning Outcomes

At the end of this course, students should be able to:

● Create a Unity game in either 2D or 3D.

● Simulate Physics, Collisions and Reflections using the Unity Engine.

● Leverage Prefabs to quickly develop full featured games.

● Write C# code to store variables, manage game state and perform conditional execution.

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[2] https://mycampus.maine.edu/group/usm/student-services-and-policies-hub

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2. Coursework & Grading

2A. Grade Scale

[This is a typical percentage-to-letter grade scheme for many U.S. postsecondary institutions.]

Grade Percentage	Letter Grade
100-93%	A
92-90%	A-
89-87%	B+
86-83%	B
82-80%	B-
79-77%	C+
76-73%	C
72-70%	C-
69-60%	D
60% or lower	F

2B. Course Grade Breakdown

Assessment Name	Value
Personal Introduction	5
Altered - Amazing Racer Game	15
Altered - Chaos Ball Game	15
Altered - Captain Blaster Game	15
Altered - Gauntlet Runner Game	15
One Page	5
Final Game	20
Attendance	10
Total:	

2C. Assessment Descriptions & Requirements

To make this as simple as possible, the entire course will have 100 points available to you. Thoughtful completion of each assignment will garner all available points, low effort submissions will garner half points, and no submissions will garner no points. Missing a class without communicating with me a valid/ excused reason will result in losing two points on your *attendance* grade.

2E. Final Examination/Final Project

Your final project will be an original game designed by you implementing some of the things you will learn throughout the course. This game will be simple in scope and presented in class on 12/11/24.

3. Class Schedule

Week 1 - Intro

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Wednesday, 09/04/24	**Introduction To The Course** ● This is the first class meeting. You only need to show up. ● Slides on Intro & Objects	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hours 1: Intro & 2: Objects) **Assignments:** ● Intall Unity Hub ● Install Unity 2022.3.17f1 ● *Personal Introduction*

Week 2 - Object Basics

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 09/09/24	**The First Class of This Week** ● Personal Introductions. ● Make sure everyone has Unity installed and ready to go. ● Slides on Models, Mats, and Textures.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 3: Models, Mats, Text.) **Assignments:** ●

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Wednesday, 09/11/24	**The Second Class of This Week** ● Slides on Terrain in games/ Terrain Editors.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 4: Terrain) **Assignments:** ●

Week 3 - Lights, Cameras, & Game 1

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 09/16/24	**The First Class of This Week** ● Slides on Lights & Cameras in games.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 5: Lights and Cameras.) **Assignments:** ●
Wednesday, 09/18/24	**The Second Class of This Week** ● Go over *Amazing Racer* expectations.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 6: Amazing Racer) **Assignments:** ● *Altered- Amazing Racer Game*

Week 4 - Scripting

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 09/23/24	**The First Class of This Week** ● Check out *Altered - Amazing Racer* submissions. ● Slides on Scripting.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 7: Scripting Pt. 1) **Assignments:** ●
Wednesday, 09/25/24	**The Second Class of This Week** ● Slides on Scripting cont.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 8: Scripting Pt. 2) **Assignments:** ●

Week 5 - Collision & Game 2

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, **09/30/24**	**The First Class of This Week** ● Slides on Collision in games.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 9: Collision) **Assignments:** ●
Wednesday, **10/02/24**	**The Second Class of This Week** ● Go over *Chaos Ball* expectations.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 10: Chaos Ball) **Assignments:** ● *Altered - Chaos Ball Game*

Week 6 - Prefabs

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, **10/07/24**	**The Second Class of This Week** ● Check out *Altered - Chaos Ball* submissions. ● Slides on Prefabs in Unity.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 11: Prefabs) **Assignments:** ●
Wednesday, **10/09/24**	**The First Class of This Week** ● Slides on 2D Development.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 12: 2D Game Tools) **Assignments:** ●

Week 7 - 2D Tools and Tricks

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
10/14/24	● No Class	● No Class
Wednesday, **10/16/24**	**The Second Class of This Week** ● Slides on Tilemaps and 2D Environments.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 13: 2D Tilemaps) **Assignments:** ●

Week 8 - User Interface & Game 3

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 10/21/24	**The First Class of This Week** • Slides on User Interface Design.	**Read or Watch the Following:** • Unity Game Dev in 24 Hrs (Hour 14: User Interface) **Assignments:** •
Wednesday, 10/23/24	**The Second Class of This Week** • Go over *Captain Blaster* expectations.	**Read or Watch the Following:** • Unity Game Dev in 24 Hrs (Hour 15: Captain Blaster) **Assignments:** • *Altered - Captain Blaster Game*

Week 9 - Particles & Animations

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 10/28/24	**The First Class of This Week** • Check out *Captain Blaster* submissions. • Slides on Particle Systems.	**Read or Watch the Following:** • Unity Game Dev in 24 Hrs (Hour 16: Particle Systems) **Assignments:** •
Wednesday, 10/30/24	**The Second Class of This Week** • Slides on Animations in games.	**Read or Watch the Following:** • Unity Game Dev in 24 Hrs (Hour 17: Animations) **Assignments:** •

Week 10 - Animators & Timeline

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 11/04/24	**The First Class of This Week** • Slides on Animators in Unity.	**Read or Watch the Following:** • Unity Game Dev in 24 Hrs (Hour 18: Animators) **Assignments:** •

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Wednesday, 11/06/24	**The Second Class of This Week** ● Slides on Timelines in games and software.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 19: Timeline) **Assignments:** ●

Week 11 - Game 4

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
11/11/24	● No Class	● No Class
Wednesday, 11/13/24	**The First Class of This Week** ● Go over *Gauntlet Runner* expectations.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 20: Gauntlet Runner) **Assignments:** ● *Altered - Gauntlet Runner Game*

Week 11 - Audio & Mobile Development

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 11/18/24	**The Second Class of This Week** ● Slides on Audio in games.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 21: Audio) **Assignments:** ●
Wednesday, 11/20/24	**The First Class of This Week** ● Check out *Gauntlet Runner* submissions. ● Slides on Mobile Dev. ● Go over *One Page* expectations	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 22: Mobile Dev.) **Assignments:** ● *One Page*

Week 12 - Polish & Deployment & One Pages

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 11/25/24	**The Second Class of This Week** ● *One Page* presentations. ● Go over *Final Game* expectations.	**Read or Watch the Following:** **Assignments:** ● *Final Game - Due 4/24/24*

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
11/27/24	● No Class	● No Class

Week 13 - Wrap Up & Work Time

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 12/02/24	**The First Class of This Week** ● Slides on Polish and Deployment. ● Feedback on *One Pages* ● Reiterate *Final Game* expectations.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 23: Polish and Deploy) **Assignments:** ● *Final Game - Due 4/24/24*
Wednesday, 12/04/24	**The Second Class of This Week** ● Slides on Wrap-Up ● Work time.	**Read or Watch the Following:** ● Unity Game Dev in 24 Hrs (Hour 24: Wrap-Up) **Assignments:** ● *Final Game - Due 4/24/24*

Week 14 - Final Game & Presentations

Day & Date	Sub-topics & Items Due	Assigned for a Future Class Meeting
Monday, 12/09/24	**The First Class of This Week** ● Work time ● Questions time ● Go over Wednesday's plan.	**Read or Watch the Following:** ● **Assignments:** ● *Final Game - Due next class*
Wednesday, 12/11/24	**The Second Class of This Week** ● Playthrough of *Final Games.* ● Celebrate finish of semester.	**Read or Watch the Following:** ● **Assignments:** ●

4. Course-Specific Policies

4A. Attendance

Attendance is mandatory and attendance will be taken. Each unexcused missed class will result in -2 points from your 10 total attendance points available.

4B. Late Work

Late work will have an immediate decrease in points available. Assignments turned in late will have their maximum number of points available halved.

4C. Revision Policy

I do permit students to revise their work if they are not satisfied with their grade first time around. Please be sure to discuss with me before hand that you would like to redo an assignment.

4D. Class Cancellation

I will email you an announcement if there is ever a class day that is cancelled.

4E. Inclement Weather Contingencies

In the event of inclement weather or dangerous conditions, plan for a recorded version of class.

4G. Use of Artificial Intelligence (AI) in Coursework

Do not use AI for the One Page or writing assignments. If you want to use AI art generators to pretty up your games, please feel free to do so. But no AI can write your One Pages, GDD's, or any text included in your games.

4H. Faculty Response Time

Feedback on assignments will be provided within one week from the due date. Emails will be responded to within two university business days.

4I. Netiquette

Our text-based communication is vital in this course since it is the primary - and possibly only - way we will connect with each other. Please be careful and considerate in all your communications with each other and your instructor.

The online medium is poor at conveying tone. Consider what you are saying and remember that your intent might not be inferred by your readers (fellow students and instructors). Take a moment to re-read everything you write: assume that it will be taken in the worst possible light. And extend courtesy to others: assume the most charitable light possible. Both of these steps will

make communication easier and far more civil.

4J. Additional Instructor Notes

Do your best with keeping up with the readings. A few weeks before the end of the semester you will be finished with the readings and will be able to focus solely on making your game. If you stay diligent with the readings, your new knowledge will show in your final product. Also, please take the practical assignments seriously.

AI Policy

As scholars and educators specializing in English and Writing Studies, and as members of the faculty responsible for the WRI sequence, we have a profound commitment to upholding the standards of writing instruction across all University courses. Hence, we emphasize the following: Writing to learn constitutes a fundamental intellectual pursuit essential for the cognitive and social growth of all students. Because writing itself is a form of thinking, it cannot be replaced by AI language tools and generators. Indeed, using AI masks the intelligence and creativity of the student writer, the cultivation of which is the focus of writing courses. The use of generative AI for content creation is a form of cheating and a violation of the University's policy on Academic Integrity.

5. Academic Services & Policies

Below you'll find a brief list highlighting some of the most crucial student services and supports.

- **Request disability accommodations** | (207) 780-4706 | dsc-usm@maine.edu
- **Report Interpersonal violence** | (207) 780-5767 | usm.titleix@maine.edu
- **Report on-campus emergencies and safety concerns** | (207) 780-5211 or your local
- police agency.
- **Get academic help** | mycampus.maine.edu/group/usm/learning-commons
- **Get technology help** | usm.maine.edu/computing/helpdesk
- **Meet with an academic advisor |** usm.maine.edu/advising

For USM's most complete and current information on services available to students, as well as academic policies, use the QR Code to go to the [Student Services and Policies Hub webpage](https://mycampus.maine.edu/group/usm/student-services-and-policies-hub)[3].

3 https://mycampus.maine.edu/group/usm/student-services-and-policies-hub

Services & Policies that Support You

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