

CSC404: Video Game Design

Course topics include: game history & genres, “ludology” (theory of fun, story creation, optimal experience), character & level design, industry tools & processes, graphics & animation, modelling techniques, collision detection, visual effects, scripting (passive & active), HCI & interface design, verification & playtesting, business of gaming. Material & projects based on real-world processes.

Instructor Information

Name	Email
Elias Adum	elias@cs.toronto.edu (put “CSC404” in the subject)

Class Information

- **Lecture:** Wednesday 6:00 PM – 8:00 PM (Discord)
- **Tutorial:** Wednesday 8:00 PM – 9:00 PM (Discord)
- **Office hours:** Wednesday 5:00 PM – 6:00 PM or by appointment (Discord)

Course Materials

- **Web Page:** Quercus (Discord for presentations, itch.io for submissions)
- **TA Contact:** csc404ta@cs.toronto.edu
- **Engine:** Recommended engines are: Unity and Unreal.

Course Schedule

Week of	Topics	Milestone(s)
Sep 15	Course Intro & Unity Tutorial	Game Jam Assignment 1 & Game Ideas
Sep 22	Ludology & Pitching	Game Jam Assignment 2
Sep 29	In Class (Online) Pitch Presentation	Milestone 1: Pitch & Creative Brief
Oct 06	Design Docs, Character & Level Design, Mechanics	Tech Proof-of-Concept
Oct 13	In Class (Online) Design Document Presentation	Milestone 2: Design Document
Oct 20	Prototyping, Playtesting & Agile Development	First Game Level
Oct 27	AI for Games, UI/UX for Games	
Nov 03	In Class (Online) Alpha Presentation	Milestone 3: Alpha
Nov 10	Reading Week	
Nov 17	Business of Games	Updated Game Demo
Nov 24	In Class (Online) Beta Presentation	Milestone 4: Beta & Playtesting Report
Dec 01	Mobile Game Design, Production & Publishing	
Dec 08	In Class (Online) Final Presentation	Milestone 5: Final Builds, Itch.io page, Trailer, Peer Evaluations

Course Deliverables

Note: For all presentation milestones, groups must provide feedback when not presenting.

Game Jam Assignments 10% (5% each)

- One-day online hackathon events held online via Discord.

Game Brainstorming 3%

- Submitting ideas for potential games for the project.

Milestone #1: Game Pitch & Creative Brief 5% & 2%

- Present main game idea and how it targets the theme and the audience.
- Describe game mechanics, secret ingredients, and what a completed final product will look like.
- Include: mock-ups, mood boards, sketches, game inspirations, etc.
- **Submit:** Creative brief document.

Milestone #2: Design Document & Prototype 5% & 5%

- Present all pre-coding design details of the final game.
- Include: mock-ups, storyboards, mood boards, sketches, data models, etc.
- Also include technology proof-of-concept (presentation), and task breakdown (document)
- **Submit:** Design document

Milestone #3: Game Alpha 5%

- In-class demo of playable prototype.
- Describe plan for final sprints, and target for final product.
- Include: Assets and animations for the main characters, at least one fully playable level, music & SFX.
- **Submit:** Link to development repository, Alpha builds on the itch.io page.

Milestone #4: Beta Release & Playtesting Report 5% & 5%

- In-class demo of completed product, and playtesting results.
- Outline challenges and features of final design describe finishing touches.
- Produce tutorial, with descriptions of gameplay and controls.
- **Submit:** Playtesting Report, Beta builds on the itch.io page.

Milestone #5: Playtesting Demo & Final Items 15% & 5%

- Testing & evaluation by industry professionals
- Final reflections on development process and final product.
- Include: Finalized tutorial, finalized game assets, finalized gameplay features, and all levels.
- **Submit:** Finalized Itch.io page, Final Game Builds, Video Trailer, Peer Evaluations.

Tech Demo, Tutorial Level, Updated Game Demo 15% (5% each)

- Progress checks to demonstrate current state of the game.

Itch.io Page 10%

- A development journal, outlining your group's weekly progress, challenges and setbacks.

Participation 10%

- Participating in online classes, online presentations, online discussions, providing feedback to other groups, etc.