

CSC404: Video Game Design

Course topics include: game history & genres, “ludology” (theory of fun, story creation, optimal experience), character and level design, industry tools & processes, graphics & animation, modeling 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

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Steve Engels	BA4266	(416) 946-5454	sengels@cs.toronto.edu (put “404” in subject)
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Course Materials

- **Web Page:** <http://www.cs.utoronto.ca/~csc404h>
- **TA Contact:** 404ta@cs.utoronto.ca
- **Text:** Rabin, Steve. *Introduction to Game Development*, 2nd ed. Charles River Media, 2009
- **Engine:** XNA (Microsoft) Unity (Noesis) Irrlicht (Nikolaus Gebhardt)
Panda3D (Disney/CMU) Ogre (MIT?) Torque (GarageGames)

Course Schedule

Week of	Topics	Milestone(s)
Jan 9	Intro to Game Design, Ludology	
Jan 16	Game Design Process	Assignment 1
Jan 23		Assignment 2 Milestone 1: Pitch
Jan 30	Character & Level Design	
Feb 6		Milestone 2: Design
Feb 13	AI for Games	
Feb 20		READING WEEK
Feb 27		Milestone 3: Alpha
Mar 5	Graphics for Games	
Mar 12	HCI for Games	
Mar 19		Milestone 4: Beta
Mar 26	Business	
Apr 2	Wrap-up and Playtesting Results	Playtesting Report, trailer & peer evals

Mark Breakdown

- **Participation** – 10%
- **Assignments** – 10%
- **Course Project** – 80%

Assignments

Assignment 1: Creation of basic level, sprites, items, heads-up display (beyond tutorial level!)

Assignment 2: Addition of splash screen, HUD updates, additional levels, character behaviour (appearance, standing & movement, interaction with items)

Project Milestones

Note: For each of the following, you are expected to critique other groups when you are not presenting.

Milestone #1: Game Pitch (10%)

Due: Jan 26th

- Present two game design ideas that target the theme and the audience.
- Describe the gameplay & secret ingredients, outline the 5 achievement levels of the final product.
- Must display a thorough understanding of how the game will play.
- **Submit:** Creative brief document

Milestone #2: Design Specifications (10%)

Due: Feb 9th

- Present all pre-coding design details of the final game.
- Include: mock-ups, storyboards, sketches, data models, task breakdown, etc.
- Presentation can include game walkthrough and/or technology proof-of-concept.
- **Submit:** Design document

Milestone #3: Game Alpha (15%)

Due: Mar 1st

- In-class demo of prototype (minimum target from Milestone 1).
- Describe goals of final sprints, and target for final product.

Milestone #4: Beta Release (15%)

Due: Mar 22nd

- In-class demo of completed product.
- Outline challenges and features of final design, describe finishing touches.
- Produce user manual, with illustrate descriptions of the story, gameplay and controls.
- **Submit:** User manual

Milestone #5: Playtesting Demo & Final Paper (30%)

Due: Apr 2nd & Apr 5th

- Testing & evaluation by the public (prize goes to “winning” team)
- Final reflections on development process and final product.
- **Submit:** Final report
- **Submit:** Video trailer
- **Submit:** Peer evaluation