IAT 313: Foundations of Game Design

School of Interactive Arts + Technology, Summer 2016

Instructor: Michael Nixon
Office Hours: Monday, 2-3pm; Wednesday 1-2pm SUR2814;

Teaching Assistant: Xin Tong
Office Hours: *by appointment*.

Lecture: Friday, 10:30 – 12:20, room SUR 5380
Labs: D101 – Friday, 12:30 – 14:20, room SUR 5080
D102 – Friday, 14:30 – 16:20, room SUR 5080

Course Content:
Game Design is a young discipline with vast potential, but little that constitutes accepted canon or formal process. It is also a creative endeavor requiring practical experience through design, critique and iteration. In the lecture part of this class, we will read and discuss some of the work that analyzes players, games and the design process to establish common ground for practical work in the course labs. We will also cover some of the more universal game mechanisms, such as randomness and economic systems, and a few specific topics in more detail. In the labs, we will play, critique, improve and design games as well as report on the course's three longer game design projects.
It is my goal to have you gain practical experience with and a critical understanding of:

- what makes games different from other types of products, entertainment media and works of art
- the existing attempts to analyze the psychology of players and how it affects game design and consumption
- the process of game design and its components such as prototyping and play testing
- some of the dimensions along which to think about game design and critique existing designs, such as art style, narrative and game balance
- a subset of the mechanisms available to accomplish game design goals, such as reward systems, economic systems and artificial intelligence

Email Guidelines:

- The subject of course-related emails **must** contain the following: *Course number*, *lab number* (D101 or D102), *student name*, and *student number*.
- For emails about exercises, assignments, labs, and the like, Xin is your first contact.
- We will strive to respond to your email within **one** school day. Remember, weekends are not school days.
- Please ask for design feedback during labs, as that is what they're intended for.

Coursework:
Course assignments and submissions, etc. will be handled via Canvas (http://canvas.sfu.ca). **Do not** email course submissions unless specifically asked to do so by the instructor. Marks for the course are distributed as follows:

- Individual Assignments: 30%
  - Unity Game Environment
  - Game Critique Report (~1500 words)
  - Critical Let's Play Video
- Group Projects: 45%
  - "Ant Lion" Digital Game Redesign
  - DeckWorker Board Game Creation
  - "Indie Game" Digital Game Creation
- Reading Questions: 15%
  - For most lectures there will be 3 standard questions assigned per reading. Answering each question in a way that shows that you read and understood the reading results in full marks. These will provide a basis for class discussions. Due at midnight the night before class.
- Participation: 10%
  - This mark will be based on completing in-class worksheets

Note on attendance: Lecture and Lab attendance and participation are vital to this course. Lab attendance and participation in weekly critiques are the primary method of getting valuable feedback on your project work.

Late Policy:
Late assignments may be docked 10% of the assignment total every day until the assignment is submitted (up to one week late). Special exceptions must be arranged ahead of time and/or supported by e.g. medical documentation.

Lab Switching:
Questions about switching labs, wait lists, enrolment, etc. should be addressed to SIAT advising (siat_advising@sfu.ca). Course staff have no control over the composition of class and lab rosters other than to authorize change requests that are made through SIAT advising.

Submission Attribution:
Assignment and Group Project submissions must have complete student names and ID numbers on the landing page/first slide/opening screen/etc. Submissions without the names and ID numbers of all the students who worked on the submission **will not be graded**.

Plagiarism:
Academic dishonesty is a serious academic offence that will result in a severe academic penalty. The SFU policy on academic honesty is stated in the Code of Academic Honesty (S 10.01), which can be found at https://www.sfu.ca/policies/gazette/student/s10-01.html. Academic honesty and student conduct policies can be found at https://www.sfu.ca/policies/gazette/student.html.

Assets, including art, code, design concepts, ideas from pre-existing work (including your own) should not be used in this course without attribution. If your design refers to or builds upon an existing design, you must cite the original work in your submission or presentation. Failure to do so will be considered plagiarism. Plagiarism will result in a failed assignment or school disciplinary action at the instructor's discretion.

Required Texts:
Each week has a selection of required readings, which are all available online through Canvas. The two main texts that will be referenced are the following, which are available through the SFU library on reserve as print copies, or you could buy your own because they're great books.

Salen, K., & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals* (p. 672). Cambridge, Mass: MIT Press.

Adams, E. (2010). Fundamentals of Game Design (2nd ed. p. 675). Berkeley, CA: New Riders.

This text can be accessed online via the SFU library, although only 8 users can view this simultaneously:

http://troy.lib.sfu.ca/record=b5496263~S1a

Course Outline:

	Lecture	**Lab**	**Due**
1	**What are games and how do we study them?**	***Dominion* (mechanics discussion)**	
2	**Intro to Game Formalism and gameplay mechanics**	**Explain Individual Unity Assignment and do Unity workshop**	
3	**Mechanics: uncertainty**	**Unity tutorials and Individual Assignment help**	
4	**Mechanics: economic systems**	***Lords of Waterdeep* (economic systems discussion)**	**Unity Game Assignment due**
5	**Mechanics: reward systems**	**Ant Lion presentations**	
6	**Games & narrative**	***Diablo 3* - economic and reward systems & desk crit**	**Deck Worker Proposal Due**
7	**Game AI: Data Structures and Algorithms for Games and Simulation**	**Narrative Structure (*Heavy Rain and/or The Wolf Among Us*)**	
8	**Canada Day**	**--**	
9	**Emergence and Synthetic Characters**	***Deckworker playtest prototypes***	**Game Critique Essay due**
10	**Improving Games: playtesting and games user research**	***Deckworker demos***	
11	**Player Psychology: Identity & representation**	**demo applicable unity techniques e.g. 3D**	**Indie Game proposal**
12	**Player Experience: Agency and Immersion**	**How to: *Let's Play* video / desk critique of indie game**	
13	**Games culture: communities and social issues**	**Indie game playtest with labmates**	**Indie game playtest**
14	***Indie game presentations***		***Let's Play* video due (Wed Aug 17)**

Readings:

Week 2

1. Formal Abstract Design Tools. Doug Church.
2. Gameplay and game mechanics design: a key to quality in videogames. Carlo Fabricatore.

3. MDA: A Formal Approach To Game Design and Game Research. Hunicke, Robin, Marc LeBlanc, and Robert Zubek. Proceedings of the AAAI Workshop on Challenges in Game AI. 2004.

Week 3

1. Chapter 15 - Games as Systems of Uncertainty, Rules of Play: Game Design Fundamentals by Katie Salen and Eric Zimmerman

Week 4

1. Game Economics, a column in Game Developer Magazine from Soren Johnson, 2008.
2. The Internal Economy, In Chap 10 Fundamentals of Game Design, 2nd Ed. Ernest Adams. 2010.

Week 5

1. The Virtual Skinner Box (supported by this graphical explanation, Nick Yee
2. Behavioural Game Design, John Hopson

Week 6

1. Nonlinear Narrative in Games. Ben McIntosh, Randi Cohn and Lindsay Grace.
2. Narrative, Interactivity, Play, and Games: Four naughty concepts in need of discipline. Eric Zimmerman.

Week 7

1. Designing Artificial Intelligence for Games (Parts 1, 2, & 3), Donald Kehoe
2. Game AI Revisited, Georgios Yannakakis.

Week 8

1. Chapter 14 - Games as Emergent Systems. Rules of Play: Game Design Fundamentals by Katie Salen and Eric Zimmerman.

Week 9

1. Games User Research (GUR): Our Experience with and Evolution of Four Methods. Amaya et al. In Game Usability. Katherine Isbister and Noah Schaffer (eds.) 2008.

Week 10

1. Understanding the limits of theory. R. Bartle. In Beyond Game Design Nine Steps toward creating better video games, 2009.
2. Understanding emotions. N. Lazzaro. In Beyond Game Design Nine Steps toward creating better video games, 2009.
3. Motivations for Play in Online Games.View in a new window N. Yee. (2006). In Cyberpyschology & behavior, Vol. 9, No. 6.

Week 11

1. Agency as commitment to meaning - Karen and Josh Tanenbaum
2. Fundamental Components of the Gameplay Experience: Analysing Immersion, L Ermi & F Mäyrä

Week 12

1. From Tree House to Barracks: The Social Life of Guilds in World of Warcraft, by Williams, Ducheneaut, Xiong, Yee, and Nickell
2. No Girls Allowed, Tracey Lien