

DAC 300|ENGL 303|SPCOM 300: Intro. to Game Design (Special Topics Digital Design)

GRADUATE STUDENT VERSION

Fall 2016 (8077)

Tuesdays, 3:30pm-6:20pm in ECH 1205

Instructor Information

Instructor: Dr. Lennart Nacke, Associate Professor
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Course Description

Introduction to Game Design is a course that explores the fundamentals of game design. The emphasis of this class is on creating several non-digital (not computer) games. Similar to the fundamentals classes that fine art students might take in figure drawing or color theory as part of their education to become visual artists, this class remains rooted squarely in the basics of game design. It focuses on the essentials shared by all games that are fundamental for a game designer working in any medium, from sports to board games to computer and video games. Although the focus of the course is on the creation of non-digital games, digital games will also be discussed in class.

The lectures and tutorials provide students with a broad theoretical and conceptual understanding of the field of game design and development along with practical exercises to train creating a game. As a game designer, students need to provide information to players about the content of their game, about how to play it (the things they need to do to progress in the game and the rules), and about the winning conditions. Students need to motivate people to play their games in the first place. Players need to feel empowered by the choices offered by their game and designing a game is essentially about designing meaningful and interesting choices for players. Students are expected to create several smaller non-digital games throughout the course.

Course Goals and Learning Outcomes

On the successful completion of the course, students will be able to:

1. Explore the basic methodologies and conceptual skills of game design, such as

- a. systems thinking
 - b. iterative design
 - c. design collaboration
2. Create several playable *non-digital* games using an iterative design process
3. Distinguish what games are and how they create meaningful experiences for players
4. Organize and summarize fundamental concepts relating to games and design, such as
 - a. rules and play
 - b. emergent complexity
 - c. long and short-term goals
5. Examine games as formal systems, experienced human systems, and cultural systems
6. Interpret the foundational texts in the field of game design, and
 - a. understand game design as a field that encompasses all kinds of games
7. Apply and link the principles of the course to computer and video games on a variety of platforms

Required Text

- Game Design Workshop: A Playcentric Approach to Creating Innovative Games, Third Edition by Tracy Fullerton ISBN-10: 1482217163
- Brathwaite, B., Schreiber, I. (2008) Challenges for Game Designers. ISBN-10: 158450580X
- The Acagamic blog: www.acagamic.com
- **Optional:** Schell, J. (2008) The Art of Game Design: A book of lenses. ISBN-10: 0123694965
- **Optional:** Salen, K., and Zimmerman, E. (2003) Rules of Play: Game Design Fundamentals. ISBN-10: 0262240459

I definitely recommend the book Game Design Workshop to every student. Additional readings may be assigned or recommended during the course.

Required Equipment

You are required to buy the following and have them with you for classes:

- Two 6-sided dice
- A deck a 52 French playing cards (hearts, diamonds, clubs, spades, 13 each suit)
- Loose sheets of plain or graph paper (e.g., http://do2learn.com/activities/mathhelpers/graph_paper/1-4_inch.pdf)
- Pens, pencils, erasers, or general writing materials

Course Requirements and Assessment

All assignments must be completed for a student to pass this course with a C grade or higher. Any student receiving a grade of D or lower on any assignment is strongly encouraged and expected to discuss the matter with me in office hours.

* For all written assignments and exams, we reserve the right to calculate the total percentage received by multiplying with a percentage factor between 0-1 based on the instructor's evaluation. Online items (quizzes or written assignments) can be turned in online to your instructor

only during the timeframe in which items are available. A submission only counts if it is registered in Learn or by your instructor.

All important new information, such as course news, notes, additional reading, etc. will be available on the Learn course page. It is your responsibility as a student to check the Learn course page for new information. Although I will regularly monitor Learn’s discussion board messages, these messages are not considered official communication between students and instructor. Emails regarding an assignment received within 24 hours of the assignment due date will not be answered; it is your responsibility to start your assignments early.

Please wait at least 24 hours after you have received a grade before discussing it with me. If you want to discuss a particular grade you must do so no more than one week after the grade is returned. I’m happy to address questions and concerns.

All term issues have to be resolved prior to the last day of classes. Collaboration is not permitted on any exam or assignments that are not designated as group work! Any answers found to be too similar will both receive a grade of zero. Discussing completed exams with any student that has not completed the exam is not allowed. This as well as any cheating on subsequent work will be treated as academic misconduct. For details, please refer to policy 71 regarding academic honesty and professional unsuitability and associated penalties. One simple rule about cheating in this course: Don’t do it! Thank you.

| Assessment | Due Date | Weighting |
|---|-----------------|------------------|
| Attendance/Participation (pass/fail) | Throughout | 10% |
| Board Game Analysis and Presentation | 15 Nov | 20% |
| Games User Research Paper + Presentation | 25 Oct | 30% |
| [group] Homework (2 Assignments) | 13 Oct + 8 Nov | 20% |
| [group] Final Presentation and Board Game | 29 Nov | 20% |
| <hr/> | | |
| Total | | 100% |

Your grade for this course will be calculated according to the above distribution ranging over homework, participation/attendance, a board game analysis paper, a midterm, and the final project presentation grades as well as a wildcard. **The wildcard option does not apply for graduate students. I am sorry.**

Group Work Assignments and Reshuffling

For group work, a **peer evaluation** form **for your team members is required** to ensure that the overall grade is fair to the amount of work put in by every group member. Peer evaluations will affect your individual grade for group work by a factor from the average of your peer grade for your work and my grade for your work. Please take your peer evaluations seriously.

In addition, we will **reshuffle** groups **after** the first homework group assignment on **13 Oct**. After this homework assignment, you will have the chance to select new group members and form new groups for both your second homework and your final board game assignment.

Evaluate closely how well you work with your colleagues in the first homework assignment and then decide what group you would like to be in when things get reshuffled.

Grading Scale

I will be using a standard A through F scale outlined at the following URL:

<http://ugradcalendar.uwaterloo.ca/page/uWaterloo-Grading-System>.

Class Attendance and Participation (Individual)

Participation requires attendance. It is not merely your presence in class that is required, but you must also attend class prepared, and so this involves professionalism. Professionalism means having read and brought with you some talking points or questions from the textbook or online readings, participating in the in-class exercises, providing useful feedback to others during presentations, contributing to the class, and submitting your work in a timely way. Your contributions to discussion, group activities, and the general classroom atmosphere will be vital in determining what knowledge and skills you take from this course. You should ask questions, offer answers, listen, facilitate others' opportunities to contribute, and respect your classmates' opinions.

Written Board Game Analysis (4-6 pages, Individual)

For this, you will be able to choose from a couple of suggested board games every week and you will need to play the game yourself (i.e., you will have to invest at least 60-90 minutes into the game with a couple of friends; you can play board games at several board game cafes in Kitchener/Waterloo, such as *Games on Tap*, *Crossroads*, and *Adventurer's Guild*). Analyse the board game in as much depth as you can and debug its design (i.e., the core points of the game mechanics). Focus on making your analysis useful for game designers, what can they learn about designing their own board games from your analysis? Show how many of the core points of game design you have already understood and you can find in the game. Focus on the *formal systems* and *dramatic elements* of the board game. Your analysis should be between 4 to 6 pages, double-spaced with 12-point serif font (Times or Georgia are recommended). Assignment grading will be based on evidence of your understanding of class discussion and readings, evidence of original thought, and the depth of your analysis. Since it is always good practice to present your work, you will be required to present your in-depth board game analysis to the class in a 15-minute presentation. Ensure to hand in your written document before you present it in class and sign up for slots after class. Slots will be available on a first-come first-serve basis.

Homework (Groups of 5, peer-evaluated)

There will be a total of two homework assignments during this course, where you will have to create a board, card, or another form of non-digital game. The instructions for the homework assignments will be posted online and the physical assignments will need to be handed in to the instructor at the beginning of class. Ensure portability of your game bits and pieces by using plastic bags to enclose all the pieces. Hand in all materials together in a large plastic bag. This assignment is peer-evaluated.

Games User Research Paper and Presentation (Individual)

Graduate students do not have to write the midterm for this class. Instead, they will need to prepare and present a research project. I would recommend the following reading:

- [A practical guide to controlled experiments of software engineering tools with human participants](#) (Ko et al., 2013)
- [How to Design and Report Experiments](#) (Field and Hole, 2003)

Follow Ko's guide on how to design a tool evaluation process, but apply this to games user research, to evaluate a game under development. For this exercise, pick any game from your Steam library and design an experiment to evaluate any kind of effect that you hypothesize the game to have (this could be something like immersion, flow, enjoyment, violence, motivation). Follow Ko et al.'s key components (p.4-5) and Field et al.'s description about independent and dependent experimental variables. Define your hypothesis and your independent and dependent variables. Then write up a theoretical proposal of your experiment (this would most likely equal the method section of a research paper. Follow the formatting and guidelines of the ACM SIGCHI CHI Proceedings Format: <https://chi2017.acm.org/submission-formats.html>

Write four pages in this format, excluding references (you can have as many references as you like) and outline the following: (1) What problem are you trying to solve? (2) Why does this problem matter to games user research and HCI at large? (3) What is your hypothesis to solve the problem? And: What steps do you propose to reach your solution? (4) How would your experimental design look like in detail (recruiting strategy, sample size, variables, pilot study?, proposed experimental procedure, alterations done to the game under analysis, etc.)? Write this in the same detail as you would write an ethics application. (5) Discuss expected outcomes and how these could possibly be applied to HCI and games user research, (6) what value does your study bring to the HCI community? Why would people turn to your research and cite it? Make a compelling argument for your potential contribution.

You will hand in your paper and present your proposed future study and implications to me in person in a 15-minute research presentation. You will be graded on the research applicability and quality of your experimental study proposal. You will need to schedule this presentation in the midterm week.

Final Project Presentation (Groups of 5, peer-evaluated)

At the end of the course, you will need to present one final non-digital game to the rest of the class that you have developed with a group of 5 people. Instructions for the final project will be posted in Learn. This assignment is peer-evaluated. At the minimum you will need to hand in:

- A one-page design document for your final game (can be a digital PDF)
- The physical game, complete with instructions and all required game pieces
- A final presentation in front of the class and an external audience, lasting 10 minutes with 5-10 minutes of questions and answers

Course Outline

I would generally recommend for students to keep up to date with Gamasutra design articles, which can be found here: <http://gamasutra.com/category/design/>

| Week | Date | Topic | Presentation Slots |
|------|---------------|---|------------------------------|
| 1 | 13 Sep | Introduction to the Class, The Role of the Game Designer | Play board games |
| 2 | 20 Sep | The formal systems of games and game design atoms I | - |
| 3 | 27 Sep | The formal systems of games and game design atoms II and Player Types | 4 @ 15 mins |
| 4 | 4 Oct | Dramatic Elements of Games and Narrative Design | 4 @ 15 mins |
| 5 | 13 Oct | Thursday: Game System Dynamics | 4 @ 15 mins |
| 6 | 18 Oct | Guest lecture (TBA, Dr. Nacke away) | - |
| 7 | 25 Oct | Written Midterm Exam (Oral via appointment) | - |
| 8 | 1 Nov | Design documents, concepts, and one-page design docs | 4 @ 15 mins |
| 9 | 8 Nov | Chance and Skill in Game Design | 4 @ 15 mins |
| 10 | 15 Nov | Games as art | 4 @ 15 mins |
| 11 | 22 Nov | Functionality, Completeness, and Balance | Playtest student board games |
| 12 | 29 Nov | Final project presentations | |

Course Disclaimer

Final course grades may be adjusted to conform to program or Faculty grade distribution profiles. This course outline documents my intentions for this course. If over the period of the academic year, it becomes apparent that modifications are necessary, the following strategy will be pursued: Any necessary modifications that may influence student success or the marking scheme will only be made after in-depth, frank discussion with the students and prior approval from the DAC unit director.

Late Work

I do not accept late assignments. If Learn or the TA marks your submissions as late, you will receive a zero on that assignment. There are no exceptions to this rule without a valid medical note. To make a successful submission, give yourself ample time to submit before an assignment is due (Learn may slow down due to server load – submit a bit early to be safe). If you miss an in-class assignment, exam, or quiz, you will receive a grade of zero for that item. If you are unable to hand in or attend the exam/assignment in question due to an illness or bereavement, you must provide valid documentation to the registrar's office within 5 days of the exam/assignment date/due date. For medical reasons, you must fill out the appropriate Medical Statement.

Request for Regrading

Any requests for regrading of student work, will have to be done in writing with a signed paper letter submitted to the instructor directly. These requests will have to be submitted to the instructor first.

Information on Plagiarism Detection

Students and faculty at the University of Waterloo share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness, and mutual respect for the aim and principles of the pursuit of education. Academic misconduct impedes the activities of the university community and is punishable by appropriate disciplinary action.

I reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by software (e.g., Turnitin.com or Grammarly). Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to Turnitin.com or the instructor may submit questionable text on behalf of a student.

Examinations

Final and midterm examinations are held during the final examination period at the end of the semester and may take place in a different room and on a different day from the regularly scheduled class. Examinations may be in oral or written form. Check the published Examination Schedule for a complete list of days and times. Students are advised to obtain their Student ID Card (Watcard) well in advance of the examination period as they will not be able to write their examinations without it.

Electronic Device Policy

Cell phones must be turned off during lectures. If you forget to turn off your cell phone and it rings during class, I reserve the right answer it. See Appendix A for more suggestions regarding the use of electronic devices in my classroom. You should only use your electronic devices in a way that makes you more productive in class or allows you to participate in enhanced learning activities. Disruptive laptop use (gaming, videos, other class work, etc.) will not be tolerated. Sometimes you will be asked to close or shut down your electronic devices for class activities. You must follow this advice without exceptions.

Attendance Policy

Participation necessarily requires attendance. Failure to attend classes will affect your final mark. You are allowed to miss a maximum of two classes over the term without excuse or repercussions. Lecture notes are not a substitute for class attendance. Do not interrupt class

mates. If you arrive late or need to leave early, please sit near the back. You are a valued professional, please govern yourself accordingly.

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Email Policy

Please kindly refrain from writing emails longer than 600 characters. When writing emails, expect answering delays of at least 48 hours up to a week (I also recommend following this online guide to writing short and effective emails: <https://goo.gl/1mfx7L>). If something is urgent, please discuss with me after class. Emails will not be answered outside of regular business hours (Mo-Fr, 9am-5pm). For the fastest response, talk to me in class, or call me. Please use **[DAC 300]** plus a succinct statement as your **email subject** – this helps me filter email.

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Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

To maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#).

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances, Section 4](#).

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read [Policy 72 - Student Appeals](#).

Other sources of information for students

[Academic integrity](#) (Arts) [Academic Integrity Office](#) (uWaterloo)

Accommodation for Students with Disabilities

Note for students with disabilities: The AccessAbility Services office, located in Needles Hall Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.