**COMP 790-093: Serious Games**

**Bulletin Description**

Concepts of computer game development and their application beyond entertainment to fields such as education, health, and business. Course includes team development of a game.

**General Course Info**

- **Term:** TERM SPRING 2017
- **Department:** COMP
- **Course Number:** 185H
- **Time:** MW 12:20-1:35
- **Location:** SN011
- **Website:** [http://www.cs.unc.edu/Courses/comp585-s17](http://www.cs.unc.edu/Courses/comp585-s17)

**Instructor Info**

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- **Office Hours:** Open Door Policy

**TA Info**

- **Name:** Sarah Rust
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**Textbooks and Resources**

There are no required or recommended textbooks. All recommended or required readings will be available or referenced on the class website. The website is at [http://cs.unc.edu/Courses/comp585-s17](http://cs.unc.edu/Courses/comp585-s17). This is considered the primary source of information though class announcements take precedence and may take time to be reflected on the website.

Sakai will be used for the submission of assignments and the returning of comments and grades. Do not worry about the title on Sakai. It is the same site for COMP 585, 585H, 185H and 790-093.

Game development will use freely available software that the student will be expected to download.
Serious Games are training, learning, or propaganda games used in schools, medicine, the military, companies, and the public service sector. The premise behind studying serious games is three-fold:

- First, games are a legitimate artistic media and just as we teach and preach through other forms of art, we can do so through games as well. Because people learn through doing, it is a way for players to absorb concepts in an efficient and memorable manner.
- Second, games are a natural way for "digital natives" to interact with concepts. If we want to engage this population, we should do so in a media that interests them.
- Finally, if people are going to play games, perhaps we can give them some games with additional value beyond entertainment.

This course is intended as a broad introduction to the field of serious games. We will look at a number of examples of existing serious games in order to learn through case studies. The focus will be on game design but we will also look at development issues. We will explore serious game development and how the components of games may be applicable to other areas.

In order to study serious games, however, we need to study games. We will therefore look at the design of games in general.

The course project this semester is a game that is developed for an outside client. These are people with identified needs. They will be your domain experts who understand the needs, the objectives, the audience and the way to evaluate the result. They are also the people who will need to be adding content to the game.

**Target Audience**

COMP 790-093 is intended for students in the School of Education's Master's degree in Educational Innovation, Technology, and Entrepreneurship who are interested in the area game development.

**Prerequisites**

Permission of the instructor
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Goals and Key Learning Objectives

By the end of the course, each student will

- Understand all elements of good game design at a general level and understand at least one element in significant detail
- Be able to design elements of a game and explain the benefits of those design decisions
- Be able to identify elements of an existing game and critique the decisions
- Understand the interdisciplinary nature of game design through their team experience
- Understand the elements of games that are universal and those that are unique to video games
- Understand the basics of computer game development
- Be able to use a game development platform for basic tasks
- Be able to instrument a game in order to evaluate its effectiveness
- Be able to critique serious games as games and in their effectiveness

Course Requirements

The major project of COMP 585 is the instructor-mentored team design and implementation of a serious game. Teams will meet regularly with the instructors (alternating weeks between the professor and the teaching assistant). Project grades are based on design, implementation, documentation, effort, teamwork, and accomplishment.

Additional assignments include a research presentation and a game critique. These assignments include a mix of team and individual activities. Class presentations require preparation meetings with the instructor.

The final exam will be take-home and will ask you to respond to course topics about a game that you will play prior to the exam. It will be due at the beginning of the exam period.

The final exam period (4-7 Monday, May 8) will be a gamefest at which students present their games and classmates get to play them.

Key Exams and Assignments

Besides demonstrating your team game to the instructor on a regular basis, demos of it will be made in class. This will give you the opportunity to gain valuable feedback from classmates and judge your progress compared to other teams. Other key dates will be critique and research presentations, which will be assigned the second week of class. Lectures through much of the semester will be student-given. A typical class will have 3 critiques of 7 minutes each and 50 minutes of presentations. Critiques will be expected to focus on the topic of the day. The topics form which students can choose to present and that games will be related to are:

- Narrative
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- Graphical styles
- Sound
- Game play (game mechanics and balance)
- Level design [good GDC facebook group resource]
- Physics engine (3D)
- Game systems (consoles, VR, AR)
- Music (emotions, mood)
- Characters
- Graphics implementation (including light, camera)
- Procedural generation
- AI in games
- Evoking emotions: empathy, horror, perspective, moral decisions)
- Health
- Education
- Training
- Social change
- Accessibility
- Gender
- Marketing (use of games in advertising, marketing of games, in game advertising)
- Networking
- How games change us (age, violence)

Grading Criteria
Course grading weights are as follows:
- Team game: 50% (divided evenly between the game and the design)
- Research presentation: 25%
- Game critique: 15%
- Final exam: 10%

Presentation grades include both content and style. While not everyone is a natural speaker, communication is a critical skill and students are expected to master the basics.

Course Policies
Attendance: While attendance is not taken in the COMP 585 class, I expect student attendance at all peer presentations. For other classes, I only point out that there is no textbook in this class because the content is not available in any simple form. If you are interested in the content, you need to listen to lectures.

The course final is given in compliance with UNC final exam regulations and according to the UNC Final Exam calendar.

Honor Code
Collaboration and peer-learning are necessary for team projects. Only the individual assignments are not to be done collaboratively. These are open book, open notes, and open network.
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Schedule
The exact schedule for the class will be published on the web.

Disclaimer
This syllabus may not be updated during the semester. Updated information will be published on the class website. If there are discrepancies between the information here and on the website, the website information is considered definitive.

Last updated 11 January 2017