COMP 089H – Everyday Computing (HONORS)

Fall 2015

Meeting Place: FB-008
Meeting Time: Mon/Wed 2:30pm - 3:45pm; Fri 2:30pm - 3:45pm (Extra Lab & Make-up Lectures)

Instructor: Ming C. Lin, John R. & Louise S. Parker Distinguished Professor
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Office Hours: After Class and by Appointment

Graduate Research Consultant: Tanya Amert
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Office Hours:

Prerequisites: None.

Course Description: The goal of this first-year honor seminar is to understand the use of computing technology in our daily activities. In this course, we will study various examples on how computing solve problems in different aspects of our daily life in today's society. More specifically, students will learn about use of computing technology in the following:

- Artistic and Creative Processes

- Assistive Technology

- Bioinformatics

- Computer Animation

- Computer Game Dynamics

- Digital Music and Audio Synthesis

- Image Analysis for Abnormality Detection

- Medical Simulation and Training

- Rapid Prototyping for Design

- Robotics and Automation

- Special Effects Generation

- Touch-Enabled Interfaces

- Virtual Environments

Students will learn about computational thinking for solving many different problems in the physical and virtual world. We will discuss various considerations and tradeoffs (e.g. time, storage, ease of implementation, and generality) used in designing computational methodologies, including data structures, algorithms, computational methods, complexity, and design issues.

Grading:
Assignments	30%
Class Presentation	20%
Course Project	40%
Class Participation	10%

Letter grades will not be assigned on the curve, but on absolute standards. Your final grade in this course will be determined solely by how much you learn. There is no predetermined grading scale. Numerical grades will be posted periodically throughout the semester. It is assumed to be the student's responsibility to make sure that the grades are accurately recorded. Please feel free to discuss your progress and your standing in this class with the instructor.

Homework: There will be 3 homework assignments – one due each month. Students are encouraged to discuss the assignment in group, but when it comes to writing each must work alone independently. Copying homework assignments from another student will be considered cheating.

In-Class Presentation: Each student is expected to lead a presentation of his/her choice of topics, with the instructor's apporval. All students are required to meet the instructor on one-to-one basis to discuss the lecture materials in detail prior to the presentation. One week before the scheduled presentation, s/he will be expected to submit a draft version of the presentation materials and an initial treatment of the selected topics. The instructor will provide timely feedback about the pre-talk. Reading materials and/or discussion issues will be posted on the course web site, at least one day prior to the presentation. All class members will be expected to have read the listed readings, by the start of the relevant class.

Final Course Projectl: As an honor seminar, students in a group of 2-3 are expected to propose and complete a final course project, likely with substantial hand-on efforts or field-based research related to one of the application areas listed above. Students are encouraged to pair with other student(s) of different background (e.g. science and music, math and arts, computing and sociology, etc) to foster inter-disciplinary collaboration. However, each student must be responsible for an independent piece of the work contributing to the chosen group project. Several topics will be suggested, but students are free to select their own project topic after consultation and in-depth discussion with the instructor.

Communication: The instructor's office hours will be as posted, or by appointment and email correspondence. A class mailing list will be set up to broadcast important messages related to the class. Lecture notes, homework assignments, handouts and class announcements will also be posted on the course homepage at the following URL:

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`http://www.cs.unc.edu/~lin/COMP089H/`

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Make-up Course Work: In exceptional circumstances (serious illness, university business, a death in the family), an extension to an assignment may be granted. (The problems of student life, including the consequences of procrastination and commitments to other courses are not regarded as "exceptional circumstances".) However, all extensions or alternative arrangements must be approved by the instructor BEFORE the due date. In circumstances that merit special consideration, documentation is usually available to the student, and the instructor feels most comfortable when a request for make-up work is accompanied by appropriate written material supporting such a request.