

## CS 2190, Spring 2010 – Beginning of Course Memo

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**Office Hours:** M Tu Th 11am-noon Olsson Hall 228B

**On-line class site:** <http://www.cs.virginia.edu/~horton/cs2190> (there's a link to this on Collab site too)

**Description:** This seminar is required experience for students in the 2nd year of their BSCS degree. (Others are welcome, but there are some different goals and rules -- see below.)

- One goal is to expose 2nd years to state-of-the-art research in computer science. Learning about areas of computing will help you choose electives, choose a senior thesis topic, decide on directions for your career or graduate school, identify faculty with whom you'd like to do research with during the summer or academic term, etc.
- A second goal is to explore professional, ethical, legal, security and social issues and responsibilities relevant to computing. These may include "contemporary issues" relative (e.g. patents, privacy, open-source, socially-relevant computing, work-force issues, education).
- You will see that you can engage in independent learning of computing topics or skills, so that you can end up being an effective "life-long learner".
- An additional goal is to give BSCS students in their second year a chance to get to know each other and develop a stronger relationship as a "cohort". Activities will be structured so that students interact, and thus class participation in such activities is explicitly part of what you do in this course.

In summary, this course is intended to help you grow as a computer scientist in a variety of dimensions. We believe that having this kind of experience in the 2nd year will improve what you get out of the rest of your BSCS degree.

**Course Objectives:** Upon completion the course, a student will:

- Have been exposed to a wide range of state-of-the-art research topics in computer science and related disciplines.
- Have begun preparing to undertake an in-depth research project in computer science or a related field.
- Have been exposed to issues and questions in ethics and professionalism in computer science.

**Readings:** There is no textbook, but some readings will be assigned of web-articles and possibly articles or short chapters of library books on reserve. Students must do assigned readings before class, and short and simple reading quizzes may be given at the start of class to enforce this.

**What's Expected of You:** This course is unlike most academic courses in the program, and what's expected of you and what will help you earn your grade will probably seem different too.

*Participation matters!* You're in this class for 50 minutes a week, and there is not much outside work. To meet the course goals we will insist that you attend class and be focused on whatever is going on that day. This means:

- Use of notebook computers or other electronic devices is not allowed. (Exception: we may occasionally ask someone to look something up on the web. Unless noted, laptops closed!)
- Reading of materials, doing course-work, Sudoku, etc. isn't allowed. (We'll wake you up if you fall asleep, too.)
- If something is assigned for reading, do it before class. There may be a weekly short quiz to see if you did the reading or if you paid attention to the previous week's presentation.
- Attendance is required. You can miss one class without penalty. The 2nd absence is 5% off your final grade, and each absence after that is 10% off your final grade. Excused absences

may be possible with advance notice, but there may be some extra reading or report (wiki entry etc.) required.

- In addition to attendance, if you neglect other participation issues (e.g. surveys, on-line discussions or quizzes, etc.), a penalty of up to 5% on your final grade may be assessed.

**Assignments and Grade Components:** Final grades will be based on the traditional 10-point scale.

- Attendance: 45% (See penalties described above. Six absences and you fail the course!)
- Research Write-up: 15%
- Ethics Assignment(s): 20%
- Self-Learning Activity: 20%

**Final Exam period:** There will not be any exams. However, we may make use of part of the final exam period for a class activity. This would be Thursday, May 6, 10-noon. Plan on this!

**Research Write-Up:** Details will be forthcoming on this, but 2<sup>nd</sup> years will be expected to write something up related to their understanding and interest in several of the research topics presented in the course. The goal will be to show that you understand a wide-range of topics that form the field of computer science. Those who will soon take STS4010 (e.g. third-years) will be expected to explore and write-up at least two possible ideas of their senior thesis. Those who have already started STS4010 (e.g. 4<sup>th</sup> years) will be expected to write a longer, more focused paper on research in an area of computer science (other than their senior thesis area).

**Ethics Assignments:** There will be at least one and probably two homework assignments (maybe more) related to problems in the area of ethics, computing professionalism, or computing in a broader context. All students will do these assignments in the same way.

**Self-Learning Activity:** We will require each student to choose some skill or technology that they don't know and then work on their own to gain or improve his or her knowledge and ability to apply this skill or technology. We will present a set of possible topics (and you may suggest others). For example, this may include new languages (Perl, PHP, Python, etc.), web technologies, Unix shell scripting, some powerful tool or environment (Matlab, Photoshop). You will define and document a set of learning goals for your choice. Once these are approved, over the semester you will explore and learn this technology (on your own, through books, the web, etc.). Two weeks before the end of the term, you will submit a write-up analyzing how much you learned, along with a set of deliverables (programs, perhaps a demo) showing what you've learned. More details will follow. We want you to pick something you're interested in and will enjoy. There will be interim milestones where you're required to submit something (e.g. your topic, a progress report, etc.).

**Honor Policy:** The University of Virginia Honor Policy is in effect in this class. Rules for collaboration will be discussed for each assignment. If in doubt, ask. If you're not sure, assume the assignment is an individual assignment.