CS697

Computer Science Graduate Initiation

Spring 2010

Professor John Byers	Professor Rich West
byers@cs.bu.edu	richwest@cs.bu.edu
MCS 270, 617-353-8925	MCS 289, 617-353-2065
Mon 9:30-11:00am	Wed 5:00-6:30pm
Thu 2:30-4:00pm	Thu 3:30-5:00pm

Overview of the Course

This required two-credit course is designed to help guide entering Ph.D. students through the challenging transition into the graduate program in Computer Science. Topics range broadly across issues of research and scholarship. We will attempt to cover as many of these as possible:

- balancing competing demands of coursework, research, and teaching
- how to go about identifying and working with a dissertation advisor
- working within a research group
- becoming a proficient reader, writer, and reviewer of technical papers
- making use of online and library research resources
- becoming proficient with technical tools of the trade for writing and performing research
- presenting good talks
- becoming visible in the research community
- understanding and applying scientific ethics
- applying for fellowships and internships
- writing a thesis proposal and a dissertation
- finding a job after graduate school

The course will not cover details of program requirements and milestones, nor will the class provide academic advice specific to individual students in the class. For these please consult the Graduate Student Handbook and

your academic advisor, respectively.

Course Format

Weekly meetings will be led by the instructors, frequently accompanied by other faculty members and senior (or former) Ph.D. students, who will discuss their experiences. Although most weeks will consist of a lecture portion, especially on the more technical topics, there will be ample time for discussion during each class. We will meet once a week for no more than 50 minutes. We will often expect you to have read something in advance to prepare for class discussion. We will assign the readings as needed.

Grading and Assignments

Letter grades will be assigned. Grades will be based on completion of written assignments and reading assignments for the class, active participation in class, and attendance. The three main assignments in the class will help the student build a foundation in a research area of their choice, and are to be conducted together with, and assessed by, a faculty advisor in a research area that they are interested in pursuing.

1. Written Review (due March 5). In this assignment you will read a paper chosen in concert with the advising faculty member, and generate a conference-style review. Using a review form from a top conference, the review will assess the paper's suitability for publication and offer constructive feedback intended to help the authors improve the paper. A post mortem discussion of the reviews will be conducted in class.

2. Short Talk (due April 9). In this assignment you will present a 20-30 minute talk at a group meeting outside of class. Talks will be previewed and critiqued by an advising faculty member. Appropriate venues include established research group meetings or the graduate student lunch talk series. For this talk you must prepare your own slides -- you may not use any slides prepared by others. Presentations will be graded on the ability of the student to incorporate effective presentation techniques discussed in the seminar, and to communicate the main ideas and contributions of the paper effectively and clearly. You may choose to present the paper that you reviewed for the first assignment. By the deadline, you should submit a copy of your slides with evidence from an instructor, advisor or reading group that you have presented the work.

3. Technical Paper (due April 23). In this assignment you will write a technical report on a topic that either (a) you are currently pursuing with your advisor, (b) is relevant to your already chosen research area (if you have one), or (c) represents an overview of the current state of the art for a specific area. You should write your paper in a style similar to that in peer-reviewed conferences and journals (limited to 8 pages, 10-point font, double column, single-line spaced, according to IEEE/ACM standard formatting rules). The first page of your paper should include a carefully chosen title, followed by your name and contact information, and then an abstract that captures the salient points of the paper. In the remaining space on the first page, you should start with an "Introduction" section, that motivates your research topic and describes the significant contributions of

the paper. Ensuing sections should be chosen as necessary, to describe the details of the research topic, key observations and results, related work, and conclusions and future work. You are also required to include a list of references to related work at the end of your paper.

The course has a web site where assigned and recommended readings will appear:

http://www.cs.bu.edu/fac/richwest/cs697_spring_2010/