EE 360 – Multiuser Wireless Systems and Networks - Winter14

Course Information

Instructor: Professor Andrea Goldsmith, 371 Packard, 725-6932, email: andrea@ee.stanford OHs: MW after class and by appointment.

Class Time and Location: MW, 9:30-10:45 a.m., Y2E2 101.

Class Homepage: http://www.stanford.edu/class/ee360. The homepage has course information, required reading for each lecture, handouts, homework assignments, and any important announcements.

Class TA: Mainak Chowdhury, email: mainakch@stanford.edu

Class Administrator: Pat Oshiro, email: poshiro@stanford, 365 Packard, 723-2681.

Required Text: The required text is Wireless Communications by Andrea Goldsmith (Cambridge University press, 2005). It is available at the Stanford bookstore and Amazon.com.

Prerequisites: EE 359. This class may not be taken without this prerequisite unless approved by the instructor.

Approximate Grading Policy:
Class Participation - 10%, Class Presentation - 10%, Homeworks - 15%, Paper Summaries - 15%,
Final Project - 50% (proposal 10%, progress report 15%, final report and poster 25%).

General Information:

- This course is for advanced graduate students. Students without the prerequisite cannot take the course without explicit consent of the instructor.

- Each lecture will focus on some required reading that will be assigned in advance (see class web page for reading assignments). You are expected to do the required reading before class so that you can participate in class discussions.

- You will be required to present a paper related to one of the course topics to the class. You will choose 3 papers for possible class presentation the first week of classes. The course syllabus and schedule for student presentations will be determined shortly thereafter.

- There will be several homework assignments. Up to three people can turn in one HW assignment, except for HW0, which is a list of three potential papers each student could present to the class.

- Two paper surveys will be required. These paper surveys will be a 2-3 page summary of several articles related to a topic covered in the course. The paper summaries will be posted on the class website. Up to three people can turn in a paper survey. More details on the paper surveys and deadlines is in the Paper Summaries handout.

- The research project is a large component of the course and is intended to provide more in-depth coverage of one of the topics that we cover. The topic of the research project is up to you. Up to two people can collaborate on a project if the scope is sufficiently large, however the project must be delineated so that each person makes an individual contribution, and approval for a joint project is required before the project proposal deadline. You will also be required to set up a web page for your project at the time that the project proposal is due. The class website will have links to all projects. More details on the project and suggested subjects are in the Project handout.

Rough Syllabus:

Dates	Topic	Reading
Jan. 6-15	Multiuser systems	Chapters 13.4 and 14, additional papers
Jan 22-Feb 3	Cellular systems	Chapter 15, additional papers
Feb 5-Feb 19	Ad hoc wireless networks	Chapter 16, additional papers
Feb 24-Mar 3	Cognitive radio networks	Papers
Mar 5-Mar 10	Sensor networks	Papers
Mar 12	Additional Topics, Summary	Papers

Tentative Deadlines for Project, Paper Summaries, and HWs:

Mon	Tue	Wed	Thur	Fri
Jan 6	Jan 7	Jan 8	Jan 9	Jan 10
Jan 13 **HW0 due**	Jan 14	Jan 15	Jan 16	Jan 17 **Paper presentation schedule announced**
Jan 20 – **MLK holiday**	Jan 21	Jan 22	Jan 23	Jan 24
Jan 27 **Proposal due**	Jan 28	Jan 29	Jan 30	Jan 31
Feb 3 **Proposal FB** **Summary 1 due**	Feb 4	Feb 5	Feb 6	Feb 7
Feb 10 **Revised Proposal due**	Feb 11	Feb 12	Feb 13	Feb 14
Feb 17 – **President's day**	Feb 18	Feb 19 **HW 1 due**	Feb 20	Feb 21
Feb 24 **Progress report due**	Feb 25	Feb 26	Feb 27	Feb 28
Mar 3 **Summary 2 due**	Mar 4	Mar 5	Mar 6	Mar 7
Mar 10 **HW 2 due**	Mar 11	Mar 12	Mar 13 **Poster Session?**	Mar 14 **Poster Session?**
March 17 – Finals week **Final report due**			**March 20** *Scheduled final exam 8:30am*	