EE 359 - Wireless Communications - Autumn 2017

Course Information

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

**Class Time and Location:** Tue, Thur 10:30 AM - 11:50 AM, Location: Thornton 102.

**Discussion Section:** Wednesday 4-5pm (tentative). Room TBA.

**Class Homepage:** [http://www.stanford.edu/class/ee359](http://www.stanford.edu/class/ee359). The homepage has all class policies, handouts, homework assignments, required and recommended reading, corrections to handouts and homeworks, and any important announcements, including calendar changes (recommended that you check this often or add to your personal calendar). A tentative Syllabus is also posted.

**Class Mailing List:** Registered students are automatically subscribed to the class mailing list ee359-aut1617-students. You cannot join this mailing list unless you are a registered student. Auditors can join the guest mailing list ee359-aut1617-guests by emailing the TAs. Announcements will be sent to both mailing lists. Sending mail to mailto:ee359-aut1617-staff@lists.stanford.edu will reach the instructor and TAs.

**Class TAs:** Primary TA: Tom Dean, email: trdean@stanford.edu, Secondary TA: Milind Rao, email: milind@stanford.edu, OHs: Wed 5-6pm, Fri 10-11am (Tom), Thu 4-5pm (Milind). Email OHs: Thu 5-6pm (Milind), Fri 11am-12pm (Tom). Email OHs are ideally via Piazza.

**Class Administrator:** Julia Gillespie, email: jvgill@stanford.edu, 365 Packard, 723-2681.

**Piazza:** A Piazza website has been created for the class ([https://piazza.com/stanford/fall2017/ee359/home](https://piazza.com/stanford/fall2017/ee359/home)). We strongly encourage questions discussions related to class material take place on Piazza. You can set your desired post visibility, and TAs will respond to Piazza before responding to questions sent via email. All students have been enrolled in the site – you will receive an email from Piazza on how to complete your registration. We will use a Piazza poll to determine conflicts with the proposed OH/discussion times.

**Homework pickup and dropoff:** Fridays by 4pm.

**Required and Recommended Texts:** The required text is Wireless Communications by Andrea Goldsmith (Cambridge University press, 2005). It is available at the Stanford bookstore and Amazon.com. A hardcopy of the book is needed for exams and we only have a very limited number of spares, so plan accordingly (i.e. for exams get one from the library or a friend if you don't plan to purchase one).

**Prerequisites:** EE 279 or equivalent (i.e. an undergraduate course covering digital communications). This class may not be taken without this prerequisite. If you are not sure if classes from other universities satisfy the prerequisites, speak with the professor.

**Grading Policy – Two Options:** The course grade is based on HWs, exams and the optional project:

**Project Option (4 units):** Problem Sets - 20%, Midterm - 25%, Final - 30%, Project – 25%
**Non-project Option (3 units):** Problem Sets - 25%, Midterm - 35%, Final - 40%
Students who can only take the class for 3 units due to a restriction on the number of units they can enroll for, and are interested in doing a project, can do so with prior approval from the instructor. Details on the project can be found in the **Project Handout** on the class website. Project proposals are due at midnight 10/27 (posted to a created website) and projects are due at midnight 12/9 (posted to website). These are hard deadlines with extensions only granted for documented medical or other emergencies.

**Homeworks:** Homeworks are posted to the class website on Thursday, and are due the following Friday at 4pm. Homeworks turned in after the Friday deadline receive 2/3 credit if turned in by 8am Monday, and 1/3 credit if turned in by 4pm Monday. Your lowest homework grade will be dropped. Up to three students can collaborate on each homework and turn in one write-up. Collaboration requires all collaborators to work out each and every problem. This can be done by working out the problems together, or each student can work out the problems individually and then discuss their work to arrive at a final solution. **It is not permitted on any homework** for collaborators to divide up the problems, or for one person to work out a problem or problems and the others “check the work”, or to use homework solutions from previous years or found online. Such unpermitted aid is an **honor code violation** and will be dealt with according to Stanford’s policy on honor code violations.

**Extra Credit:** Up to 2 total ”design your own” HW questions can be created and solved for extra credit, 1 on material before the MT (turned in before the MT) and 1 on material after the MT (turned in before the final). Each ”design your own” HW question is worth up to 25 extra credit points. Points will be awarded based on creativity, clarity, level of difficulty, and correctness of the solution. In addition, 20 extra credit points are awarded for filling out the class evaluations before the end of the quarter. Extra credit points are not used in computing the class grading curve; once the curve is computed, weighted extra credit points are added to a student’s total points.

**Exams:** The exams must be taken at their scheduled times. The midterm will take place the week of **11/6.** It will be scheduled outside class time since the duration is 2 hours. The actual date and time will be decided at least several weeks in advance. The Final is scheduled for **12/13** from 12:15-3:15pm (pizza afterwards). Exceptions to taking the exams at their schedule times for anything other than a documented medical or family emergency will be very rare. Any conflicts with the exam dates must be brought to the attention of the instructor as soon as they arise. In particular, you should not take this class if you know you have an exam conflict, unless you make arrangements with the professor at the beginning of the quarter.

**Required and Supplemental Reading:** Required reading from the course textbook and any supplemental reading is in the class syllabus. For each lecture, supplemental reading from the recommended/reserve textbooks, journal papers, and/or magazine articles will also be posted to the class website. The following reference texts are available at the Engineering library: