

## **ENGR 0020: Probability and Statistics for Engineers I (Spring 2011)**

- LECTURE:** Monday and Wednesday; 4:00 PM - 5:15 PM, G29 BEH
- RECITATION:** Section 1: Friday; 9:00 PM - 10:50 AM G24 BEH  
Section 2: Friday; 1:00 PM - 02:50 PM G24 BEH
- INSTRUCTOR:** Dr. Jayant Rajgopal (1039 BEH; 624-9840; [rajgopal@pitt.edu](mailto:rajgopal@pitt.edu))
- OFFICE HOURS:** 3:00 P.M. - 4:30 P.M., Tue.; 11A.M. - Noon, Fri.; walk-in's at other times are always welcome!
- RECITATION TA:** Erica Grasinger ([eng10@pitt.edu](mailto:eng10@pitt.edu)).
- HOME PAGE URL:** <http://www.pitt.edu/~jrclass/e20/>
- TEXTBOOK:** *Probability and Statistics for Engineering and the Sciences*, by Jay L. Devore, Duxbury Press, (7th Edition), 2007.

### **COURSE OUTLINE:**

This is an introductory course in probability & statistics that is designed for engineering students. Topics to be covered will include data analysis, random variables, discrete and continuous probability distributions, estimation, hypothesis testing, correlation, linear regression, and statistical process control. Some topics might be deleted and others added depending on time constraints. Please refer to the topical outline on the web page for more details.

### **COURSE OBJECTIVES:**

1. To acquaint students with the fundamental concepts of probability and statistics.
2. To develop an understanding of the role of statistics in engineering.
3. To provide an understanding of the processes by which real-life statistical problems are analyzed.
4. To familiarize students with computer-based statistical analysis through a suitable software package.

### **APPLICABLE ABET OUTCOMES:**

- (a) An ability to apply knowledge of mathematics, science and engineering
- (b) An ability to design and conduct experiments, as well as to analyze and interpret data
- (c) An ability to identify, formulate and solve engineering problems
- (d) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

**HOMEWORK:** Homework will be assigned each week and you will typically have one week to complete each assignment. While you are permitted to work and study together in a cooperative fashion, all work that is handed in must represent the student's own efforts and must be individually written up – *if you work with a friend please do NOT hand in two identical assignments*. Late assignments will NOT be accepted.

**QUIZZES:** Quizzes will be given regularly during recitation. Missed quizzes CANNOT be made up and will result in a score of zero.

**EXAMS:** Three exams are scheduled for this course. If you cannot take an exam when it is scheduled, please contact the instructor at the earliest opportunity. Exams may be rescheduled only for an earlier time than the scheduled one, and that too, only under extenuating circumstances.

**GRADING:** Final grades will be based upon three examinations (75%), quizzes (10%) and homework assignments (15%).

**POLICIES:** My course policies & expectations are very straightforward:

1. Come prepared for each lecture by reading the appropriate material **BEFORE** class. Go to the web site for the course to print out copies of the appropriate overheads and **bring these to class**. The schedule on the course web site lists the sequence of topics to be covered, so you always know what to expect.
2. Plan to attend all lectures & recitations and **participate** in class; in my experience, these factors are directly correlated with your final grade. If you're on the borderline between two grades they will definitely play a role in my decision on your final course grade.
3. All exams and quizzes must be taken at scheduled times and all assignments are due at the beginning of class on the due date. Exceptions will not be made except under highly unusual circumstances - please do not put me or the T.A. in an embarrassing spot by asking for routine extensions.
4. I expect professional classroom behavior and complete academic honesty. Cheating, plagiarism or academic dishonesty in any form will not be tolerated and will – at the very least - result in a grade of **F** for the course; there will be no exceptions to this policy. If you run into problems – academic or personal – please talk to me **as soon as you can**. Small problems can grow into big ones if you don't address them early, and I am always prepared to help you!
5. If you have a disability that requires special accommodation, please contact the instructor as well as Disability Resources and Services, 216 William Pitt Union, (412) 648-7890, at the beginning of the term. DRS will evaluate your disability and determine reasonable accommodations. A comprehensive description of the services of that office can be obtained at <http://www.drs.pitt.edu>.