Course Information

1 Who's Who in ENM 503 . . .

Instructor: Santosh S. Venkatesh
Contact: 362 Moore (GRW), (215) 898-9493, venkatesh@ee.upenn.edu
Office Hours: After class Mondays and Wednesdays, Tuesdays: 4:00 pm to 5:00 pm

TA: Yang Zhang
Contact: yangzh@seas.upenn.edu
Office Hours: Tuesdays: 5:00 pm – 6:00 pm, Moore 076

Staff: Drucilla Spanner
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2 . . . and What's What in ENM 503

This course is intended as a first course in probability. The target audience is graduate students with an engineering or natural science background who haven't had a course in probability earlier or whose last course in probability is enshrined in the dim past necessitating a refresher. Topics covered are drawn from: combinatorial probabilities; discrete and continuous probability spaces; conditional probability; independence; arithmetic random variables, probability distributions, binomial, Poisson, and waiting time distributions; continuous random variables, densities, distribution functions, uniform, exponential, normal, and related densities; expectation, moments; conditional expectation, densities; generating functions; characteristic functions; tail bounds and limit laws; Markov chains.

3 Lectures

Lectures will be held in Room B13, Chemistry Building, Mondays and Wednesdays, 3 pm to 4:30 pm.

4 Prerequisites

A solid foundation in undergraduate calculus as covered in two semesters of typical engineering curricula.

5 Textbook

S. Ross, *A First Course in Probability*, Seventh Edition. Upper Saddle River, NJ: Prentice Hall, 2006.

6 Homework Assignments

Problem sets will be assigned at the conclusion of Wednesday's lecture each week and will be posted on the course Blackboard site with the date of assignment as the subject heading. Each assigned problem set will be *due in class at 3 pm one week from assignment*. *Late submissions will not be accepted*. See more on the late policy below.

Graded problems sets can be picked up on Mondays from Ms. Spanner's office in the anteroom to Moore 368. Please take only your own problem set.

6.1 Late Policy

Late submissions of assignments will not be accepted. If you are going to miss class please make arrangements with the TAs well in advance to drop off your assignment *before* class. Electronic submissions are acceptable if you are going to miss class but will have to be cleared first with the TA and myself and sent in on time.

6.2 Collaboration and Reference Policy

Collaboration on the regular homework problems in study groups is encouraged. While such collaboration in the sense of discussions is allowed, *students must write up the final solutions of the homework problems alone and not simply copy the material from another source.*. All collaborators *must* be clearly and explicitly acknowledged in the first page of the submitted homework. Acknowledged collaboration will have no effect on the received grade but is demanded by intellectual probity. Unacknowledged collaboration is theft and will be dealt with accordingly.

You may use references other than your text with the provision that *solution manuals or solutions from any other sources (including, but not limited to, worked out solutions from fellow students, past solution sets, and solutions obtained over the internet) are expressly prohibited*.

7 Examinations

There will be two examinations.

The *midterm exam* will be held in class on Wednesday, October 31. The exam will be closed book.

The date and time of the *final exam* will be announced by the registrar's office. It will be closed book.

8 Grading

Homework carries 30% of the grade; the midterm exam carries 30%; the final exam carries the remaining 40%. Grading is on a curve with the class mean approximating to a grade of B. Cut offs for grades of A and C will be at approximately one standard deviation above and below the mean, respectively.