MATH 302–Introduction to Probability

MWF 11–12 in Chemistry room D200.

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Office Hours: Monday 3-4, Friday 4-5 and by appointment.

Text: A First Course in Probability, 8th Edition, by Sheldon Ross. Pearson, 2010. **NOTE:** the 7th edition would do fine. I will not assign exercises directly from the text on the homeworks but may suggest you look at particular exercises for practice.

Course Outline

The course will be based on topics from the first 8 chapters of Ross's text.
1. Some elementary combinatorics. Combinations and permutations (Ch. 1)
2. Sample spaces, events, axioms of probability (Ch. 2)
3. Conditional probabilities, independence and Bayes Formula (Ch. 3)
4. Discrete random variables (Ch. 4) and Continuous random variables (Ch. 5)
5. Joint distributions, marginal distributions and conditional distributions (Ch. 6)
6. Expectation: sums, covariance, moment generating functions (Ch. 7)
7. Limit Theorems: weak law of large numbers, central limit theorem (Ch. 8)

Grading Scheme

%15 Weekly homework
%50 Final exam
%35 Maximum grade between final exam and midterm exam.

Homework

Weekly homeworks will be assigned and collected on Wednesday. Homeworks handed in on the following Fri. will be given a *. Each student has two free *'s. After that, the grade will be divided by 2. No assignments will be accepted after Fri.

Students who are unable to hand in a homework due to a medical or equivalent excuse will have that homework not count towards their final grade.