- **Instructor** Vladimir Pozdnyakov
  Email `vladimir.pozdnyakov@uconn.edu`
  Office Hours Tu/Th, 11AM-Noon, AUST 324
- **Lectures** Tu/Th 9:30AM-10:45AM, BCH 443
- **Discussion Section** Mon 3:35PM-4:25PM, AUST 445
- **Text** Mathematical Statistics with Applications, 7th edition *by Wackerly, Mendenhall and Scheaffer*
- **Course Goal**

  Upon completion of this course, students are expected to understand and apply basic concepts in mathematical statistics. In particular, students will study concepts of probability theory, discrete and continuous random variables and their probability distributions, expected value, multivariate probability distributions and functions of random variables.
- **Grades**

  Your course grade will be determined as follows:

  Quizzes – 30%
  Midterm exam – 30%
  Final exam – 40%

  Your total weighted score will be rounded to the nearest integer and grades will be assigned according to the following scale:
  A = 93-100, A- = 90-92, B+ = 87-89, B = 83-86, B- = 80-82, C+ = 77-79, C = 73-76, C- = 70-72, D+ = 67-69, D = 63-66, D- = 60-62, F = 0-59

  A grade of I will only be given to a student who is passing the course and cannot complete the course due to illness or other well-documented circumstances beyond his/her control.
- **Homework**

  Homework assignments will play a very important role in this course. Homework assignments will encompass book problems of chapters 1-6. There will be recommended homework assignments every week, which will NOT be collected or graded. Many problems and questions on the quizzes and exams will be based on the homework problems and examples discussed in the class. Recommended homework assignments will be discussed in the discussion session by your TA. The solution of some challenging problems will be posted on HuskyCT.
- **Quizzes**

  There will be six 30-minute quizzes that will be administered via HuskyCT. They will be posted during weeks 3, 5, 6, 9, 11 and 14. You can start a posted quiz at any time during the corresponding week. Once it is started you will have 30 minutes to complete it. For each quiz you will have two attempts. Only the best five quizzes count toward your grade.
- **Exams**

  The two exams will feature questions covering mathematical details, conceptual understanding, and application of the procedures and techniques learned. Missed exams cannot be made

up unless with documentation of reasons required by University policy. The final exam is scheduled in the final examination week (see university schedule). Both exams will be online exams administered via HuskyCT, but you will be taking them in the room. More detailed info will be provided before each exam.

Students are required to be available for their exam during the stated time. If you have a conflict with this time you must visit the Dean of Students Office to discuss the possibility of rescheduling this exam. Please note that vacations, previously purchased tickets or reservations, graduations, social events, misreading the exam schedule and over-sleeping are not viable excuses for missing a final exam. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office with any questions.

- **Syllabus**

Week	Topics	Book Chapters
1	Probability, Random experiment Set theory, Probabilistic model	2.1-2.4
2	Counting rules Conditional probability, Independence Probability Laws, Probability tree	2.5-2.9
3	Bayes' rule Discrete random variables, Probability distribution Expected value Expected value of a function of a random variable Quiz 1	2.10-3.3
4	Special discrete distributions Binomial, Negative Binomial distributions	3.4-3.6
5	Hypergeometric, Poisson distributions Quiz 2	3.7-3.8
6	Continuous random variables, CDF and PDF Expected value Quiz 3	4.1-4.3
7	Special continuous distributions Uniform, Normal distributions Midterm Exam (Tuesday, Oct 11)	4.4-4.5
8	Gamma, Beta distributions Other expected values	4.6-4.9
9	Multivariate probability distributions Quiz 4	5.1-5.2
10	Marginal and conditional probability distributions Independent random variables	5.3-5.4
11	Expectation of function of random variables Covariance, Multinomial distribution Quiz 5	5.5-5.9
12	Distribution of a function of random variables The method of distribution function	6.1-6.3
13	Thanksgiving Recess	
14	Distribution of a function of random variables The method of transformation, Order statistics Quiz 6	6.4, 6.7
15	Review problems for final exam	

- **The syllabus is subject to change.**