Course Goals: This course will provide the student with an orderly development of the fundamental principles of probability as well as an introduction to some of its applications. We will cover the axioms of probability, counting formulas, independence and conditional probability, discrete and continuous random variables, jointly distributed random variables, expectations, laws of large numbers, the central limit theorem, moment generating functions and the multivariate Gaussian distribution. (Prerequisite: Calculus III)


Grade Determination: There are a total of 400 points for this course. The points are distributed over three exams (100 points each) and homework (100 points total). Please note that there will be no make-up exams. If you are sick for an exam, you must bring a note from your doctor verifying your illness. Your course grade will then be determined from your remaining course work. Approximate grade lines will be

\[
\text{A-} \geq 90\% \quad \text{B-} \geq 80\% \quad \text{C-} \geq 70\% \quad \text{D} \geq 60\%
\]

You must earn an average of 55% or better on your exams (midterms and final) in order to earn a D or better grade in the course. After the final exam, if your exam scores average to less than 55%, it is not possible to earn a D or better in the class. After the final exam, if your exam scores average to 55% or better, then your homework points will be factored in to determine your course grade. (Note: It is possible to have a 55% average on the exams and still earn a D or F in the course if your homework scores are low.)

Exams: There will be two take-home midterm exams.

Final: The final exam will be: Monday, December 14th, 4:30–7pm.

Homework: Homework will be due on an approximately weekly basis. You must show all work, correct solutions without adequate justification will receive no credit. Late homework will not be accepted.

Special Accommodations: Any student eligible for and needing academic adjustments or accommodations because of a disability, religious beliefs, or athletic conflict should speak with me by September 1st.

Academic Honesty: Students are encouraged to work in groups and discuss problems with each other. However, all work turned in must be your own. Violation of the CU Honor Code will result in a course grade of F (see [http://www.colorado.edu/academics/honorcode/](http://www.colorado.edu/academics/honorcode/)).

Dropping the course: Advice from your department advisor is recommended before dropping any course. After October 30th, dropping the course is possible only with a petition approved by the Dean’s office.