

Math 351: Probability

Spring 2025: MW 5:55pm – 7:10pm, Planetary Hall, Room 224

Instructor: Dr. Daniel Anderson

(Room: 4411 Exploratory Hall, Tel: (703) 993-1482, Email: danders1@gmu.edu)

Office Hours: M 4:00PM–5:00PM, W 4:00PM–5:00PM, and by appointment.

Text: *A First Course in Probability*, Ninth Edition, by Sheldon Ross

Prerequisites: A grade of C or better Math 213 (Calculus III) or equivalent.

Course Goals: To understand and be able to make use of the concepts of random variables, probability functions, special distributions, and limit theorems.

Exams: There will be two midterm exams. Midterm exam dates and topics listed below are tentative and will be confirmed in class. You are responsible for being aware of any such changes announced in class. *Makeup exams will not be given.* In the event that one exam is missed and (1) a valid, documented excuse is given in writing to the instructor at the time of the absence and (2) the student provides sufficient evidence to the instructor that he/she is keeping up with the topics in the course, the final exam score will count in place of the missed exam. The instructor will determine whether an excuse is valid. Without a valid documented excuse given at the time of the exam, a missed exam will count as a zero. If more than one midterm exam is missed, that situation will be dealt with on an individual basis.

Homework: There will be regularly assigned homework problems.

Grading Policy: Homework = 25%

Midterm Exams = 25% each

Final Exam = 25%

In general, 90%–100% = A, 80%–89% = B, 70%–79% = C, 60%–69% = D, below 60% = F. Plus and minus grades will be approximately 2 or 3 percentage points above or below these boundaries (e.g. 88% would correspond to a B+). I reserve the right to lower the curve, but will not raise the curve.

Important Dates (unofficial - please confirm dates at registrar.gmu.edu):

Tuesday, February 4, drop deadline without tuition penalty

Tuesday, February 11, drop deadline with 50% tuition refund

February 12 – 25, unrestricted withdrawal period

February 16 – March 31, selective withdrawal period

Spring Break, March 10–16

Monday, May 5 (our last day of classes)

Monday, May 12, Final Exam: 4:30–7:10pm

Final Exam: The final exam will be an in-class cumulative exam and must be taken at the scheduled time. Exceptions are allowed only with a Dean's permission, by University rules.

Calculators/Phones/Etc.: Calculators, smartphones, ipads, laptops, etc. will not be allowed for use during exams. Plan to turn off and put away all mobile electronic devices during exams – accessing these devices between the time you receive your exam and the time you turn in your exam constitutes an honor code violation.

Honor Code: It is expected that each student in this class will conduct himself or herself within the guidelines of the Honor Code. All academic work should be done with the level of honesty and integrity that this University demands. Anyone caught cheating during a quiz, exam or on any other material submitted for grade will be sent to the University Honor Committee for formal resolution to the situation. The use of cell phones and other electronic communication devices for any purpose during an exam will be considered an honor code violation. The most likely recommendation given by the professor to the Honor Committee is failure of the class (not just the specific exam, etc.) if the student is found guilty of violating the Honor Code.

Course Outline (Tentative):

Sections	Topics
Chapter 1	Combinatorial Analysis
Chapter 2	Axioms of Probability
Chapter 3	Conditional Probability and Independence
EXAM 1	(Wednesday, February 12, 2025)
Chapter 4	Random Variables
Chapter 5	Continuous Random Variables
Chapter 6	Jointly Distributed Random Variables
EXAM 2	(Wednesday, March 26, 2025)
Chapter 7	Properties of Expectation
Chapter 8	Limit Theorems
FINAL EXAM	<i>Chapters 1–8</i> (Monday, May 12, 4:30–7:10pm)