

STA 4442/5440: Introduction To Probability
Section 11252/11253
Tu/Th 2:00 – 3:15 PM, Room: OSB 108

Instructor: Dr. Antonio Linero, OSB 201E.

Office Hours: 12:30pm – 1:45pm Tu/Th, or by appointment.

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Teaching Assistant: Xiaoyang Guo, Biology Unit 1, 308

Office Hours: 1:00pm – 2:00pm Mo/We and 3:00pm – 4:00pm Fr.

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Prerequisites: MAC 2312 (Calculus with Analytic Geometry II) or equivalent.

Course Website: Course website is available through Blackboard: campus.fsu.edu.

Textbook: *A First Course in Probability*, ninth edition, by Sheldon Ross (Publisher: Prentice Hall). This text will be used to supplement the lectures and provide practice problems. I will try to post my lecture notes online for your reference as well.

Additionally, I will assign problems out of the (free, online) text *Introduction to Probability, Statistics and Random Processes*, available at www.probabilitycourse.com.

Course Objectives: The course introduces probability to students who have passed 2 semester of undergraduate level calculus. At the end of the course, students should be able to apply the basic principles and tools of probability to solve practical problems.

Topics Covered: Axiomatic probability theory. Calculating probabilities by counting. Independence of events. Bayes theorem and the law of total probability. Discrete and continuous random variables. Common types of discrete and continuous distributions. Expected value and variance of random variables. Moment generating functions. Transformations of random variables. Joint, conditional, and marginal distributions of random vectors. The law of large numbers and the central limit theorem.

Homework: Homework will be posted on the Blackboard website in the Course Library, along with the readings of the textbook needed to do the homework. Strictly speaking, the homework is optional; however, the weekly quizzes will be heavily based on assigned problems. As a result, the best way route to success in the course will be to do the homework.

Quizzes: Weekly quizzes will be administered each Thursday unless otherwise noted, and will cover material similar to the homework assigned each week. Quiz scores will account for 30% of the course grade. At the end of the semester, the lowest quiz grade will be dropped.

Exams: There will be three exams accounting for 70% of the course grade, which will take place

during the lecture hour. You will be permitted to bring a single page formula sheet. The formula sheet **must be handwritten and easily readable to the naked eye**, and may contain formulae, facts, definitions, and theorems, **but may not include any worked examples**. The material covered and general exam policies will be discussed in class. The **tentative** dates are

- Exam 1** Thursday, October 1st
- Exam 2** Thursday, November 5th
- Exam 3** Friday, December 11th

Grading: Quizzes will account for 30% of the grade and exams will account for 70% of the grade. Each student's lowest quiz grade will be dropped. Grade cutoffs will be established at the end of the course, but will not be stricter than the following cutoffs. $\geq 90\%$: A; $\geq 87\%$: B+; $\geq 80\%$: B; $\geq 77\%$: C+; $\geq 70\%$: C; $\geq 67\%$: D+; $\geq 60\%$: D; $< 60\%$: F.

How To Do Well in the Course: The best way to learn this material is to do the homework, focusing primarily on the things you find challenging. Being actively challenged is where learning occurs and is a good thing. If you are struggling, do not hesitate to visit me or my TA during office hours. If you are unable to attend office hours, we can schedule an appointment.

Attendance Policy: Attendance is recommended but not strictly required, with the exception of days on which there is a quiz. I do not anticipate covering any material which is not covered by the textbook so (in principle) reading the textbook should be sufficient to learn the material.

Missing Quizzes or Exams: One quiz will be dropped at the end of the semester; the first missed quiz will count as a dropped quiz. Other quizzes or exams that are missed must either be OK'd by the instructor in advance or be the result of unforeseeable circumstances, accompanied by proof or otherwise certified as acceptable cause for absence by the university. If no suitable reason for missing an exam or quiz is given, the student will receive no credit for the missed assignment.

Students with Disabilities: Students with disabilities needing academic accommodations should (1) register with and provide documentation to the Student Disability Resource Center (SDRC); and (2) bring a letter to the instructor from the SDRC indicating your need for academic accommodations. This should be done as promptly as possible.

For more information about services available to FSU students with disabilities, contact the Student Disability Resource Center.

Academic Honesty: Violation of the academic honor system of the Florida State University will not be tolerated in this class.

The Academic Honor System of Florida State University is based on the premise that each student has the responsibility

- 1. to uphold the highest standards of academic integrity in the student's own work;*
- 2. to refuse to tolerate violations of academic integrity in the University community;*
and
- 3. to foster a high sense of integrity and social responsibility on the part of the University community.*

Important Dates:

Last day of drop/add	August 27
Labor Day	September 7
Last day to drop course	October 9
Veteran's Day	November 11
Homecoming	November 13
Thanksgiving	November 25 – 29