

STA 4321
STA 5325

Introduction to Probability Fundamentals of Probability

Fall, 2024

Course Information

Time: Tue 8:30- 9:20 a.m.; Thu 8:30-10:25 a.m.

Location: LIT 0237

Instructor: Sohom Bhattacharya

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Office Hours: (might change occasionally) Tue 10-12

Teaching Assistant: Yaozhi Yang

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Objective

STA 4321/5325 provides a formal and systematic introduction to mathematical statistics for students who have passed three semesters of standard undergraduate level calculus. We will introduce the background in probability that is necessary to understand the classical statistical theory. Major topics include the basic formal elements of probability, discrete and continuous random variables, multivariate distributions, distributions of functions of random variables, and fundamental limit theorems.

Prerequisite

MAC 2313 (or equivalent third semester calculus course). A well prepared student should have taken an introductory statistics course, such as STA 2023 or STA 3032.

Text

- Richard L. Scheaffer & Linda J. Young, Introduction to Probability and Its Applications, 3rd Edition, Cengage.

Note that the exams will be based on material actually taught in lectures. The textbook is helpful and suggested additional exercises will be assigned from it, but is not strictly mandatory.

Course Website

Canvas course page. Please check the canvas site regularly. Most course documents and important information, including practice problems and solutions, and special announcements, will be posted in canvas.

Additional materials may be posted on Canvas and you will be notified of them using Canvas announcements. We will be using Canvas announcements as a primary mode of communication outside of lectures. Please make sure you get alerts on all Canvas announcements.

Course Structure

Homework:

Appropriate readings and exercises will be posted as the course progresses. You are not expected to submit your answers to the exercises, but you should solve or attempt to solve all of them to thoroughly learn the material and best prepare yourself for exams. Though you are allowed to work with other students to solve the suggested problems and to learn course material in general, please keep in mind that you will be assessed individually. We will post solutions to all the exercises. Naturally, you will learn best if you attempt to solve the exercises before consulting the solutions.

Quizzes:

There will be approximately 4 in-class quizzes, typically scheduled for Thursdays. Each will take place during the first 15 minutes of class time. All quizzes have equal weight for grading, but 1 of your quizzes will be dropped – whichever the rest gives you the highest final score in the course, as determined by the instructor. No make-up quizzes will be offered. You will be notified of an upcoming quiz at least one week in advance.

Exams:

Three within-term exams are tentatively scheduled:

Tuesday, Sep 24 – Exam 1

Tuesday, Oct 29 – Exam 2

Tuesday, Dec 3 – Exam 3

The highest of the first 2 within-term exams will be counted as double (for example if you get 44 out of 50 in one of them and 50 out of 50 in the other one, your score in the first two exams will be $(44 + 2 \times 50)$ out of 150, i.e., 96%).

Attendance:

Classroom lecture attendance and participation is fully expected. You are responsible for learning all material presented during lecture, and any topic covered in lecture is a potential exam topic (unless otherwise stated).

Grading:

Grading will be based on a composite score: 5% class participation + 30% quizzes + 40% from within-term exams 1–2 (double the highest score+the second highest) + 25% within-term exam 3. There may be opportunities for earning extra credits.

Final letter grades will be assigned on the University's grading scale that includes minus-grades (this may change depending on any changes in policies). Tentatively, we will follow the following percent to letter grading scale: A = 95–100 or above, A- = 90–94, B+ = 85–89, B = 80–84, B- = 75–79, C+ = 70–74, C = 60–69, C- = 50–59, and so on. The lower limits on this grading scale may be lowered. The calculation of your final composite score will be done outside of Canvas using the details provided above. Please note that the formula used by Canvas will not necessarily produce the final average according to the course grading scheme. You can familiarize yourself with the University's grading policy here: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Reasonable Accommodations

To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them documentation to submit to the instructor at the time of your request. A request must be made to the instructor at least one week in advance of the date for which the accommodation is requested. This course information and policies sheet can be made available in alternative formats to accommodate print-related disabilities. Contact the instructor for more information.

Academic Integrity

Please familiarize yourself with the Student Honor Code and Academic Honesty Guidelines outlined in your University of Florida Student Guide at <http://www.dso.ufl.edu/sccr/honorcode.php>.