

STA 4321/5323: Introduction to Mathematical Statistics

Course description: This course covers various topics including combinatorial analysis, random variables (discrete and continuous), probability distributions, independence, conditional probability, sums of random variables, generating functions, central limit theorem, the laws of large numbers, etc.

Prerequisite courses: MAC 2311, 2312, 2313. You need to be familiar with the theory and applications in Calculus I, II, III.

Lecture: 2:00 PM – 3:15 PM, Tuesday & Thursday, OSB 0110

Instructor: Chong Wu

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Office Hour: 3:15 PM -- 3:45 PM, Tuesday & Thursday, or by appointment

Teaching Assistant: Shaokang Ren

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Office: Love Building 430

TA Office Hour: 4:00–5:00 PM, Monday, or by appointment

Class Website: <https://fsu.instructure.com/>.

Textbook (required): *A First Course in Probability* (9th Edition), by Sheldon Ross, Pearson Education, 2014. Most of the homework problems will be from this book.

Textbook (optional): *Probability and Statistics with Applications: A Problem Solving Text*, by Leonard A. Asimow and Mark M. Maxwell, ACTEX Publications, 2010.

Homework: The homework assignments will be posted roughly biweekly. You are encouraged to discuss with each other, but should write down the answers independently.

Exams: There will be two midterm exams and a final exam. The midterms will be based on the all material covered by the time of the exams. The final exam will be cumulative. You will be permitted to bring a sheet of normal-sized notes to the exams. You may need a calculator for some problems. All midterms are held in the classroom where the course normally meets. Here is the tentative schedule for the exams.

- Midterm 1: 2:00 PM – 3:15 PM, Tuesday, Feb. 11
- Midterm 2: 2:00 PM – 3:15 PM, Tuesday, Mar. 24
- Final: 7:30 AM – 9:30 AM, Thursday, April. 30

Remark: There will be no makeup exams. If you must miss an exam, notify the instructor as early as possible.

In-class discussions: There will be in-class group discussions. The class will be divided into small groups. One or two problems will be given in class and each group should turn in their solution after a discussion (about 15 min). The in-class discussions may or may not be graded.

Final grade: It will be determined by a weighted average of the following items: (1) two midterms ($2 \times 17.5\%$), (2) final exam 35%, (3) homework (20%), and (4) in-class discussions (10%). Final grades may be adjusted. However, you are guaranteed the following:

- If your final score is 90–100, your letter grade will be at least A-;
- If your final score is 75–89, your letter grade will be at least B-;
- If your final score is 60–74, your letter grade will be at least C-;
- If your final score is 50–59, your letter grade will be at least D-;
- If your final score is below 50, your letter grade may be an F.

Course Policies

- **Classroom policies:** The classroom environment is an important factor for effective learning. In order to not distract other students' attention please follow these classroom policies. The first one of these is the university policy. Remember that no food or drinks are allowed in the classroom. Turn off all audible alarms (cell phones, pagers, calculators, watches etc.) Do not use cell phones in the class. Come to the class on time. Opening and closing the classroom door in the middle of a class cause distraction to the students and the teacher. Do not talk to other students without permission while the professor is teaching. More than one conversation creates noise and makes it difficult for the students to pay attention to the lecture.
- **Attendance:** You are required to attend all classes. The class activities will help you assimilate the lessons more easily, giving you an opportunity for active learning. Do not let this opportunity slip away. Any foreseen absence must be cleared with the instructor. If the absence is due to emergencies, it is the student's responsibility to notify the instructor at the earliest opportunity of the emergency.
- **Collecting returned homework/exam:** It is the student's responsibility to retrieve his or her homework/exam whenever they are returned and to check grades on the class website. If you notice any mistake in recording grades, please inform the instructor about it as soon as possible but no later than one week from grades being posted online.
- **Homework re-grade:** You have one week to request a re-grade of a homework from the date on which the graded homework is available to the students of the class. Submit a written request detailing the nature of the grading error to the instructor along with the relevant homework.
- **Contacting the instructor or TA outside the class:** You are strongly encouraged to come to the instructor or TA during their office hours. If your schedule conflicts with the office hours, you can make an appointment. You may ask the instructor or TA brief questions by e-mail, but you may be asked to come to office hours if the instructor or TA thinks that the questions are better answered in person. When you send e-mails, remember the following: always send e-mails from your FSU accounts. The e-mails from non-FSU

accounts may not reach me due to filters. Always write your full name at the end of each e-mail message you send.

- Academic honor policy: The Florida State University Academic Honor Policy outlines the University expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "... be honest and truthful and ... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy)
- Students with disabilities: Students with disabilities in need of academic accommodation should: 1. Register with and provide documentation to the Student Disability Resource Center; 2. Bring a letter to the instructor indicating the type of accommodation needed. This should be done during the first week of class. See <https://dos.fsu.edu/sdrc/> for more information.