

**STA 4442/5440: Introduction To Probability**  
**Section 11252/11253**  
**Tu/Th 12:30 – 1:45 PM, Room: OSB 108**

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**Instructor:** Dr. Antonio Linero, OSB 201E.

**Office Hours:** 11:00am – 12:00pm Tuesday and Thursday, or by appointment.

**Contact:** arlinero@stat.fsu.edu

**Teaching Assistant:** Kumaresh Dhara, OSB 201G.

**Office Hours:** 11:00am – 12:00pm Monday and 12:00pm – 1:00pm Wednesday.

**Contact:** k.dhara@stat.fsu.edu

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

**Course Website:** Course website is available through Blackboard: [campus.fsu.edu](http://campus.fsu.edu).

**Textbook:** *A First Course in Probability* by Sheldon Ross (Publisher: Prentice Hall). Either the 8<sup>th</sup> or 9<sup>th</sup> edition will be fine. This text will be used to supplement the lectures and provide practice problems.

**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 from the textbook. Strictly speaking, the homework is optional; however, the weekly quizzes will be heavily based on assigned problems. As a result, the best 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. There will be 8 quizzes in total.

**Exams:** There will be three exams. 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 formulas, 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

|                     |   |
|---------------------|---|
| <b>Exam 1</b> ..... | Thursday, February 9 <sup>th</sup>          |
| <b>Exam 2</b> ..... | Thursday, March 23 <sup>rd</sup>            |
| <b>Exam 3</b> ..... | Thursday, May 5 <sup>th</sup> , 7:30–9:30am |

**Grading:** Grading will be done on a point system. Each quiz is worth 15 points total (roughly 25% of your grade) and each exam is worth 100 points (roughly 75% of your grade). Each student's lowest quiz grade will be dropped. There are a total of 405 points possible.

Grade cutoffs will be established at the end of the course, but will not be stricter than the following cutoffs:

- $\geq 365$ : A;
- $\geq 353$ : B+;
- $\geq 324$ : B;
- $\geq 312$ : C+;
- $\geq 283$ : C;
- $\geq 271$ : D+;
- $\geq 240$ : D;
- $< 240$ : F.

**How To Do Well in the Course:** The best way to learn this material is to do the homework. Quiz and exam questions will be very similar to the homework. 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:** While not graded, attendance is mandatory; students are responsible for all material discussed in class and for any announcements made in class.

**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. Students must provide documentation that demonstrates a valid excuse for being absent. 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 with your needed for 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 ..... January 12<sup>th</sup>  
 Martin Luther King, Jr. Day ..... January 16<sup>th</sup>  
 Last day to drop course with no grade ..... February 24<sup>th</sup>  
 Spring break ..... March 13<sup>th</sup> – March 17<sup>th</sup>  
 Last day of classes ..... April 28<sup>th</sup>  
 Final exam ..... May 5<sup>th</sup>, 7:30–9:30am

**Tentative Schedule:**

| TUESDAY  | THURSDAY   |
|--|--|
| <div style="border: 1px solid black; display: inline-block; padding: 2px;">Jan 10th</div><br>First Day of Class<br>Syllabus<br>Intro | 12th<br>Chapter 1  |
| <b>1</b>   | <b>2</b>   |
| 17th<br>Chapter 1  | 19th<br>Chapter 2  |
| <b>3</b>   | <b>4</b>   |
| 24th<br>Chapter 2  | 26th<br><b>Quiz 1</b><br>Chapter 2<br>Chapter 3  |
| <b>5</b>   | <b>6</b>   |
| 31st<br>Chapter 3  | <div style="border: 1px solid black; display: inline-block; padding: 2px;">Feb 2nd</div><br><b>Quiz 2</b><br>Chapter 3 |
| <b>7</b>   | <b>8</b>   |
| 7th<br>Exam 1 Review   | 9th<br><b>EXAM 1</b>   |
| <b>9</b>   | <b>10</b>  |
| 14th<br>Chapter 3  | 16th<br>Chapter 4  |
| <b>11</b>  | <b>12</b>  |

| TUESDAY               |    | THURSDAY                              |    |
|-----------------------|----|---------------------------------------|----|
| 21st<br>Chapter 4     | 13 | 23rd<br><b>Quiz 3</b><br>Chapter 4    | 14 |
| 28th<br>Chapter 4     | 15 | Mar 2nd<br><b>Quiz 4</b><br>Chapter 4 | 16 |
| 7th<br>Chapter 5      | 17 | 9th<br><b>Quiz 5</b><br>Chapter 5     | 18 |
| 14th<br>Spring Break  |    | 16th<br>Spring Break                  |    |
| 21st<br>Exam 2 Review | 19 | 23rd<br><b>EXAM 2</b>                 | 20 |
| 28th<br>Chapter 5     | 21 | 30th<br>Chapter 5                     | 22 |
| Apr 4th<br>Chapter 7  | 23 | 6th<br><b>Quiz 6</b><br>Chapter 7     | 24 |
| 11th<br>Chapter 7     | 25 | 13th<br><b>Quiz 7</b><br>Chapter 7    | 26 |
| 18th<br>Chapter 8     | 27 | 20th<br><b>Quiz 8</b><br>Chapter 8    | 28 |
| 25th<br>Chapter 8     | 29 | 27th<br><b>Last day of class</b>      | 30 |
| May 2nd               | 31 | 4th                                   | 32 |