

Probability and Measure  
STA 5446  
Fall 2006

**Course personnel:**

- Professor: Dr. Florentina Bunea
- Office: OSB 209 D
- Phone/e-mail: 644-8775, flori@stat.fsu.edu
- Office Hours: By appointment.
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**Administrative Information**

- Place: Room 108 OSB
- Time: Mon, WEd 2:00 - 3:15.

**Prerequisite:** MAA 4227, 5307, or the equivalent.

**Required Text:** *Probability for Statisticians*, Galen R. Shorack, Springer, 2000.

**Very helpful supplementary textbook:** *A Probability Path*, Sidney I. Resnick, Birkhauser Boston Publishing House, 1999.

**Supplemental probability texts:**

- Pollard, D., (2002). *A User's Guide to Measure Theoretic Probability*.
- Billingsley, P., (1995). *Probability and Measure*.
- Chow, Y. S. and Teicher, H., (1978). *Probability Theory*.
- Chung, K. L., (1974). *A Course in Probability Theory*.
- Feller, W., (1957). *An Introduction to Probability Theory and Its Applications*, Volume I.

- Feller, W., (1966). *An Introduction to Probability Theory and Its Applications*, Volume II.
- Loève, M., (1977 - 1978). *Probability Theory*, I and II.

**Supplemental analysis and measure theory texts:**

- Bartle, R. G., (1966). *The Elements of Integration*.
- Cohn, D., (1980). *Measure Theory*.
- Royden, H. L., (1963). *Real Analysis*.
- Rudin, W., (1964). *Principles of Mathematical Analysis*.

**Course Objective:**

To gain an understanding of the fundamental principles of measure theoretic probability and to gain proficiency in using measure-theoretic tools, including construction of measures, random variables, convergence of sequences of random variables and relations between types of convergence.

**Course Outline:**

The lectures in STA 5446 will cover parts of Shorack's Chapters 1 - 4, 9.

- Chapter 1. Measures
- Chapter 2. Measurable Functions and Convergence
- Chapter 3. Integration
- Chapter 4. Derivatives via signed measures
- Chapter 9. Special Distributions

**Exam dates:**

Midterm: Monday, October the 20th.

Final Exam: Monday, December the 8th, 10:00 AM – 12:00 noon.

**Grading Policies:** The final grade will be based on: 20 % in class homework presentations, 40 % mid-term exam and 40 % final exam. All exams are in-class and closed book. There is no curving of grades in this course. Your

grade is based entirely on your performance. If you are unable to take an exam, please get in touch with me beforehand.

93 or more	A	90 - less than 93	A-
86 - less than 90	B+	83 - less than 86	B
80 -less than 83	B-	76 - less than 80	C+
73 - less than 76	C	70 -less than 73	C-
66 - less than 70	D+	63 - less than 66	D
60 - less than 63	D-	less than 60	F

**Academic Honor System:** “The Academic Honour System of The Florida State University is based on the premise that each student has the responsibility to: 1) Uphold the highest standards of academic integrity in the student’s work, 2) Refuse to tolerate violations of academic integrity in the academic community, and 3)Foster a high sense of integrity and social responsibility on the part of University community.”

*Please note that violations of this Academic Honor System will not be tolerated in this class. Specifically, incidents of plagiarism of any type or referring to any unauthorized material during examinations will be rigurously pursued by this instructor. Before submitting any work for this class, please read the “Academic Honor System” in its entirety (as found in the FSU General Bulletin and in the FSU Student Handbook) and ask the instructor to clarify any of its expectations that you do not understand.*