Course Information

STAT 201-11 Mathematical Statistics
FALL 2010

Lectures: R 6:10 – 8:40 PM at 2020 K 15

Instructor: Dr. Srinivasan Balaji, Assistant Professor

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2140 Pennsylvania Avenue NW,
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Office Hours: Thursdays 4:00 – 6:00 PM and by appointment

Teaching Assistant (TA):
Mr. Somak Chatterjee
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Text: Statistical Inference (Second Edition) by Casella, George and Berger, Roger
Publisher: Duxbury Press. ISBN/ISSN 0-534-24312-6


Course Content: This is the first part of a two semester course in Mathematical Statistics. Probability theory is presented as a mathematical foundation for statistical inference. Axiomatic probability is introduced and then some standard discrete and continuous probability distributions are presented. Joint distributions and transformations are discussed. Probabilistic convergence concepts are introduced. Chapters 1 - 5 from the text book will be covered. Some external readings may be assigned. Any changes will be announced in the class.
Course Prerequisites: Math 33 (Multivariable Calculus), Math 124 (Linear Algebra). Please refresh your calculus and algebra if you have not taken these courses recently.

Homework Assignments, Quizzes and Exams

Homework Problems will be assigned in each class and will be due in two weeks. Solutions to all quizzes will be posted after its due date. There will be a midterm and a Final exam. All exams are closed book. However you can bring a sheet of formulas to the exams.

In addition, there will be two 30 minute in-class closed book quizzes roughly around Week 4 and Week 11 and will be announced in advance.

Midterm Exam: Thursday October 15, 2010
Final Exam: To be announced (Exam week in December)

Grading Policy

Final grade is computed as follows:

Homework Assignments: 30%
Quizzes 10%
Midterm Exam: 25%
Final Exam: 35%

Learning Outcomes

As a result of taking this course students should be able to

- Make probabilistic arguments and use key theoretical tools to explore the properties of random variables.
- Derive fundamental results in the theory of probability and random variables.
- Formulate probabilistic models for science, engineering, economics, public policy and many other areas of application.
- Recognize and appreciate the interplay between probability and statistics.
- Apply core skills in new contexts
**Code of Academic Integrity:** All examinations, papers, and other graded work products and assignments are to be completed in conformance with The George Washington University **Code of Academic Integrity.** It states: "Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information." For the remainder of the code, see:
http://www.gwu.edu/_ntegrity/code.html

**Class Policy:** Late work will not be accepted. Except for medical cases (with proper documentation) there will be no make-ups. If you miss an exam or miss a deadline you get zero credit for that part. For university policies on teaching see http://www.gwu.edu/academic/Teaching/main.htm

**Student Services:** If you experience difficulty in this course for any reason, please consult with me. If you have a disability and require accommodations, please notify me with a letter from DSS so that we can make arrangements. **DISABILITY SUPPORT SERVICES (DSS):** Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to:
http://gwire.gwu.edu/dss/ UNIVERSITY COUNSELING CENTER (UCC): The University Counseling Center (UCC, 202-994-5300, http://gwire.gwu.edu/counsel/CounselingServices/AcademicSupportServices) offers 24/7 assistance and referral to address students’ personal, social, career, and study skills problems. Services for students include: i) crisis and emergency mental health consultations, ii) confidential assessment, counseling services (individual and small group), and referrals.

**SECURITY:** In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.