Course Information

STAT 6201-10 Mathematical Statistics
FALL 2011

Lectures:  R 6:10 – 8:40 PM at 2020 K 14

Instructor: Dr. Srinivasan Balaji, Assistant Professor

Office Address: Room #104
2140 Pennsylvania Avenue NW,
Telephone Number: 202-994-3383
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Office Hours: Thursdays 4:00 – 6:00 PM and by appointment

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

Supplementary Text: Description Introduction to Mathematical Statistics (5th Edition),
by Hogg, and Craig; Publisher: Prentice Hall; ISBN 0-02-355722-2

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.

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

In addition there will be three unannounced pop quizzes and we will drop the lowest grade among the three pop quizzes.

**Midterm Exam:** Thursday, October 13, 2011  
**Final Exam:** To be announced (Exam week in December)

**Grading Policy**

Final grade is computed as follows:

- Homework Assignments: 25%
- Quizzes: 10%
- Pop Quizzes: 5%
- 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://gwired.gwu.edu/dss/ UNIVERSITY COUNSELING CENTER (UCC): The University Counseling Center (UCC, 202-994-5300, http://gwired.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.