Course Information

STAT 6202-12 Mathematical Statistics
Spring 2012

Lectures:  M 6:10 – 8:40 PM at 2020 K Room#26

Instructor: Dr. Srinivasan Balaji, Assistant Professor

Office Address: Department of Statistics,
Room #564,
Rome Hall, 801 22nd Street
Telephone Number: 202-994-3383
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Office Hours: Mondays 5:00 – 6:00 PM; Thursdays 1:00 – 2:00 PM

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 Description:

The course is in continuation to Stat 6201 and roughly covers Chapters 5 through 10 of
the text, and may skip a few sections. Topics include (but are not limited to) order
statistics, convergence concepts, Central limit theorem, Delta Method, Consistency of
estimators, minimal sufficient, ancillary, and complete statistics, point estimation,
maximum likelihood, best unbiased estimators, interval estimation, Cramer-Rao
inequality, Rao-Blackwell theorem, Hypothesis testing, likelihood-ratio tests, Neyman-
Pearson lemma, Bayesian statistics, loss functions

Course Prerequisites: Stat 6201, Math 33 (Multivariable Calculus), Math 124 (Linear Algebra)

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:** Monday March 5, 2012  
**Final Exam:** Exam Week

**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 completing this course, students will be able to:
1. Know and familiarize with the statistical tools that are imminent to advanced inference
2. Apply the probability theory learned in the first part of the course to derive estimators for important parameters of interest.
3. Analyze, estimate, and infer about parameters from datasets.

**ACADEMIC INTEGRITY**

I personally support the GW 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](http://www.gwu.edu/~ntegrity/code.html)

**SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM**

*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/](http://gwired.gwu.edu/dss/)

*UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300*
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:

- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals

http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

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.