THE GEORGE WASHINGTON UNIVERSITY
Department of Statistics

SYLLABUS
STAT 8263.10 – Advanced Statistical Theory I
Fall 2011 - CRN 90651
Lectures: R 6:10–8:40 p.m., Gelman 502

Instructor: Dr. Subrata Kundu, 2140 Penn Ave, room 202. kundu@gwu.edu Phone: (202) 994-6355

Office Hours: M R: 5:00 - 6:00 p.m. and by appointment.

Course Structure: The class consists of one three hour lecture per week. Your grade is based on homework, and the final.


Course Content: This is an advanced mathematical statistics course. Topics include sufficiency, ancillarity, completeness, unbiased estimation, decision theory, equivariance and hypotheses testing. Some external readings will be assigned. Any changes will be announced in the class. Prerequisite: Stat 6201, 6202.

Learning Outcome: As a result of taking this course students should be able to
i) Describe and explain major logical foundations of statistical inference.
ii) Read and comprehend new advanced material.
iii) Obtain various estimators and tests and derive their properties for various statistical models.
iv) Apply mathematical techniques to do research and solve new problems.

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

Homeworks: Homework will be assigned in the lecture every other week. Your homework will be collected two weeks later. Solve all problems on your own. Present mathematical derivations and relevant logical arguments. Grades will depend on the correctness and as well as on the quality of writing.

Final Exam: The Final examination (Tentatively Dec 13th/14th.) is cumulative. In the event that you are going to miss an examination, you must notify me prior to the examination. There will be no make-up final.
**Course Grading:** Your final letter grade will be based on a total score computed as follows:

- Homework 50%
- Final 50%

A grade of INCOMPLETE will *ONLY* be given to a student who is **passing** the course and cannot complete the course due to illness or other (documented) circumstances beyond their control.

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

UNIVERSITY COUNSELING CENTER (UCC): The University Counseling Center (UCC, 202-994-5300, [http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices](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.

**Other:** Please turn your cell phone ringer off. No eating in the classroom.