Statistics 207: Methods of Statistical Computing I

Syllabus

Time: Monday, 6:10-8:40PM            Room: Phillips Hall, Room 110

Instructor: Jonathan Stroud
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Office address: Room 107, 2140 Pennsylvania Ave. NW
Office phone: (202) 994-6889
Office hours: Wednesday, 10-12, or by appointment.

Textbooks
- Required: None
- Recommended
  - Statistical Computing by W.J. Kennedy, Jr. and J.E. Gentle ©CRC 1980
  - Advanced Statistical Computing (Course Notes) by R. Gray
- Additional course material will be provided by the instructor.

Description
Computing is essential for the practice of statistics. This course will introduce basic computational methods from a statistical point of view. In particular, the following general areas will be covered:
- Fundamental of computer science
- Numerical analysis and computer intensive methods
- Statistical computing and graphics

Prerequisites
- A course in mathematical statistics and a course in matrix algebra are necessary
- A course in computer/statistical programming is helpful (although not necessary)

Grading
- Homework (weekly, take home): 50%, work independently.
- Quizzes (3, in class): 30%, work independently.
- Final exam/project/presentation: 20%, work independently.

Note
- No early or make-up homework or project.
  - Except under extraordinary circumstances, in which a written request and related documentations must be submitted as early as possible.
- Regular class attendance
LEARNING OUTCOMES:
As a result of completing this course, students will be familiar with:
1. The R statistical language.
2. Stochastic simulation (i.e., Monte Carlo methods).
3. Linear algebra and optimization methods in statistics.

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

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/

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.