Statistics 6750
Statistical Consulting
2 semester hour course
TENTATIVE SYLLABUS

Prerequisite: STAT 610 and 623 or equivalent; STAT 641 and STAT 645, or permission of the instructor; STAT 6301 and 6302 or equivalent; STAT 6410 or STAT 6910 and STAT 6450 or STAT 6950, or permission of the instructor.

Location: One 110-minute lecture per week or two 55 min lectures

Text: None

Conversion note: This is a conversion of Stat 600 and 601 adapted to semester versions of our PhD and MAS program. The second of the two one-quarter classes covered a variety of special topics, which can be reduced without hurting the core goals of the class.

COURSE DESCRIPTION

This course will investigate the role of the statistician as both consultant and collaborator; guide students in enhancing problem solving and communication skills; teach students to structure working engagements with non-statisticians and collaborators; introduce to technical skills specific to statistical consulting; and provide experience working on consulting projects with the SCS.

TOPIC LIST

1. Introduction, Example Case Study for Class Discussion
2. General Communication
3. Type III Errors
4. Project Communication
5. Handling Difficult Situations with Collaborators and Clients
6. Data Diagramming
7. Operational Definitions
8. Evaluating Measurement Systems
9. Project Process and Organization
10. The Role of Statistics in the Scientific Method
11. Identifying Analytic and Enumerative Studies and Associated Analysis Issues
12. Exploratory Data Analysis
13. Monte Carlo for Statistical Consulting
14. Technical Writing
15. Statistical Ethics
16. Case Studies