Statistics 485: Capstone Seminar

Satisfies the LSA Upper Level Writing Requirement (ULWR)

Overview: The capstone seminar is intended to build on the substantial knowledge of statistics that you gained in previous statistics classes. A unifying theme of the course will be to consider how statisticians develop new statistical methods, and how we evaluate the strengths and weaknesses of existing statistical methods. Statistical communication is a major focus of the course. Substantial reading will be required, and all of the coursework will involve writing. Students will receive feedback on their writing, and will submit revisions of certain assignments based on the feedback.

Pre-requisites: Prior or concurrent enrollment in Stat 426 and Stat 500 is required, and prior or concurrent enrollment in Stat 406 is strongly recommended.

Format: The class time will be balanced between informal discussion, discussion of student work, and more formal lectures delivered by the instructor to introduce new areas and unfamiliar ideas.

Coursework: The coursework will entirely take the form of individual writing assignments. The writing will draw on required reading assignments. It is very important to come to class having read the day’s reading assignment. The reading assignments will be posted on the course web site.

The following assignments will be completed by each student: weekly writing journal entries presenting an individual perspective on some aspect of the week’s course discussions, an overview of the origins and current state of a research area in applied statistics, a formal data collection and research plan (4-5 pages), two critical reviews of scientific reports that use statistics to support their conclusions (3-5 pages each), and a case study of the use of statistics in an industrial or government setting (5-10 pages). Several of these assignments will be submitted, then revised and resubmitted based on comments from the instructor. Attendance and class participation are major components of this course.

Grading:

50% Writing journals
40% Other writing assignments
10% Class participation

The main criteria for grading will be: (i) the clarity with which you express your ideas, (ii) the substance of your ideas, and (iii) proper grammar and spelling.

Some of the writing assignments will receive comments from the instructor, and you will revise your writing based on the comments. In those cases, the assignment will be graded twice (once based on the original submission, once based on the revision), and each grade will contribute half of the assignment grade.