Statistics 5301 Autumn 2017: Intermediate Data Analysis

Instructor: Yuan Zhang (zhang.7824@osu.edu)
Office hours: Friday 10am–noon in 229 Cockins Hall
Grader: Bo Luan (luan.49@osu.edu)
Lectures: Monday and Wednesday, 3–4:50pm Baker Systems 144. It is recommended that you bring a calculator with you when attending lectures for in-class exercises.
Class materials: on course Carmen site
Description: STAT 5301 is a first course in a two-semester pre-calculus sequence in data analysis covering exploratory data analysis, regression, design of experiments, probability, and one/two sample statistical inferences.

This course satisfies the General Education (GE) requirement in Data Analysis.
Expected Learning Outcomes: Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas.
Prerequisites: Open to students with at most 5 credit hours in Statistics. The course is pre-calculus and designed for students with limited mathematics background.
Textbooks:

1. First half: *Introduction to the Practice of Statistics* (5th Edition onwards), by D. S. Moore and G. P. McCabe

2. Second half: *The Statistical Sleuth: A Course in Methods of Data Analysis*, 3rd Edition, by F. Ramsey and D. Schafer, 2012

Homework: Homeworks will be posted on the Carmen site. The **lowest two** homework score will be dropped. **No late homework accepted.** To argue the grading of a homework, use a pen in different color (from that of your homework) to clearly mark the places you wish to argue, along with brief description of reasons, and resubmit the homework along with the next homework. For example, to argue the grading of Homework 1, resubmit it (marked) along with Homework 2. Grading argument deadline for the last homework will be announced later.

You are encouraged to work together and discuss homework questions, but your own answer must be written independently. Plagiarism is strictly prohibited.

Put your name and the homework assignment number on the top right-hand corner of every page. All homework should be submitted on US-letter (or similar size) papers. Staple the pages together. We are not responsible for lost pages. Submit the problems in order, making sure that the computer output and discussion are placed together (do not put the computer output at the end of homework). Raw computer output is not acceptable. Make it clear what parts of the output are relevant and show how they answer the questions posed in the homework.
R programming: Throughout this course we will intensively use the R programming language for illustrations and data analysis. We will introduce some basics of R along with the progresses of the course. Despite R will not present in any of the course requirements (homework questions that require R programming will not be graded, and exams do not test R), you are strongly recommended to pay close attention to this tool very widely used in the statistics community.
Exams:

- Midterm 1: Monday, September 25, in class

- Midterm 2: Monday, November 6, in class

- Final: Friday, December 8, noon-1:45pm, in the regular classroom (Baker Systems 144)

All exams are closed book except for cheat sheets (1 piece of double-sided US-letter size cheat sheet allowed for midterm 1; 2 pieces for midterm 2 and 3 pieces for final). Calculators are allowed. Cellphones, laptops and personal digital assistants are not allowed. Exams are cumulative. There will be no make-up exams for midterms; for the final exam, only illness or other irresistible reasons accepted.

Grading: homework: 15%, midterm 1: 25%, midterm 2: 25%, final: 35%. Final grades may be curved based on the performance of the **entire class**. No individual extra credit.

Academic misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Disability statement:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292- 0901; http://www.ods.ohio-state.edu/.