STAT 2131: Applied Statistical Methods I

Fall, 2015

Summary: This course is the first semester of a two semester sequence in applied statistics. It explores popular statistical methodologies with the goal of understanding how to choose, apply, and interpret appropriate statistical designs and analyses for practical problems. This first semester will cover linear regression and follows Chapters 1-12 of the text Kutner, Nachtsheim, Netter & Li. The appropriate sections of the reference Freund & Littell will also be covered and SAS will be used for data analysis. The text will be supplemented by course notes and other material to emphasize particular topics of interest.

Instructor: Yu Cheng, Department of Statistics, 2733 CL, 648-1851, yucheng@pitt.edu, www.stat.pitt.edu/yucheng.

Course Information: Monday & Wednesday, 4:30 - 5:45 pm, Cathedral of Learning 208A, webpage: https://courseweb.pitt.edu

Office Hours: Monday and Wednesday, 3:15-4:15pm, CL 2733; Thursday, 12-1, CL 2504.

Required Text: Applied Linear Statistical Models, 5th Ed. by Kutner, Nachtsheim, Neter & Li

Reference: SAS System for Reg., 3rd Ed by Freund & Littell

Prerequisite: A course in mathematical statistics and a course in linear algebra. You

1If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both me and Disability Resources and Services (DRS), 140 William Pitt Union, (412)648-7890, drsrecep@pitt.edu, (412)228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.
should be familiar with the following concepts: joint & conditional probability, independence, pdf and cdf, normality, $\chi^2$ & $t$ distributions, point estimation, hypothesis testing and confidence intervals. You should also be familiar with matrix operations such as multiplication, addition, matrix inversion and the determinant. If you feel you are lacking some background, please see me and we can determine if the course is right for you.

**Course Components:** There will be seven homework assignments, worth a total of 40 points, and two exams (Midterm and Final), each worth 30 points. Grades will be based on the total points achieved.

- **Homework:** Homework assignments will be assigned weekly and are due one week after they are assigned. They consist of problems from the text, supplemental problems, and real case studies. You must do all homework problems on your own, although you may discuss the problems with other students. Assignments must be turned in on time for credit.

- **Midterm:** There will be one open book midterm. The date for the midterm will be announced at least two weeks before it is given.

- **Final:** The final will be given on Wednesday, December 9th and will be open book.