Spring 2014
Stat 8004: Statistical Methods II
Syllabus

Jan. 23, 2014

Basic Info

Time: Thursday, 5:30pm – 8:00pm **Location:** Alter Hall 233
Instructor: Jichun Xie, Ph.D. **Email:** jichun@temple.edu
Office: Speakman Hall 333 **Phone:** 215-204-4275
Office Hour: Thursday, 3:00pm–4:30pm or by appointment
Course Webpage: https://blackboard.temple.edu

Prerequisites

STAT8001, STAT8003. You also need a math background for at least three semesters of calculus and one semester of linear algebra.

Email

I am usually available by email at jichun@temple.edu. This is the best way to reach me. Please indicate [Stat 8004] in the subject line.

Homework

Homework will be assigned at the beginning of the class, and is due at the time of the next class. No late homework will be accepted unless it is due to some excused absence.

Exams

There will be two mid-terms and a final-term presentation and report. Students must work individually in the exams. No makeup tests and/or exams are allowed for missed exams unless the student has a legitimate reason and notifies the instructor beforehand.

If you have a disability for which you are or may be requesting assistance, you are encouraged to contact both your instructors and Disability Resource and Services at Temple (215-204-1280) in the beginning of the semester. If the instructor is not notified before Jan. 31, 2012, no extensions will be made for the exams.

Grade Calculation

The weighting factors are as follows: Midterm exam, 40%; final presentation and report, 40%; homework, 20%. Class participation that advances the aims of the course is encouraged and may enter into the calculation of your course grade.

Software

We will primarily use R/S-PLUS, SAS and Latex as the computing language in the class.

Blackboard

All course documents will be placed on Blackboard `https://blackboard.temple.edu`. You are responsible for checking Blackboard frequently for course announcements and course documents. In addition, I may broadcast e-mail messages to the class. You need to make sure that your e-mail address known to Blackboard is the one you check frequently. If not, please forward your Temple email to the other address you use by the following instructions at the gmail help page `http://mail.google.com/support/bin/answer.py?hl=en&answer=10957`.

TextBook and References

[1] John M. Lachin. *Biostatistical Methods: The Assessment of Relative Risks*. A Wiley-Interscience Publication. John Wiley & Sons, Inc.

[2] George A. F. Seber and Alan J. Lee. *Linear Regression Analysis*. John Wiley & Sons, Inc.

[3] Charles E. McCulloch and Shayle R. Searle. *Generalized, Linear and Mixed Models*. A Wiley-Interscie nce Publication. John Wiley & Sons, Inc.

Topics and Schedule

Topics covered in this course include linear regression and its diagnosis, contingency table and logistic regression. Basic survival analysis and mixed effect model will be mentioned if there is extra time.

1	Thu	Jan.	23	Syllabus; Final exam of 8003, Linear model review
2	Thu		30	Experiment design and one-way ANOVA
xxx	Mon	Feb.	3	Last day to drop a course
3	Thu		6	Two-way ANOVA (with and without interaction)
4	Thu		13	One-way random effect ANOVA; Outliers and leverage points
5	Thu		20	Mid-term I; Heteroscedasticity
6	Thu		27	Collinearity; Variable selection; Normality
xxx	Thu		6	Spring break; no class.
7	Thu	Mar.	13	Introduction to Biomedical Studies; Contingency table, distribution and inference
8	Thu		20	Diagnostic tests; Matched studies and methods
xxx	Tue		25	Last day to withdraw a course.
9	Thu		27	Mid-term II; Matched studies and method
10	Thu	Apr.	3	Logistic regression model; Interpretation; Estimation
11	Thu		10	Algorithms of logistic regression; Test of significance; Interactions
12	Thu		17	Brief introduction to survivals
13	Thu		24	Presentation
14	Thu	May.	1	Presentation