Instructor: Xiaofeng Shao, Illini Hall 104D, `xshao@illinois.edu`

Lecture: Monday, Wednesday & Friday, 11:00–11:50 AM, 140 Burrill Hall

Instructor Office Hours: Monday, 1.45pm–2:45 PM & Thursday, 1.30am–2:45PM, or by appointments Illini Hall 104D

Teaching Assistant: Chung Eun Lee; Office hour: Illini Hall 122, Tuesday 3-4.30pm.

Prerequisites: STAT 410 and MATH 415, or consent of instructor

(Familiarity with regression and/or linear models, e.g. STAT 424/425, is recommended.)

Description: Basics of multivariate statistical analysis from both the theoretical and applied perspectives. Topics include graphical methods, multivariate linear models, analysis of covariance matrices (factor analysis, principal components, independence and conditional independence, canonical correlations), and classification and discrimination.

Textbook: John I. Marden, *Multivariate Statistics Old School*, available for purchase at `https://www.amazon.com/gp/product/1456538837`

Online System: Illinois Compass 2g   (`https://compass2g.illinois.edu`)

Look for the course space titled:
Fall 2016-STAT 571-Multivariate Analysis-Section A1

Course Notes: Access to some supplementary notes will be provided on the Compass 2g page.

Software: We will use the R software environment for our statistical computing. R is free software, which you may obtain without cost from `http://cran.r-project.org/`

There is an R package called `msos` containing data sets and functions from the textbook. Use `install.packages("msos")` (from within R) to install.

Tentative Course Outline: *Multivariate Statistics Old School*, Chapters 1–7, 9–13

Methods of Assessment: Learning will be assessed through homework assignments and two within-term Exams.

Homework is typically assigned every week. Generally, it must be submitted by the due date and time to receive credit. However, one of your homework scores will be automatically dropped (whichever improves your grade the most).

Exams are tentatively scheduled for

Friday, October 7 and **Wednesday, November 16**.

Course Grade: Weightings for assessments will be: 60% homework, 40% Exams. Homework assignments are equally weighted, and the lowest score is dropped. Exams are equally weighted.

Academic Integrity: Please familiarize yourself with Section 1-402 of the Student Code, concerning Academic Integrity Infractions.

In general, any work you submit must be your own, except as officially announced by the instructor.

Disability Accommodations: To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TTY), or e-mail a message to `disability@illinois.edu`.

Other Policies:
- If you need to schedule a make-up exam, you need to contact me at least two weeks earlier. In case of emergency, you need to provide a proof (e.g., doctor's medical proof)
- If you find an error in homework grading, please talk to TA (or me) right after the graded homework is returned. The grade cannot be changed if it is more than one week after the return. The same rule applies to the exam.
- Bonus points may be given to students who can provide an answer to a question raised in class (only the first one can get it) or do whatever that helps with the classroom teaching. The instructor determines the number of points and announces it in the course website.