STT 843 Multivariate Analysis Spring 2018

Time: M-W, 3:00-4:20pm
Place: 309 Jenison Field House

Instructor: Ping-Shou Zhong
Office Hours: Tues., 12:30-2:30pm at C418 Wells Hall and by appointment
E-mail: pszhong@stt.msu.edu

Website: http://www.stt.msu.edu/users/pszhong/teaching.html

References:

Applied Multivariate Statistical Analysis (with CD), 6th edition, by Johnson and Wichern, Prentice Hall (ISBN: 9780131877153).

Aspects of Multivariate Statistical Theory, 2nd edition, by Robb J. Muirhead, Wiley-Interscience (ISBN: 9780471769859)

Recommended background: It is crucial that the students have working knowledge of probability (STT 441 or STT 861), and statistical inference (STT 442 or STT 862) before enrolling in this course. Experience with Linear Algebra (MTH 415) is highly recommended.

Course description:

This course will introduce statistical methodologies based on multivariate analysis: matrix methods in multivariate statistical set-up, multivariate normal distribution, tests of hypotheses for means and covariance matrices, multivariate analysis of variance, discriminant analysis, principal components and factor analysis.

Computation:

All computing for the course will be done in R. You may find the software online. The software may be downloaded for free. We will discuss using R for the methods introduced in the course. Examples will be provided using the various data sets.

Homework:

Homework of various types will be assigned and will be due on Wednesday in class. Copies of solution will be posted on the class page website. Students should write his or her own assignment independently, do not copy what someone else has written or use someone else's R code, although discussion with your fellow students is encouraged. No late homework will be accepted unless earlier notification.

Grading:

Your final score will be based on homework, one course project and the final exam. The percentages of each part to the final score are listed below:

Homework	40%
Course Project	30% (Assigned in week 10.; Due Apr. 23, Mon.)
Final Exam	30% (Wed., 5/2/2018, 5:45-7:45pm, 309 Jenison Fieldhouse)

A tentative criterion for the final grade is

4.0(>=90%), 3.5(80%-89%), 3.0(70%-79%), 2.5(60%-69%), 2(<=59%)

Important Dates:

1/08/18	Classes Begin
1/12/18	Online Open add period ends 8pm
1/15/18	Martin Luther King Day – University open but NO CLASSES
2/02/18	End of tuition refund period for Spring Semester courses No refund after this date.
2/28/18	Middle of Semester; 8pm deadline to drop full semester courses for Spring Semester 2018
3/05-3/09/18	Spring Break
4/27/18	Last Day of Classes
5/02/18	Final Exam (Wed., 5/2/2018, 5:45-7:45pm in 309 Jenison Fieldhouse)

Accommodations for Students with Disabilities:

Students with disabilities should contact the Resource Center for People with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. If you are eligible for an accommodation, you will be issued a verified individual service accommodation (VISA) form. Please present this form to me at the start of the term or two weeks prior to the accommodation date.

The instructor reserves the right to make any changes that he deems academically advisable. These changes will be announced in class.