Nonparametric Statistical Methods

(Dunn Hall 203, TR 11:20 am-12:45 pm)

Instructor: Su Chen

Email: su.chen@memphis.edu (email is the best way to contact me)

Office: Dunn Hall 384 (Work Phone: 901-678-1145)

Office Hours: TR 1:00 pm-2:00 pm or by appointment.

Prerequisite: MATH6635, MATH6636, some experiences with R

Required Textbooks: (1) An Introduction to Modern Nonparametric Statistics, by James J. Higgins, Duxbury (Thomson).

(2) An Introduction to Statistical Learning: with application in R, by Gareth James, Daniela Witten, Trevor Hastie and Robert Tibshirani, **free** downloadable at http://www-bcf.usc.edu/~gareth/ISL/ .

Recommended Books: Practical Nonparametric Statistics, 3rd edition, by W. J. Conover.

Resources for R: As to R, I would suggest you to start with Rstudio (better interface for beginners).

(1) Install Rstudio: http://derekogle.com/IFAR/supplements/installations/InstallRStudioWin.html

(2) A quick start for R studio provided by Princeton University (step-by-step guide) is uploaded to ecourseware.

(3) More details as to R programming for beginner (https://cran.r-project.org/doc/contrib/Paradis-rdebuts_en.pdf).

Descriptions: The course provides an introduction to statistical estimation and inference methods that require relatively mild assumptions about the population distribution. Classical nonparametric hypothesis testing methods, Spearman and Kendall correlation coefficients, permutation tests, bootstrap methods (from the first required textbook) and nonparametric regressions, decision trees (from the second required textbook) will be covered.

Grading Policy: Grades will be calculated according to the following percentages:

Midterm Exam 30%	A = 90-100%
Homework 20%	B = 80-89%
Project 20%	C = 70-79%
Final Exam 30%	D = 60-69%
	F = below 60%

Note: Any questions regarding grading/scoring must be made within one week of the return of the exam or no change in the grade will be made.

Examinations: There will be two exams: one mid-term (in-class) and a comprehensive final exam (maybe in-class or take-home). You may bring ONE formula sheet of 8 ½'' by 11'' paper to each test with HANDWRITTEN notes on both sides of the page. Exams will be announced at least one week in advance. Final exam is scheduled on Thursday (Dec. 14, 8:00-10:00am).
http://www.memphis.edu/registrar/calendars/exams/17f-final.php

Make-up Policy: No make-ups will be given without written evidence of an official University excused absence. (See University Student Rules.) If no such notice is given, the rights to a make-up are forfeited. In addition (and also in accordance with University Student Rules), a written excuse must be presented upon return to class. Specifically, in the case of illness or injury, students are required to obtain a confirmation note from a health care professional affirming date and time of a medical office visit regarding the illness or injury.

Graded Homework: Homework usually will be graded and return to you within a week. For any assignments that are to be turned in on paper, you can discuss problems with your classmates (only in this section), and then write them down by yourself. Line by line copying is NOT allowed. If you do get the idea of some problem from someone, be sure to give reference to the student who gives you the idea at the end of the problem (this does not influence your score of the homework). No late homework assignments will be accepted without written verification of a University excused absence.

Attendance: I STRONGLY suggest that you make every attempt to not miss a single day of lecture. Falling behind in this course can be very detrimental to your grade.