STAT565: APPLIED TIME SERIES ANALYSIS 16:960:565

SPRING 2013, MONDAY 6:40-9:30 PM, ARC 107 BUS

1. Course Information

- Instructor: Han Xiao
- Office: Hill Center 451
- Office Hours: Wednesday 4:30-6:00 pm or by appointment
- Email: hxiao@stat.rutgers.edu
- Prerequisite. First graduate level courses in mathematical statistics and applied regression. This course will cover a great deal of materials at a rapid pace and will require some programming kills (R, or other software of your choice, such as SAS). Students who have had difficulty in previous mathematical statistics courses or programming may find that this course requires a considerable amount of time and effort, and should plan accordingly.
- Text: *Analysis of Financial Time Series*, by Ruey S. Tsay. Wiley, 2010, 3rd. Full text available from MyiLibrary http://lib.myilibrary.com/Open.aspx?id=270783. Access from campus or login via Rutgers account. The book website is:
http://faculty.chicagobooth.edu/ruey.tsay/teaching/fts3/.
- Software: R. Free software available at http://www.r-project.org/. If you go to Manuals on the left panel of the website, you will find a good introduction *An Introduction to R*. A more advanced reference is *Modern Applied Statistics with S*, by Venables and Ripley. Springer, 2002, 4ed.
- Course website: http://stat.rutgers.edu/home/hxiao/
- Course work: eleven homework assignments, midterm and final exams.
- Grades: homework (30%), midterm (30%), final (40%). The lowest grade among the eleven homework will be dropped, so no late homework will be accepted.

2. Syllabus (tentative)

Week #	Date	Topic	Due
1	Jan 28	Introduction	
2	Feb 04	Linear time series	
3	Feb 11	Linear time series	HW1
4	Feb 18	Linear time series	HW2
5	Feb 25	Conditional heteroscedastic models	HW3
6	Mar 04	Conditional heteroscedastic models	HW4
7	Mar 11	Spectral analysis	HW5
8	Mar 25	Spectral analysis & Midterm	
9	Apr 01	Nonlinear models	HW6
10	Apr 08	Nonlinear models	HW7
11	Apr 15	Multivariate time series	HW8
12	Apr 22	Multivariate time series	HW9
13	Apr 29	State space models	HW10
14	May 06	State space models	HW11
15	TBA	Final	