

STAT: 6560 (22S:156)
Applied Time Series Analysis
61 SH
1:30-2:20 p.m.
Spring 2013
Stramer

Instructor: Osnat Stramer, 370 SH, phone: 335-3182,
Email: osnat-stramer@stat.uiowa.edu.

Office Hours: Monday 2:30-4:00 p.m., Wednesday 2:30-4:00 p.m. or by appointment.

Dept. Info: Prof. Luke Tierney, Chairman.
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ICON: [http:// icon.uiowa.edu/](http://icon.uiowa.edu/) Log in using your Hawk ID and Hawk I password.

WEB: Be sure to check out the book's web page at
<http://www.stat.uiowa.edu/~kchan/TSA.htm>

Professor Chan has provided R scripts for everything in the book.
Copying from them saves a lot of typing and you can learn a lot about R
by looking through the code provided.

Text: “Time Series Analysis with Applications in R” By Jonathan Cryer and Kung-Sik Chan. 2nd
edition (October 17, 2008), published by Springer Verlag.

Course Coverage: most of the material in Chapters 1-11.

Computer Package: We will mainly use R (GNU Splus) for statistical analysis. R will
be available at the ITC in Schaefer Hall. R can be freely downloaded from [http://www.r-
project.org/](http://www.r-project.org/). An R package called TSA has been specifically developed that implements
almost all methods introduced in the book.

Prerequisite: 22S:131 (STAT: 3101), and 22S:152 (STAT: 3200) or 22S:164 (STAT:
5200).

Grading System

Assignments (10 %): Homework will be assigned nearly each Wednesday and due the
next Wednesday. Please work in a group of 2-3 students.

Projects (15 %): A few projects will be assigned during the semester. Please work in a
group of 2-3 students.

Exam 1 (10%): The first exam is Wednesday Feb. 13 in class.

Exam 2 (20%): The second exam is Tuesday March 12 from 6:30-8:30 PM.

Exams are closed book and closed notes, except that you may use a "crib sheet"-one page (8.5 x 11) of notes written on both sides.

Project presentation (20 %): Thursday May 2 from 5:30-8:30. I will divide it into two sessions (5:30-7:00 and 7:00-8:30). You need to attend your assigned session only! Each student is required to work on a project analyzing a real time series, and write a project report. Please work in a group of 2-3 students. Each group will be required to do an approximately 10-minute (joint) presentation. A real time series should be used for the analysis. A one-page proposal outlining the scientific questions to be addressed and the relevant techniques to be employed, with a separate listing of the data, have to be handed in during class on April 26. The final written report should include title and abstract, introduction, data characteristics, technical analysis with interpretations, summary and concluding remarks.

Final exam (25%): Final exam TBD later in the semester by the University. The final exam is comprehensive with emphasis on newer materials. It will be closed book and closed notes, except that you may use a "crib sheet"-two pages (8.5 x 11) of notes written on both sides for the final.

I reserve the right to give bonus points at any time. The bonus points may be applied to any part of your grade.

As an approximate guide, grades will be given as:

90-100: A
80-90: B
70-80: C
60-70: D
Below 60: F

Plus and minus grades will be given.

Resources: The Writing Center service offers twice a week tutoring, appointments, and online tutoring at 4 different locations on campus. Please see www.uiowa.edu/~writingc

Course Policies

Course attendance: Students are responsible for all material covered in the lectures.

E-mail Account: Every student in the class is required to check his/her UIowa e-mail often (every other day.)

INFORMATION FOR STUDENTS WITH DISABILITIES: I would like to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements can be made. Please see me as soon as possible.

COLLEGE OF LIBERAL ARTS AND SCIENCES POLICIES AND PROCEDURES:

This course is governed by the policies and procedures of the College of Liberal Arts.

These policies address

- * the administrative home of the course;
- * electronic communications;
- * academic fraud;
- * students with disabilities;
- * procedures for student complaints;
- * sexual harassment policy;
- * weather emergencies.

These policies can be found at

http://www.clas.uiowa.edu/faculty/teaching/new_policytemplate.shtml.

<http://www.pfaffikus.de/download/tutorial-useR2008.pdf>