

STAT: 6560
Applied Time Series Analysis
Spring 2021
11:30 am-12:20 pm MWF
Stramer

There will be two “Instructional Break” days on which there will be no course instruction: Tuesday, March 2, and Wednesday, April 14.

Instructor: Osnat Stramer

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DEO:

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Course Website: <http://icon.uiowa.edu>

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.

<https://mybiostats.files.wordpress.com/2015/03/time-series-analysis-with-applications-in-r-cryer-and-chan.pdf>

Course Coverage: most of the material in Chapters 1-9.

Computer Package: We will mainly use R (GNU Splus) for statistical analysis. R can be freely downloaded from <http://www.r-project.org/>. An R package called TSA has been specifically developed that implements almost all methods introduced in the book. **For help with R see Appendix in the textbook and some notes posted on icon under R.**

Notes: I will post notes and recorded videos on icon.

Prerequisite: STAT:3101, and STAT:3200 or STAT:5200.

Class Format:

- Web. This course will be taught online.
- The class will **not** be interactive. I will post recorded videos on ICON. It will be under files. You will be notified about the videos.
- I will schedule some in person review sessions as need. All review sessions will be held during class time.

Office Hours:

- If you want to schedule time to meet (office hours), then we can have office hours through Zoom. I will schedule office hour meetings through email, and then we can connect through Zoom at a mutually agreeable time.
- You can also email me questions. Please try to be clear with your questions. I will also address your questions on the recorded video.

Grading System

You need to work on quizzes, projects, and tests with no help at all from others. Any attempt of cheating will end up with a zero to all that are involved. Discussion with other students on the exercises of the homework is allowed. However, each student must submit their own solutions. Looking for solutions online will result is a zero grade

Assignments (10%): Homework will be assigned **nearly** each Monday and due the next Monday.

Quizzes (10%): 2-3 quizzes. The quizzes will be announced a few days in advance.

Mid Project 1 (10 %): I will assign you a data set with instruction. The project is due on Monday 3/22. (No homework will be due on 3/22).

Mid Project 2 (15 %): I will assign you a data set with instruction. The project is due on Friday 4/16. (No homework will be due on 4/19).

Midterm 1 (15%): Thursday 3/11 from 6:30-8:00 pm.

Midterm II (25%): Thursday 4/22 from 6:30-8:30 pm. **Midterm 2 is cumulative.**

Final project (15%): I will post directions in a different file under syllabus. The oral presentation is during the final exam time (TBA). It is a part of the grade. The date for submitting the proposal is Friday April 16. The final report is due on Friday May 7.

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

Below is one standard set of letter grades and percent equivalencies that is often used. I will curve the grades up if necessary.

A+	A	A-	B+	B	B-	C+	C	C -	D+	D	D-	F
100- 99	98- 93	92- 90	89- 87	86- 83	82- 80	79- 77	76- 73	72- 70	69- 67	66- 63	62- 60	59 or below

Resources:

For an excellent reference book, R codes, and a library astsa go to <https://www.stat.pitt.edu/stoffer/tsda/> The R package astsa will be useful for us, especially to overcome some bugs in the package TSA.

The Writing Center service offers tutoring, appointments, and online tutoring. Please see <https://writingcenter.uiowa.edu/>

Course Policies: see

<https://clas.uiowa.edu/faculty/teaching-policies-resources-syllabus-insert>