

APPLIED TIME SERIES

Department of Statistics 36-728 Spring 2011

LECTURES: TTh 1:30 – 2:50 WEH 5310

TEXT: *Time Series Analysis: With Applications in R* 2nd edition by Jonathan D. Cryer and Kung-Sik Chan (2009).

INSTRUCTOR: Valérie Ventura

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OFFICE HOURS: Tuesdays 4-5pm and by appointment (pls allow 24 hrs for appts)

TEACHING ASSISTANT: Anne-Sophie Charest, acharest@stat.cmu.edu

TA OFFICE HOURS: Wednesdays and by appointment (no appts thurdays)

INTRODUCTION

This is a fast-paced but elementary course in time series. We will cover most of the book chapters (see attached table of contents). If you have not used time series before, you will learn a lot. If you already know time series, this course may be too elementary. The course is applied, so I will keep theory to a minimum; some theory is not avoidable. You must know the basics of statistical theory and regression.

HOMEWORK

Problems will be assigned each week on thursdays, and will be due the next thursday by 5pm. **No late homework** unless you have a valid excuse and we agree in advance. Please slide HW under my office door; make sure to slide it far so no one can grab it. You should download the assignments from the web. I encourage you to discuss homework problems with other students (bring your own ideas) but do **not** copy other students' assignments. In other words, you may work together but write up your solutions on your own. When you work with another student, please write: "I worked with ..." on this assignment.

HW grading: depending on how many students attend the class, we may lack the manpower to grade all questions. The graded questions will be graded on a 4 point system: 4: perfect (I mean perfect) – 3: very good, almost perfect – 2: good start but incomplete or ended badly – 0: unsatisfactory/no attempt. To calculate the class grade, the HW average grade will be rescaled from a 0-4 to a 0-100% scale.

ASSESSMENT

There will be 1 in-class test and a final examination. The test dates are:

Mid-mini: thursday, april 7

Final: TBA

Write these dates down now! If you miss a test, bring a valid medical excuse **within one week**. There are no makeup tests. You will not be allowed books or notes for tests. The final grade will be based on the following breakdown:

Homework	25%
Mid-mini	25%
Final	50%

COMPUTING

The assignments will involve some computing. We will use R which is available free at <http://www.cran.r-project.org/>

We will also use the R library TSA, available from the same site.

You may also use Splus which is available on Andrew by typing: Splus. Splus and R are essentially the same but R is faster and is free. I will teach you all the R you need to know. You may use something other than R if you choose but then you are on your own.