School of Mathematical and Statistical Sciences
Department of Statistical and Actuarial Sciences
SS4861B/SS9861B COURSE OUTLINE[1]
By Ricardas Zitikis

1. General Course Information

SS4861B/SS9861B: Time Series
2017{2018 Winter term (January 8 { April 11, 2018)
Lecture room WSC 240
MWF 2:30-3:30 pm
Reading week February 19{23, 2018 (no lectures)

Requirements

Antirequisites: former SS3861A/B
Prerequisites: a minimum mark of 60% in both SS3858A/B and SS2864A/B.

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Ricardas Zitikis
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O ce WSC 274
http://www.stats.uwo.ca/faculty/zitikis/main.htm

When contacting by email, students must use their Western (@uwo.ca) email addresses

3. Course Description

Objectives

Study of time series models and their analysis
Enhancement of statistical intuition and technical prowess
Increased con dence when facing statistical challenges
Auxiliary preparation to meet actuarial (e.g., SOA) and PhD requirements

Topics

Time series models (AR, MA, ARIMA, ARCH, GARCH, etc.), dynamic regression, model

4. Course Materials

The following textbook will guide my lectures

> McNeil, A.J., Frey, R. and Embrechts, P. (2015). *Quantitative Risk Management: Concepts, Techniques and Tools.* (Revised Edition.) Princeton University Press, Princeton, NJ. (https://press.princeton.edu/titles/10496.html)

My inspiration will particularly come from these chapters

> Chapter 4: Financial Time Series
> Chapter 3: Empirical Properties of Financial Data
> Chapter 6: Multivariate Models
> Chapter 14: Multivariate Time Series
> Chapter 9: Market Risk

Occasionally, we may study some of these slides

> http://qrmtutorial.org/slides

We may even analyze (or at least keep in mind the existence of) the R code posted here

> http://qrmtutorial.org/r-code

Secondary (not required) study resources

> Brockwell, P.J. and Davis, R.A. (2002, or another edition). *Introduction to Time Series and Forecasting.* Springer, New York.
>
> Brockwell, P.J. and Davis, R.A. (1991). *Time Series: Theory and Methods.* Springer, New York.
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> Box, G.E.P., Jenkins, G.M., anan.Jenkins7(Da)274(LjungG.M.,)-373(a)274(5).)]TJ/F45 11.9552 Tf 273

6. Accommodation and Accessibility

If documentation (medical or otherwise) is required, it can only be collected by the student's Dean's Office/Academic Counselling unit.

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or supporting documentation to the Academic Counselling Office of your home faculty as soon as possible. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in WSC 140, and can be contacted at `sci_bmsac@uwo.ca`

For further information, please consult the university's medical illness policy at
`http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf`

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam.

You may also be eligible to write the Special Exam if you are in a \Multiple Exam Situation" (see `http://www.registrar.uwo.ca/examinations/exam_schedule.html`)

7. Academic Policies

The website for Registrarial Services is `http://www.registrar.uwo.ca`

In accordance with policy, `http://www.uwo.ca/its/identity/activatenonstudent.html`, the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

No electronic devices will be permitted on tests and exams.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at this website:
`http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf`

8. Support Services

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.

The policy on Accommodation for Students with Disabilities can be found here:
`www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf`

The policy on Accommodation for Religious Holidays can be found here:
`http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf`

Learning-skills counsellors at the Student Development Centre (http://www.sdc.uwo.ca) are ready to