ECO 374 H1S: Forecasting and Time Series Econometrics

Winter 2022, L0101

Department of Economics, University of Toronto

Lectures: Tuesday 10 am – 12 pm, WW126 or online
Tutorials: Friday 1 pm – 2 pm, OI 2214 or online
Instructor: Prof. Martin Burda
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Office hours: Wednesday 9 am – 11 am, online
TA: Bingyao Liu
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Office hours: Tuesday 3 pm – 5 pm, online
Grading TA: Xiaotong (Emily) Liu
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Course Description

The primary objective of the course is to provide students with a solid theoretical and practical foundation for forecasting and time series analysis. The course is built around the statistical foundations and economic application of modeling stochastic processes. Key examples will be drawn from business and financial economics. Students will gain practical hands-on experience working with economic and financial data using R, one of the most popular open-source software environments in data science.

Previous Training

*Prerequisite*s: ECO200Y1/ ECO204Y1/ ECO206Y1, ECO220Y1(70%)/ ECO227Y1/(STA237H1(70%), STA238H1(70%))/(STA257H1, STA261H1)
Recommended: MAT221H1/ MAT223H1/ MAT240H1
The prerequisites are checked by the administration of the Department of Economics and students will be removed from the course list if the prerequisites are not met.

Textbook

"Forecasting for Economics and Business" by González-Rivera, 2013, Pearson (Addison-Wesley, Routledge). ISBN-13: 978-0-13-147493-2, ISBN-10: 0-13-147493-6. The book is available in an eBook format (Routledge, Amazon). A hard copy can also be purchased at the University of Toronto Bookstore.

Software

We will use R within RStudio with Markdown, an integrated development environment for statistical analysis, visualization and reporting. No prior knowledge of the software environment is necessary. We will introduce the relevant software components during the course.

Evaluation

The final grade is based on the following:

Task	Weight	Due date
Midterm	30 %	~~February 18~~ March 4, 2022
Graded Problem Set 1	5 %	January 28, 2022
Graded Problem Set 2	5 %	March 18, 2022
Final Exam	60 %	Final Exam Period

The midterm exam will have duration of 50 minutes and will contain short-answer questions.

- A grade of zero will be given to students who do not write the exam, unless an appropriate and convincing note is received within one week of the missed exam explaining why the exam was missed. The note must be provided using the University of Toronto medical certificate. The note must clearly state that on the date of the exam, the student was too sick to write the exam. All students who miss the exam for medical reasons must complete the Absence Declaration on Acorn. It is an academic offence to feign illness to avoid an exam.
- If a student has been excused from the midterm on medical grounds, they will be permitted to write a make-up midterm worth the value of the midterm. Consistent with university policy, there is no "make-up" exam for a make-up exam. No medical excuses will be accepted, and grade of zero will be applied if the make-up exam is requested but missed.
- If students wish to appeal a grade, they must provide a written explanation of why they believe their grade is mistaken and submit it to the instructor within one week of the exam being returned to the class.

Problem Sets will be distributed throughout the semester and form the basis of the tutorials. They will consist of both theoretical and computer- (data-) based problems. The problems sets will not be graded but serve to prepare students for the midterm and final exam.

Graded Problem Sets will give students the opportunity to work on graded computer-based tasks using the R software.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or http://studentlife.utoronto.ca/accessibility.