

General Course Information

Instructor: Professor Yiguo Sun
Email yisun@uoguelph.ca
Office Location 709 MacKinnon
Office Hours 9:00am-5:00pm on Mondays, otherwise email communications are preferred
Department/School Economics and Finance

TA's TBA

Email ...
Office Location ...
Office Hours ...

Class Schedule: Tue & Thursday
4:00pm-5:20pm

Pre-requisites: This course follows ECON3740, where students have learned to use the OLS method to analyze cross-sectional data.

Co-requisites: The students are expected to understand one of the following software: TSP, STATA, EVIEW, SHAZAMS, R, etc. The STATA software is used in class and is installed in computers at the computer lab.

Course Description

This course aims to teach students the skills to analyze times series data, which are popularly used in macroeconomics and finance. The OLS estimation method introduced in ECON3740 will be extended to the time series framework. The course introduces several popularly used quantitative models specifically designed for time series data and forecasting methods used to predict futures from historical data.

Indicative Content

Topics to be covered:

- (1) OLS Extension to Time Series Data
- (2) Univariate and Multivariate Time Series Analysis
- (3) Modelling Conditional Volatility and Correlation
- (4) Switching Regression Models

Course Assessment

			Associated Learning Outcomes	Due Date/ location
Assessment 1:	<i>25%</i>	<i>Five Assignments</i>	<i>Computer skills</i>	<i>TBA/In class</i>
Assessment 2:	<i>25%</i>	<i>Mid-term Exam</i>	<i>Econometric methods</i>	<i>Oct.21, 2014 /In class</i>
Assessment 3:	<i>15%</i>	<i>Group Term Project</i>	<i>Computer skills, econometric methods, and collaboration</i>	<i>Nov. 25, 2014</i>
Assessment 4:	<i>5%</i>	<i>Presentation</i>	<i>Communication skills</i>	<i>End of semester/In class</i>
Assessment 5:	<i>30%</i>	<i>Final Exam</i>	<i>Econometric methods</i>	<i>8:30am-10:30am on Dec. 2, 2014</i>
Total	100%			

Teaching and Learning Practices (*as appropriate*)

Lectures	I will provide two lectures per week.
Labs	One teaching assistant teaches a computer lab between 8:30am and 9:20 am on Mondays.
Seminars	I will host a one-day office hour on Mondays and accept email communications on other weekdays. The students are encouraged to discuss their group term project with me in my office as soon as possible.

Course Resources

Required Texts:

Brooks, Chris, 2008. Introductory to Econometrics for Finance, 2nd Edition. Cambridge University Press. (*We will cover Chapters 4 to 9. **One copy is available at the Guelph McLaughlin Library, and you can borrow the book at the Reservation Desk for a two-hour loan.***)

Recommended Texts:

Brockwell and R.A. Davis, 1996. Introduction to Time Series and Forecasting. Springer Verlag; ISBN: 0387947191.

Other Resources:

I will post my lecture notes to the course link.

Course Policies

Grading Policies

- General speaking, I will give you one week for students to work on each assignment. Any missed assignments without my consent will be marked at zero, and a delayed assignment will be discounted by 5%.
- I encourage you to take the midterm exam on time. If you miss the midterm exam without letting me know before the exam is taken, I will automatically shift your midterm weight to your final weight. The makeup exam can be granted with my discretion.
- The students in the same group will earn the same grade for the group project, unless the group explicitly reports unequal efforts from its members in writing.
- The term project cannot be delayed.

Course Policy on Group Work:

- Group members are expected to contribute equally to the group project.
- A leader should be elected the date the group is set up, and a 1% bonus is given to the group leader for his/her time spent on coordinating group works.

Course Policy regarding use of electronic devices and recording of lectures

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

University Policies

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

<https://www.uoguelph.ca/registrar/calendars/graduate/2014-2015/>

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the applicable Academic Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/2014-2015/>

<https://www.uoguelph.ca/registrar/calendars/graduate/2014-2015/>

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <http://www.uoguelph.ca/csd/>

Course Evaluation Information

Please refer to: <https://www.uoguelph.ca/economics/course-evaluation>

Drop date

The last date to drop one-semester courses, without academic penalty, is October 31st, 2014. For regulations and procedures for Dropping Courses, see the Academic Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/2014-2015/>

<https://www.uoguelph.ca/registrar/calendars/graduate/2014-2015/>

Additional Course Information

- A. The term paper is due on **November 25, 2014**, with around TEN pages. It is preferable that the paper has a 1.5-sentence space to balance between easy reading and paper saving.
- B. A general format of the term paper is given as follows, which can be slightly changed with personal discretion:
- A title followed by your name and the date of submission
 - Abstract: to summarize the paper
 - Introduction: to motivate and explain what the paper is about
 - Data: to give the source of the data and basic summary statistics of the data
 - Model and estimation results: to explain which econometric model is used to analyze the data and what are the empirical findings.
 - Conclusion: to conclude the main results of the paper and summarize the potential pitfalls of the econometric methods used in the paper.
 - Tables and Figures: you can choose to either list all the tables and figures at the end of the paper or insert them in the context where it is required.
 - References: to list relevant articles cited in the paper.
 - Program Code: to insert your computer programming code used to produce all the tables and figures reported in the paper.

Please email your data and program code to yisun@uoguelph.ca when submitting your term paper (a hardcopy or a pdf file). If the data file itself is not clear enough to explain what the data are, please also write a **Readme.txt** file to describe the name of the data variables, etc.

Course Learning Outcomes

Upon successfully completing this course, you will be able to:

- use STAT to analyze time series data;
- make economic forecast from historical data;
- collaborate with group members;
- communicate research results.

Knowledge and Understanding:

- 1) **Mathematical Methodology**—basic mathematical skills are required.
- 2) **Statistical and Econometric Methodology** – this course covers time series data analysis.
- 3) **Understanding of Specific Markets**—in-class examples mainly come from financial econometrics.

Discipline/Professional and Transferable Skills:

- 4) Learn computation skills and data analysis skill;
- 5) Enhance oral communication through in-class presentation and group collaboration via group work.

Attitudes and Values:

6) The four econometrics courses such as Econ2740, 3740, 4640 and 4840 together offer necessary classical econometrics methods for students to handle types of data commonly observed in real life. Students who are able to fully understand these course materials are equipped with sufficient data analysis skills that are highly appreciated in many careers.