UNIVERSITY OF TORONTO

TIME SERIES ANALYSIS STA457H1 S

COURSE OUTLINE

INSTRUCTOR: Jen-Wen Lin, Ph.D.
OFFICE HOURS/LOCATION: 05:20—05:55pm/SS6027, or by appointment
CLASS TIME/PLACE: Wednesday 6-9 pm, BA1130
EMAIL: uofttimeseries@gmail.com and jenwen.lin@utoronto.ca
TEACHING ASSISTANT:
(1) Boris Garbuzov, boris.garbuzov@mail.utoronto.ca (midterm test)
(2) Tianyi Jia, tianyi.jia@mail.utoronto.ca (tutorial)
(3) Xu Zhao, xzxu.zhao@mail.utoronto.ca (final exam)

COURSE DESCRIPTION

This course provides an introduction to time series analysis with finance applications. The techniques can also be applied to other disciplines. After finishing this course, students are expected to gain hands-on knowledge on how to analyze and model time series data. Topics in this course include fundamental concepts of time series, Box-Jenkins methods (ARIMA models), and multivariate time series analysis (transfer function model, co-integration, etc.), and State space model and Kalman filter.

WEIGHTING SCHEME

Students' marks in this course will be calculated using the following formula

$$Max\ (Scheme\ 1, Scheme\ 2),$$

where
1. Scheme 1: 40%×midterm score+60%×final score, and
2. Scheme 2: 40%×final score+60%×midterm score.

- If students miss the midterm test with a legitimate reason, his/her weight on the midterm test will be shifted to final exam.

TEXTBOOK

Shumway and Stoffer (2010), Time Series Analysis and Its Applications: With R Examples (Springer Texts in Statistics)

TUTORIAL SESSION

- Teaching assistant: Tianyi Jia, tianyi.jia@mail.utoronto.ca
- Date and Topic

Date	Day of the week	Time	Lecture topic
Jan 25	Monday	2-4pm	Box-Jenkins approach
Jan 26	Tuesday	2-4pm	Box-Jenkins approach
February 08	Monday	2-4pm	Midterm practice
February 09	Tuesday	2-4pm	Midterm practice
February 22	Monday	2-4pm	Office hour
February 23	Tuesday	2-4pm	Office hour
March 14	Monday	2-4pm	TFN and VAR
March 15	Tuesday	2-4pm	TFN and VAR
April 04	Monday	2-4pm	Final practice
April 05	Tuesday	2-4pm	Final practice

- Location: TBA