
UNIVERSITY OF TORONTO
TIME SERIES ANALYSIS STA457H1F

COURSE OUTLINE

INSTRUCTOR: Jen-Wen Lin, PhD, CFA

OFFICE HOURS/LOCATION: TUESDAY 530PM-0600PM, MS3153, OR BY APPOINTMENT

CLASS TIME/PLACE: TUESDAY 6-9 pm, MS3153

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TEACHING ASSISTANT:

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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), multivariate time series analysis (transfer function noise model, co-integration, etc.), as well as State space model and Kalman filter.

WEIGHTING SCHEME

The final mark will be calculated using the following formula

$$50\% \times \text{midterm score} + 50\% \times \text{final score}$$

- If students miss the midterm test with a legitimate reason, his/her weight on the midterm test will be shifted to final exam.
 - Students may conduct a research project to replace his/her final score if students receive approval of doing so from the instructor.
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TEXTBOOK (OPRIONL)

Self-contained lecture notes are available on portal before the class. The following books were used as the STA457 textbook in the past and students may use them as references.

1. Shumway and Stoffer (2010), Time Series Analysis and Its Applications: With R Examples (Springer Texts in Statistics)
2. Wei (2005), Time Series Analysis—Univariate and Multivariate Methods.