UNIVERSITY OF TORONTO

TIME SERIES ANALYSIS STA457H1 S

COURSE OUTLINE

INSTRUCTOR: JEN-WEN LIN, PH.D., CFA

OFFICE HOURS/LOCATION: 0530--0600PM BEFORE CLASS, BA1160.

CLASS TIME/PLACE: MONDAY AND WEDNESDAY 6-9 PM, BA 1160

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

WEIGHTING SCHEME

	Scheme1	Scheme 2
Midterm test	50%	45%
Final exam	50%	45%
Assignment	0%	10%

The final marking scheme is $Max(Scheme\ 1,\ Scheme\ 2)$.

TEXTBOOK

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

REFERENCE BOOKS

1. Brockwell and Davis (1991), *Time Series: Theory and Method*, Springer, Second edition.
2. Hamilton (1994), *Time Series Analysis*, Princeton University Press.
3. Hipel and McLeod (2005), *Time Series Modeling of Water Resources and Environmental Systems*, http://www.stats.uwo.ca/faculty/aim/1994Book/default.htm
4. Tsay (2010), *Analysis of Financial Time Series*, Wiley, Second edition.
5. Enders (2004), *Applided Econometric Time Series*, Wiley, Second edition.
6. Wei (2006), *Time Series Analysis: Univariate and Multivariate Methods*, Addison Wesley, Second edition.