ECO409H1S Topics in Money, Banking and Finance
Department of Economics
University of Toronto

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COURSE OUTLINE

ECO409 is an advanced undergraduate course, which will cover topics in money, banking and finance. The course will focus primarily on finance and, specifically, will provide an in-depth analysis of empirical asset pricing. First, we will study how stock, bond and currency markets work, and will review issues relating to the valuation of stocks and bonds. Then, we will focus on building portfolios through dynamic asset allocation. We will also examine the risk-return relation in the cross-section of stocks, bonds and currencies. Finally, we will discuss the performance of popular portfolios based on size, value and momentum.

These topics will be discussed in three steps: (i) we will build a common background for all students in order to facilitate discussion of finance research; (ii) we will provide an in-depth look at a few selected core topics in empirical asset pricing, and (iii) we will expose students to the analysis of some seminal research papers. In this process, students are strongly encouraged to participate in any way they can. In this course, the more interaction, the better the learning experience.

There is no required textbook for this course. The readings will consist of detailed lecture notes, problem sets and assigned research papers. All materials will be posted on Blackboard.

COURSE INFORMATION

Class Time: Monday: 10-12pm.

Tutorial Time: Friday: 1-2pm.

Class Location: BA 2195 (both lectures and tutorials); **except February 27**: HA 410.

Term Test: February 13

Prerequisites: ECO200Y1/ECO204Y1/ECO206Y1;
                       ECO202Y1/ECO208Y1/ECO209Y1;
                       ECO220Y1/ECO227Y1/(STA220H1,STA255H1)/(STA257H1,STA261H1);
                       At least one FCE in ECO at the 300 level or higher.

ASSESSMENT

Assessment for this course is based on the following components:

- Midterm Test – **Monday, February 13, in-class**: 20%
- Project 1 – **Friday, February 10:** 20%
- Project 2 – **Friday, March 24:** 20%
- Final examination – **Date and Location TBA:** 40%

Midterm Test
The midterm test will last 2 hours. It will cover all material taught up to that date. Details will be provided later.

Final Exam
The final exam will last 3 hours. It will cover the material taught <u>after</u> the midterm test. Details will be provided later.

Empirical Projects
Students are required to work on two empirical projects. Details on these projects will be discussed later. I expect that the projects will involve some of the following:

- Collecting data for different types of assets (e.g., stocks, bonds, commodities or currencies) for a long sample period.
- Using Excel to compute and report descriptive statistics on the data: means, variances, standard deviations, minima, maxima, skewness, kurtosis, serial correlations, cross-correlations, etc.
- Use these statistics to assess the risk-return tradeoff on the assets.
- Design a trading strategy for allocating wealth across these assets
- Report and discuss the performance of the strategy.

We will also review some examples on how to do the above in Excel during the Friday tutorials.

Late Submission of Empirical Projects
There will be a penalty for late submission of the empirical projects. The penalty will be equal to 10% of the project mark for every day the project is late.

Missing the Midterm Test
The midterm test is a compulsory part of your assessment. If you miss the midterm test, your grade will be 0. However, if you miss the midterm test for legitimate reasons, then you must take a makeup midterm test within two weeks of the originally scheduled midterm test. In this case, you must provide supporting documentation within a week of the missed test. In the event of illness, you must provide a medical note (original, i.e., neither scanned nor emailed). The only accepted note is a fully completed *University of Toronto Verification of Student Illness or Injury form*. See http://www.illnessverification.utoronto.ca for details. The form must be completed by a qualified medical doctor or nurse practitioner (i.e., not an acupuncturist, chiropractor, or other health care professional). The doctor's OHIP registration number must be provided.

Appeals
If you appeal to re-grade one of the midterm questions, we will re-grade the entire midterm test. This may lead to a lower or higher overall grade. Your complaint has to be in writing, it must be submitted within two weeks from the day that graded midterms become available for pick-up, and it must explain why you believe the grading is incorrect. These conditions do not apply to clerical errors (i.e., adding your scores incorrectly). If a clerical error occurs, please notify Professor Tsiakas as soon as possible.

LECTURE HANDOUTS AND RESEARCH PAPERS

There is no textbook for this course. Students are expected to study the lecture handouts, problem sets and the assigned research papers. All handouts and papers will be posted in advance on Blackboard.

For the final exam, you are required to study the following five research papers:

Fama, E., and J. MacBeth (1973). "Risk, Return and Equilibrium: Empirical Tests," *Journal of Political Economy* 81, 607-636.

Fama, E., and K. French (1992). "The Cross-Section of Expected Stock Returns," *Journal of Finance* 47, 427-465.

Fama, E., and K. French (1993). "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics* 33, 3-56.

Jegadeesh, N., and S. Titman (1993). "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency," *Journal of Finance* 48, 65-91.

Carhart, M. (1997). "On Persistence in Mutual Fund Performance," *Journal of Finance* 52, 57-82.

LECTURE TIMETABLE

WEEK 1: January 9

- Course outline and introduction

WEEK 2: January 16

- The empirical properties of asset returns: stocks, bonds and exchange rates

- Measuring risk and return: mean, variance, standard deviation, covariance, correlation, skewness, kurtosis

- Tutorial 1 on Friday January 20: discuss Project 1

WEEK 3: January 23

- Investor preferences and risk aversion

- Problem Set 1

- Tutorial 2 on Friday January 27: discuss Problem Set 1

WEEK 4: January 30

- Financial calculus:
  - Compounding and future value
  - Discounting and present value
  - Annuities and perpetuities

- Valuing stocks:
  - Stock prices and dividends: the dividend discount model
  - The Campbell and Shiller (1988) decomposition

- Problem Set 2

- Tutorial 3 on Friday February 3: discuss Problem Set 2

WEEK 5: February 6

- Valuing bonds:
  - Prices, yields and valuation
  - The term structure of interest rates
  - Managing bond portfolios

- Problem Set 3

- Tutorial 4 on Friday February 10: discuss Problem Set 3

- Project 1 is due on Friday February 10

WEEK 6: February 13

- Mid-term test: in-class

READING WEEK: February 20

WEEKS 7-8: February 27 & March 6

- The foundations of portfolio choice and diversification

- Mean variance analysis: assumptions, strengths and weaknesses
    - Maximum Utility Strategy
    - Maximum Expected Return Strategy
    - Minimum Volatility Strategy
    - Global Minimum Variance Strategy
    - The 1/N strategy

- Performance Measures, Transaction Costs and long horizon investing

- Tutorial 5 on Friday March 3: discuss Project 2

WEEKS 9-11: March 13, 20 &27

- The Capital Asset Pricing Model (CAPM): theory, empirical testing and empirical evidence

- The Fama and MacBeth (1973) methodology

- The Consumption CAPM (C-CAPM)

- Arbitrage pricing theory (APT)

- The Fama-French (1993) size and value factors

- Momentum

- Project 2 is due on Friday March 24

WEEK 12: April 3

- Exchange rate determination and forecasting

- Covered and uncovered interest parity

- The carry trade strategy

ACADEMIC INTEGRITY AND RESPECT

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. As a result, the University treats cases of cheating and plagiarism very seriously.

Familiarize yourself with the University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm). It outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

On tests and exams:
- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers.
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:
- Falsifying or altering any documentation required by the University, including doctor's notes.
- Falsifying institutional documents or grades.

The University of Toronto treats cases of academic misconduct very seriously. All suspected cases of academic dishonesty will be investigated following the procedures outlined in the Code. The consequences for academic misconduct can be severe, including failing the course and a note on your transcript. If you have any questions about what is or is not permitted in this course, please do not hesitate to contact me. If you are experiencing personal challenges that are having an impact on your academic work, please speak to me or seek the advice of your college registrar.

Finally, you are expected to respect your classmates and me. For example, during lecture do not chat, surf the Internet, read the newspaper, sleep, eat nor engage in any other disruptive behaviours.

RESOURCES

Academic Success Centre: http://www.studentlife.utoronto.ca/asc
Accessibility Services: http://accessibility.utoronto.ca
Counseling & Psychological Services: http://caps.utoronto.ca/
College Registrars' offices: http://uoft.me/advising
English Language Learning: http://www.artsci.utoronto.ca/current/advising/ell
Office of Student Academic Integrity: http://www.artsci.utoronto.ca/osai
Rights & Responsibilities: http://uoft.me/rights
Writing help: http://www.writing.utoronto.ca/