

COURSE CODE: QF600
COURSE TITLE: Asset Pricing

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PRE-REQUISITE/CO-REQUISITE/MUTUALLY EXCLUSIVE COURSE(S)

None

COURSE AREA

Quantitative Finance

GRADING BASIS

Graded

COURSE UNIT

1 CU

FIRST OFFERING TERM

Academic Year: AY2018

Academic Term: Term 1

COURSE DESCRIPTION

This course will examine the theoretical foundations of modern financial economics, with emphasis on asset pricing and portfolio choice. The course will cover topics such as expected utility, mean-variance analysis, linear multi-factor models, state prices and stochastic discount factor, multi-period asset pricing, behavioral finance and continuous-time option pricing. Homework assignments will focus on applications rather than derivations, and will make extensive use of MATLAB.

LEARNING OBJECTIVES

On successful completion of the course, students should understand:

- Foundations of expected utility
- Asset allocation based on mean-variance analysis
- Asset pricing using linear multi-factor models
- Asset pricing using state prices and stochastic discount factor
- Asset pricing in a dynamic multi-period setting
- Effect of investor irrationality on asset pricing
- Option pricing in a continuous-time setting

ASSESSMENT METHODS

Class Participation:	10%
Homework Assignments:	30%
Final Examination:	60%
Total:	100%

Attendance and Class Participation

Students are required to attend all lectures. Credit will be given to students who ask questions during lectures, or otherwise provide relevant input.

Homework Assignments

There will be regular homework assignments that focus on numerical applications pertaining to the material covered in the lectures. Students will be required to complete the assignments using MATLAB or Python. Students may discuss the homework problems, but each student must individually submit a completed homework assignment. Students may also be required to present their solutions in class, in order to promote group learning.

Final Exam

There will be a two- to three-hour examination at the end of the course. The exam will cover all material that is presented during the lectures. The exam will focus on numerical applications using MATLAB or Python, similar to the homework assignments. Each student will be required to bring a laptop computer, with MATLAB or Python installed, for the exam.

ACADEMIC INTEGRITY

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

All work presented in class must be the student's own work. Any student caught violating this policy may result in the student receiving zero marks for the component assessment or a fail grade for the course. This policy applies to all works (whether oral or written) submitted for purposes of assessment.

When in doubt, students are encouraged to consult the instructors of the course. Details on the SMU Code of Academic Integrity may be accessed at <http://www.smuscd.org/resources.html>.

REFERENCE TEXTS

The lecture notes are based *Theory of Asset Pricing* by George Pennacchi, Pearson Education, 2008, which provides an introduction to post-graduate-level theory of finance. Students may also wish to refer to *Asset Pricing* (Revised Edition) by John Cochrane, Princeton University Press, 2005, which provides a modern treatment of many topics in finance.

TENTATIVE SCHEDULE

Session	Topic
1	Expected Utility Theory
2	Mean-Variance Analysis
3	Linear Factor Models
4	Multi-Factor Models
5	State Prices and Stochastic Discount Factor
6	Multi-Period Asset Pricing
7	Behavioral Finance
8	Continuous-Time Option Pricing