

School of Finance
Shanghai University of Finance and Economics

Quantitative Finance
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Course Description

This is an advanced undergraduate course which introduces the quantitative approaches frequently employed in financial economics. Main topics cover modeling of financial returns, mean-variance portfolio theory, decision under uncertainty and the expected utility framework, and the Capital Asset Pricing Model (CAPM).

Course Objective

This course provides a comprehensive coverage of basic concepts, important theories, practical applications, and decision-making rules in the area of investments. The students will learn about how to conduct fundamental analysis and valuation of financial assets, as well as modern portfolio management and equilibrium analysis skills. After completing this class, students should be conversant in investment management and prepared to start doing financial research.

Main Reading

Lecture notes

Suggested readings

David Luenberger, 2012. *Investment Science*, China Renmin University Press. ISBN: 9787300154800.

Fama, Eugene F., 1976. *Foundations of Finance: Portfolio Decisions and Securities Prices*, Basic Books. ISBN: 978-0465024995.

(Available on Fama's website: <http://faculty.chicagobooth.edu/eugene.fama/research/>)

Campbell, John Y., Andrew W. Lo, and A. Craig MacKinlay, 1997. *The Econometrics of Financial Markets*, 1st edition, Princeton University Press. ISBN: 978-1400830213.

Pennacchi, George, 2007. *Theory of Asset Pricing*, 1st edition, Pearson. ISBN-13: 978-0321127204

Class Administration

Plagiarism is strictly prohibited. Students should refer to the bulletin for university policies regarding academic integrity. Plagiarism includes, but is not necessarily limited to, the following types of cases:

- The representation of someone else's ideas as if they are one's own.
- Unauthorized collaboration on out-of-class projects/assignments: The representation of work as solely one's own when in fact it is the result of a joint effort.
- Cheating on in-class exams: The covert gathering of information from other students, the use of unauthorized notes, unauthorized aids, etc.
- Unauthorized advance access to an exam.