

EF8077: THEORETICAL ASSET PRICING

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Theoretical Asset Pricing

Subject Code

EF - Economics and Finance

Course Number

8077

Academic Unit

Economics and Finance (EF)

College/School

College of Business (CB)

Course Duration

One Semester

Credit Units

3

Level

R8 - Research Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

EF8070 Advanced Microeconomics & EF5250 Stochastic Calculus Finance

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

Abstract

The objective of the course is to present both theoretical issues and material of practical value in financial economics and to develop students' analytical skills and economic sense of the financial markets through lectures, problem assignments, reading assignments, projects and discussions.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Design and solve (via Euler-equations) one-period portfolio-choice models; explain the concept of the stochastic discount factor and its use in asset pricing; explain and apply the mean-variance analysis framework; explain the theoretical base of factor models, and their scope and limitations in explaining cross-sectional return distributions.	25	x	x	x
2	Describe the basics of representative-agent pricing (CRRA utility and i.i.d. growth); and explain how the basic models can be extended (e.g., Epstein-Zin-Weil utility and predictable growth).	25	x	x	x
3	Apply the Black-Scholes model for European-type options by using the concept of stochastic discount factor; explain and solve classical models for default-free bonds; explain the concept of strategic default and solve Leland-type models for the joint pricing of corporate bonds and equity; explain q-theory based on capital accumulation and its equity pricing implications.	25	x	x	x
4	Explain theoretical models with asymmetric information, beliefs, and associated learning in financial market and their implications on asset pricing.	25	x	x	x

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures, in-class discussions, assignments	Students will engage in formal lectures that will discuss and illustrate the various asset pricing theories and models.	1, 2, 3, 4	Equivalent of 2.5 hours lecture and discussions per week

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Homework assignments, discussions	1, 2, 3, 4	20	For assignments and group project, students can use Generative Artificial Intelligence Tools to help them understand the concepts/ questions/ problems, or analyze data. But the final version must be their own work, e.g., students cannot copy and paste the AI answers as their own answers. Students are not allowed to use Generative Artificial Intelligence Tools in mid-term examination(s)/ quiz(zes).	Yes

2	Critical Review	1, 2, 3, 4	20	For assignments and group project, students can use Generative Artificial Intelligence Tools to help them understand the concepts/ questions/ problems, or analyze data. But the final version must be their own work, e.g., students cannot copy and paste the AI answers as their own answers. Students are not allowed to use Generative Artificial Intelligence Tools in mid-term examination(s)/ quiz(zes).	Yes
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Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

3

Minimum Continuous Assessment Passing Requirement (%)

0

Minimum Examination Passing Requirement (%)

0

Assessment Rubrics (AR)**Assessment Task**

Homework assignments, discussions (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstrate the ability to apply the financial economics theories and models to tackle the problem-solving questions and assignments as assigned.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Discovery based project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstrate the capability to discover, through a project, the performance of selected asset pricing models.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Examination (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstrate good understanding of the various financial economics theories and models that were taught in the course.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Homework assignments, discussions (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Demonstrate the ability to apply the financial economics theories and models to tackle the problem-solving questions and assignments as assigned.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Discovery based project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

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Assessment Task

Examination (for students admitted from Semester A 2022/23 to Summer Term 2024)

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Demonstrate good understanding of the various financial economics theories and models that were taught in the course.

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(B-, C+, C) Basic

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Part III Other Information

Keyword Syllabus

Capital Markets, Asset Pricing, Stochastic Discount Factor, Optimal Portfolio Choice, Mean-Variance analysis, CAPM, Long-Run Risk, Option pricing theory, Term-structure models, Structural Credit Risk, Market microstructure theory, Heterogeneous Beliefs and Preferences, Information Asymmetry and Learning

Reading List**Compulsory Readings**

Title	
1	Back, Kerry (2017) Asset Pricing and Portfolio Choice Theory 2ed, Oxford University Press
2	Costis Skiadas, Asset Pricing Theory Princeton, 2009.

Additional Readings

Title	
1	Journal of Finance
2	Journal of Financial Economics
3	Review of Financial Studies
4	Journal of Financial and Quantitative Analysis