

# FB6862P: DERIVATIVES AND APPLICATIONS

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## Effective Term

Semester B 2024/25

## Part I Course Overview

### Course Title

Derivatives and Applications

### Subject Code

FB - College of Business (FB)

### Course Number

6862P

### Academic Unit

College of Business (CB)

### College/School

College of Business (CB)

### Course Duration

Non-standard Duration

### Other Course Duration

2 days

### Credit Units

1

### Level

P5, P6 - Postgraduate Degree

### Medium of Instruction

Chinese (Putonghua)

### Medium of Assessment

Chinese

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to facilitate students' learning of financial derivative instruments, pricing, and the practice of risk management. Upon completion of this course, students are able to price a variety of derivatives; use option, futures, and swaps to do arbitrage and to form hedging portfolios; and can use derivative securities to manage the risk of financial assets.

### Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Understand the basic knowledge of derivative securities and risk management	40	x	x	x
2	Know how to price different financial derivatives	40	x	x	x
3	Apply option, futures, and swaps to do arbitrage and to form hedging portfolios	10	x	x	x
4	Use derivative securities to manage the risk of financial assets	10	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 and presentations	by professor to communicate factual and "how to" knowledge.	1, 2, 3	
2	In-class cases/exercises	to develop intellectual and practical skills that apply basic knowledge for different derivative instruments.	1, 2, 3, 4	
3	Discussions in class and off-class	to provide relevant experience	1, 2, 4	

### Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Class Contribution	1, 2, 3	30	
2	Individual assignment	1, 2, 3	50	

3	Individual & group exercises	1, 2, 3, 4	20	
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**Continuous Assessment (%)**

100

**Assessment Rubrics (AR)****Assessment Task**

1. Class contribution (for students admitted before Semester A 2022/23 and in Semester A 2024/25 &amp; thereafter)

**Excellent**

(A+, A, A-) Strong evidence of class contribution through class exercises, and active and insightful class participation. Punctual and nearly full attendance

**Good**

(B+, B, B-) Evidence of class contribution through class exercises and regular class participation. Punctual and nearly full attendance

**Fair**

(C+, C, C-) Some evidence of class contribution thorough class exercises and preparation. Regular class attendance with occasional absences and lateness.

**Marginal**

(D) Minimum class contribution. Multiple absences and/or late attendance.

**Failure**

(F) No evidence of adequate class contribution through exercises or in-class discussion.

**Assessment Task**

2. Individual assignment (for students admitted before Semester A 2022/23 and in Semester A 2024/25 &amp; thereafter)

**Excellent**

(A+, A, A-) Strong evidence of original thinking; good organization, capacity to organize and synthesize with superior grasp of the subject matter; evidence of extensive knowledge base.

**Good**

(B+, B, B-) Evidence of a grasp of the subject with indications of critical capacity and analytical ability; reasonable understanding of the issues with good responses to the questions.

**Fair**

(C+, C, C-) Evidence of learning from the course; show some ability to think analytically and to offer adequate responses to the questions.

**Marginal**

(D) Sufficient familiarity with the subject and of ability to respond to the questions as to justify consideration of the student for progression.

**Failure**

(F) Little evidence of familiarity with the subject matter; poor critical and analytical skills; ignorance of class knowledge.

**Assessment Task**

3. Individual/ Group exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

**Excellent**

(A+, A, A-) Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

**Good**

(B+, B, B-) Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with class knowledge.

**Fair**

(C+, C, C-) Evidence of learning from the course; understanding of the subject; ability to develop solutions to simple problems.

**Marginal**

(D) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

**Failure**

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited or irrelevant use of class knowledge.

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**Assessment Task**

1. Class contribution (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Excellent**

(A+, A, A-) Strong evidence of class contribution through class exercises, and active and insightful class participation. Punctual and nearly full attendance

**Good**

(B+, B) Evidence of class contribution through class exercises and regular class participation. Punctual and nearly full attendance

**Marginal**

(B-, C+, C) Minimum class contribution. Multiple absences and/or late attendance.

**Failure**

(F) No evidence of adequate class contribution through exercises or in-class discussion.

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**Assessment Task**

2. Individual assignment (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Excellent**

(A+, A, A-) Strong evidence of original thinking; good organization, capacity to organize and synthesize with superior grasp of the subject matter; evidence of extensive knowledge base.

**Good**

(B+, B) Evidence of a grasp of the subject with indications of critical capacity and analytical ability; reasonable understanding of the issues with good responses to the questions.

**Marginal**

(B-, C+, C) Sufficient familiarity with the subject and of ability to respond to the questions as to justify consideration of the student for progression.

**Failure**

(F) Little evidence of familiarity with the subject matter; poor critical and analytical skills; ignorance of class knowledge.

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**Assessment Task**

3. Individual/ Group exercises (for students admitted from Semester A 2022/23 to Summer Term 2024)

**Excellent**

(A+, A, A-) Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

**Good**

(B+, B) Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with class knowledge.

**Marginal**

(B-, C+, C) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

**Failure**

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited or irrelevant use of class knowledge.

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## Part III Other Information

**Keyword Syllabus**

- Introduction: Derivative Instruments
- Forward and Futures
- Properties of Forward Contract and Forward Market
- Properties of Future Contract and Future Market
- Comparison of Forward vs. Future
- Pricing of Forward and Future
  - Swaps
- Properties of Swap Contract and Swap Market
- Properties of Interest Swap and its Pricing
- Properties of Currency Swap and its Pricing
- Hedging in Practice
  - Option
- Properties of Options
- Trading Strategies
- Options Pricing
- Hedging in Practice: Case Studies

**Reading List**

**Compulsory Readings**

Title	
1	Options, Futures, and Other Derivatives Tenth Edition, by HULL, John C. Published by Prentice Halls.

**Additional Readings**

	<b>Title</b>
1	A package of finance articles