



浙江大學

**FINS982**

**Derivative Securities and Risk Management**

# FINS982

## Derivative Securities and Risk Management

### **Instructor Contact Details**

Lecturer-in-charge: TBA

Email: wlwyxy\_29@zju.edu.cn

Office location: Huajiachi Campus, Zhejiang University

Consultation Times: to be announced, and by appointment

### **Teaching Times and Locations**

The Time and Location: TBA, Huajiachi Campus, Zhejiang University

Lecture sessions include lectures, seminars, field trip(s) as well as in-class activities.

### **Academic Level**

Postgraduate

### **Units of Credit**

The course is worth 6 units of credit

### **Contact Hours**

The course contains a total of 53 contact hours, which consists of an orientation meeting, 13 lecturing seminars, a revision day, a field trip and a final exam. Each seminar is 180 minutes in length, while the field trip is 300 minutes and the final exam costs 120 minutes. Students will receive an official transcript which is issued by Zhejiang University when completing this course.

### **Credit Hours**

The number of credit hours of this course equals to the credits of a standard semester-long Australian university course.

### **Course Description:**

This course provides introductory theory and applied knowledge of financial derivatives. The theoretical part covers some basic pricing principles applicable to various derivatives contracts in the financial market. The working knowledge section will cover the main types of derivatives contracts and valuation techniques. The course emphasizes the use of derivatives in financial risk management. It includes an options market making simulation designed to help students gain practical knowledge about complex options market making mechanisms.

### **Prerequisite:**

N/A

### **Learning Resources**

Chance, D and Brooks, R. (2014). 10th Edition. Introduction to Derivatives and Risk Management, Cengage Learning.

Options, Futures and Other Derivatives, by John C. Hull, 9th Ed., Prentice-Hall, 2015.

### **Learning Objectives**

By the end of this course you should be able to:

- Explain the definitions and uses of a variety of derivatives, e.g., futures, options, swaps, and some exotic options.
- Develop an understanding of the economic intuition underlying option pricing;
- Outline the correct derivatives used for hedging the different types of risks;
- Understand and evaluate the shortcomings of hedging as well as the general health of the financial markets;
- Communicate financial derivatives pricing and risk management ideas in a clear and succinct manner.

**Course Delivery:**

The following course will be taught in English and it will comprise of lectures, tutorials, projects, presentations and group activities. In addition to these, there will also be guest speakers and optional field trips available for students who would like to enhance their learning experience. The course will be delivered within 13 sessions, with each session totaling 3 hours-inclusive of both the lecture and tutorial. These sessions will be running during weekdays, Monday to Friday. Students are expected to engage in class discussions and work cooperatively during group work.

**Topics and Course Schedule:**

<b>Topic</b>	<b>Activities</b>
<b>Orientation</b>	
<b>Fundamentals of Forwards and Futures</b>	Lecture; Tutorial
<b>Hedging technique and pricing of forward and futures.</b>	Lecture; Tutorial
<b>Principles of options pricing</b> <b>Value of a call</b> <b>Effect of time</b> <b>Effect of interest rates</b>	Lecture; Tutorial
<b>Options Pricing Model</b>	Lecture; Tutorial
<b>Origins of The Black-Scholes-Merton Model</b> <b>Assumptions of this formula</b> <b>Stock price, exercise price</b> <b>Standard deviation</b>	Lecture; Tutorial
<b>Seminar</b>	
<b>Option Strategies</b>	Lecture; Tutorial

<b>Advanced Option Strategies</b> • The modified butterfly • Key criterias to consider	Lecture; Tutorial
<b>Midterm exam</b>	
<b>Pricing derivative securities</b>	Lecture; Tutorial
<b>Futures and Forwards</b>	Lecture; Tutorial
<b>Contracting</b> <b>Expiration Dates</b> <b>Strike Price</b> <b>Pricing</b> <b>Exercise and assignment</b>	Lecture; Tutorial
<b>Futures Arbitrage Strategies</b>	Lecture; Tutorial
<b>Hedging</b>	Lecture; Tutorial
<b>Interest rate swaps</b> <b>Currency Swaps</b> <b>Equity Swaps</b>	Lecture; Tutorial
<b>Revision</b>	
<b>Final exam</b>	

**Assessments:**

Class participation	10%
Quiz 1	15%
Research and case study	15%
Individual Assignment	20%
Final exam	40%

### Class participation (10%)

Active engagement in class activities and discussions are encouraged to consolidate what has been learnt in lectures. Class participation is essential towards developing a comprehensive understanding on the learning outcomes and expectations placed on students. Students are expected to participate and actively engage in all class discussions in order to ensure that they gain a more holistic learning experience. Those who are unwilling to contribute or participate in class discussions should expect relatively low class participation grade even if they are physically present in all classes.

To further enhance the learning experience, it is also important for you to engage in regular discussions with other students, in exchanging knowledge and ideas with regards to this course and its key topics. Students are expected to be present and punctual for all their classes. Lateness and causing disruption to other students is not acceptable and will not be tolerated. Doing so will lead to the deduction of class participation marks. Students are expected to be respectful towards their peers, their lecturers and all other staff members. If you are not ready to meet these basic expectations, this may not be a suitable option of study for you.

### In class quiz (15%)

- Type: Quiz
- Weight: 15%
- Length: A 45 minutes quiz conducted in the class.
- Task: This is a closed book examination.
- Details of the test will be announced and discussed in class.

### Research and case study (15%):

The details will be announced in class

### Individual Assignment (20%)

- Students will completing an assignment relating to course topics. They are required to work individually to complete this task and present it to the class through a

speech (optional). Details of the assignment will be announced and discussed during the class.

1. 5 pages maximum in A4,
2. 12 point Times New Roman font
3. Single line spacing

- Late submission will attract a penalty of 10% of the total weighting of the assessment task. A 10% deduction applies for EACH late day and the assessment will not be accepted after 5 working days. Extensions will only be granted upon the basis that there is reasonable medical evidence of illness or any other extreme circumstances that the university may place under consideration. Under no circumstances will extensions be granted for work or any other commitments. A request for an extension must formally submitted to the lecturer in writing prior to the due date, in accordance with the university's assessment policies. Medical certificates or other evidence of extreme misfortune must be submitted through a special consideration form and must contain information that justifies the extension sought.

Final examination (40%):

Type: Examination

Weight: 40%

Length: A two hours formal final examination will be scheduled by the lecture and conducted in the class.

Task: This is a closed book examination.

Students should expect a variety of differently structured questions such as multiple-choice answers, short answer questions, and extended responses. Students are expected to attempt all components of the exam to their best of their abilities. Students will be provided with samples questions and a comprehensive explanation on exam instructions.

Please make sure that you are physically present in all classes, especially on examination dates. No make-up tests or examinations will be provided.

**Grade Descriptors:**

HD	High Distinction	85-100
D	Distinction	75-84
Cr	Credit	65-74
P	Pass	50-64
F	Fail	0-49

**High Distinction 85-100**

Treatment of material evidences an advanced synthesis of ideas

Demonstration of initiative, complex understanding and analysis

Work is well-written and stylistically sophisticated, including appropriate referencing, clarity, and some creativity where appropriate

All criteria addressed to a high level

**Distinction 75-84**

Treatment of material evidences an advanced understanding of ideas

Demonstration of initiative, complex understanding and analysis

Work is well-written and stylistically strong

All criteria addressed strongly

**Credit 65-74**

Treatment of material displays a good understanding of ideas



Work is well-written and stylistically sound, with a minimum of syntactical errors  
All criteria addressed clearly

**Pass 50-64**

Treatment of material indicates a satisfactory understanding of ideas  
Work is adequately written, with some syntactical errors  
Most criteria addressed adequately

**Fail 0-49**

Treatment of ideas indicates an inadequate understanding of ideas  
Written style inappropriate to task; major problems with expression  
Most criteria not clearly or adequately addressed

**Academic Integrity**

Students are expected to uphold the university's academic honesty principles which are an integral part of the university's core values and principles. If a student fails to observe the acceptable standards of academic honesty, they could attract penalties and even disqualification from the course in more serious circumstances. Students are responsible for knowing and observing accepted principles of research, writing and any other task which they are required to complete.

Academic dishonesty or cheating includes acts of plagiarism, misrepresentation, fabrication, failure to reference materials used properly and forgery. These may include, but are not limited to: claiming the work of others as your own, deliberately applying false and inaccurate information, copying the work of others in part or whole, allowing others in the course to copy your work in part or whole, failing to appropriately acknowledge the work of other scholars/authors through acceptable referencing standards, purchasing papers or writing papers for other students and submitting the same paper twice for the same subject.

This Academic Integrity policy applies to all students of the Zhejiang University in all programmes of study, including non-graduating students. It is to reinforce the University's commitment to maintain integrity and honesty in all academic activities of the University community.

## **Policy**

- The foundation of good academic work is honesty. Maintaining academic integrity upholds the standards of the University.
- The responsibility for maintaining integrity in all the activities of the academic community lies with the students as well as the faculty and the University. Everyone in this community must work together to ensure that the values of truth, trust and justice are upheld.
- Academic dishonesty affects the University's reputation and devalues the degrees offered.
- The University will impose serious penalties on students who are found to have violated this Policy. The following penalties may be imposed:
  - Expulsion;
  - Suspension;
  - Zero mark/fail grade;
  - Marking down;
  - Re-doing/re-submitting of assignments or reports; and
  - Verbal or written warning.