



University of  
**Strathclyde**  
Business  
School

## Department of Accounting and Finance AG313 Treasury Management and Derivatives

2024/25 Semester 2  
20 Module Credits

### **Module Details**

#### **Module Description**

This module is comprised of two parts. The first part introduces to the concept, definitions and valuation of derivatives products. The second part of the module provides an introduction to international finance and a number of issues facing a multinational business. The second part also includes an introduction to the role of a corporate treasurer in a multinational company and their main task of managing risk in an international environment. This module will provide a basis for the International Financial Management honours course and the Advanced Derivatives honours course and will develop on a number of aspects of the second year business finance course.

#### **Teaching Hours**

Lectures: All weeks, Tuesdays 3-5pm and Thursdays 1-3pm in TBC.

Tutorials: Weeks 2-11 (excluding week 7)

Please see the "Tutorial Sign Up" tab on the AG313 Myplace page here: [Course: AG313: Treasury Management and Derivatives | classes \(strath.ac.uk\)](#) for tutorial times/dates. All students are required to sign up for one tutorial slot per academic year. These are available on a first come first served basis.

Attendance at tutorials is compulsory and will be monitored. If your attendance is unsatisfactory then you will receive a warning letter, which will be retained in a departmental file.

If you are absent from a tutorial or lab please email [sbs-accfin-admin@strath.ac.uk](mailto:sbs-accfin-admin@strath.ac.uk). If you are absent due to medical reasons please submit medical evidence or self-certificate via [Pegasus: Personal Circumstances Procedure | University of Strathclyde](#)

#### **Prerequisites**

BF123/BF124, AG215 and AG217.

## **Contact Details**

Lecturer: Dr Linxiang Ma / Dr Hai Zhang

Room number: Duncan Wing 6.11 / Stenhouse 3.26

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E-mail: [linxiang.ma@strath.ac.uk](mailto:linxiang.ma@strath.ac.uk) / [hai.zhang@strath.ac.uk](mailto:hai.zhang@strath.ac.uk)

Office Hours: Linxiang Ma: Wednesdays 10-11 am/Hai Zhang: Tuesday 13-14 pm

Course Tutors: Hari Risal

E-mail: [hari.risal@strath.ac.uk](mailto:hari.risal@strath.ac.uk)

## **Module Learning**

### **Module Aims**

The first part of the course is an introduction to the fundamentals of derivatives markets. The available range of derivative products will be presented along with the different types of participants in the markets. We will analyze the benefits and risks associated with the derivatives and examine the factors that can affect their prices. Particular emphasis will be placed on the valuation of options and futures offering students the opportunity to solve both simple and complex problems that will help provide a deeper understanding of the derivatives pricing. After analyzing the properties of stock options, the available trading strategies involving options will be investigated highlighting their importance and discussing their suitability given the investor's portfolio. We will also show how derivatives can be used for hedging purposes.

The second part of the course provides an introduction to international finance and the activities of treasury management. We will develop understanding of foreign exchange management within the broader area of multinational finance. We will consider the basic operation of the foreign exchange market, theories related to determination and changes in foreign exchange rates and how to manage foreign exchange risk, particularly using derivative products. The coverage of treasury activities will include discussion on the organizational aspects of treasury management, definitions of different sources of risk and finally, we will specifically focus on interest rate risk management utilizing derivative products. A significant emphasis will be placed on practical techniques and the solution of problems, though not to the exclusion of some theory.

### **Learning Objectives and Outcomes**

On completing the course you will be able to understand and explain:

Derivatives products

- A.1. the operations of derivatives markets and the different types of traders.
- A.2. the valuation of forward and futures contracts.
- A.3. the use of futures for hedging purposes.
- A.4. the valuation of stock options and the Black-Scholes option pricing model.
- A.5. the factors affecting option prices.
- A.6. the range of trading strategies that can be implemented using stock options.
- A.7. the underlying risk of derivatives.

**International Finance and Treasury Management**

- A.1. Importance and workings of the foreign exchange (FX) market.
- A.2. Arbitrage opportunities in FX markets
  
- A.3. FX parity relationships
- A.4. Sources of FX risks
- A.5. Management of FX risks
- A.6. Meaning and measurement of interest rate risks
- A.7. Management of interest rate risks

**Cognitive abilities and non-subject specific skills**

- B.1. competence in interpreting and evaluating financial problems posed both in quantitative and non-quantitative terms.
- B.2. practical risk management problems using a case study approach (assignment). B.3. ability to connect academic theories to the practice of risk management
- B.4. team work and communication skills will also be developed in the assignment project
- B.5. information technology skills in use of the module web-sites and links, word processing and spreadsheet skills in tutorial preparation and in assessed projects.
- B.6. understand the language and observe the practice of treasury management industry by reading professional treasury journals.

**Module Structure**

**Timetable**

<u>Week and Day</u>	<u>Topic</u>	<u>Lecture Pre-Reading Chapters</u>	<u>Workshop</u>
1 (Tuesday)	MS Lecture Introduction to Derivatives	Chapter 1 (H)	No Workshop
1 (Thursday)	Futures Markets	Chapter 2 (H), pages 22-24, 26-30, 33-38, 41-42. Chapter 19 (BKM), pages 665-674.	No Workshop
1 (Friday)			No Workshop
2 (Tuesday)	Forward and Futures Prices	Chapter 5 (H), pages 101-114. Chapter 19 (BKM), pages 679-687.	No Workshop
2 (Thursday)		Chapter 3 (H), pages 47-65. Chapter 19 (BKM), pages 675-679.	Workshop 1(Dr)

	Hedging using Futures		
2 (Friday)			Workshop 1(Dr)
3 (Tuesday)	Interest Rate Swaps Volcube: an interactive session with insights in real derivative trading	Chapter 7 (H), pages 148-154, 156-158, 160-166. Chapter 4 (H), pages 86-89. Chapter 20 (BKM), pages 709-715.	
3 (Thursday)	Options Markets	Chapter 9 (H), pages 194-203, 209-210. Chapter 17 (BKM), pages 576-587, 599-603.	Workshop 2(Dr)
3 (Friday)			Workshop 2(Dr)
4 (Tuesday)	Properties of Stock Options	Chapter 10 (H)	
4 (Thursday)	Trading Strategies with Stock Options	Chapter 11 (H), pages 234-244, 246-249. Chapter 17 (BKM), pages 587-596.	Workshop 3(Dr)
4 (Friday)			Workshop 3(Dr)
5 (Tuesday)	Option Pricing	Chapter 12 (H), pages 253-272. Chapter 18 (BKM), pages 627-633.	
5 (Thursday)	The Black-Scholes Option Valuation Model	Chapter 14 (H), pages 306-309, 313-323. Chapter 18 (BKM), pages 633-642.	Workshop 4(Dr)
5 (Friday)			Workshop 4(Dr)
6 (Tuesday)	1st hour of the lecture: Class Test 2nd hour of the lecture: No Lecture		
6 (Thursday)	Foreign Exchange Basics and Arbitrage	Chapter 3, pages: 67 – 77, (MF) Chapter 7. pages: 237 - 244, 249-252, (MF)	Workshop 5(Dr)
6 (Friday)			Workshop 5(Dr)
7 (Tuesday)	International Parity Relationships	Chapter 7. pages: 249-252 (MF) Chapter 8: pages: 266-271, 279-282, 286-287, (MF)	
7 (Thursday)	Foreign Exchange Exposures	Chapter 10, (MF)	
7 (Friday)			
8 (Tuesday)	Foreign Exchange Derivatives	Chapter 5, (MF)	

8 (Thursday)	Management of Foreign Exchange Exposures	Chapter 11 & 12, (MF)	Workshop 6 TMIF
8 (Friday)			Workshop 6 TMIF
9 (Tuesday)	Interest Rate Risk Management I	Chapter 12, (CB) pages 438 – 470 (only structure and strategies) – no pricing and valuations	
9 (Thursday)	Interest Rate Risk Management II	Chapter 12, (CB) pages 438 – 470 (only structure and strategies) – no pricing and valuations	Workshop 7 TMIF
9 (Friday)			Workshop 7 TMIF
10 (Tuesday)	Interest Rate Risk Management III	Chapter 12, (CB) pages 438 – 470 (only structure and strategies) – no pricing and valuations	
10 (Thursday)			Workshop 8 TMIF
10 (Friday)			Workshop 8 TMIF
11 (Tuesday)	No Lecture		
11 (Thursday)	No Lecture		Workshop 9 TMIF
11 (Friday)			Workshop 9 TMIF

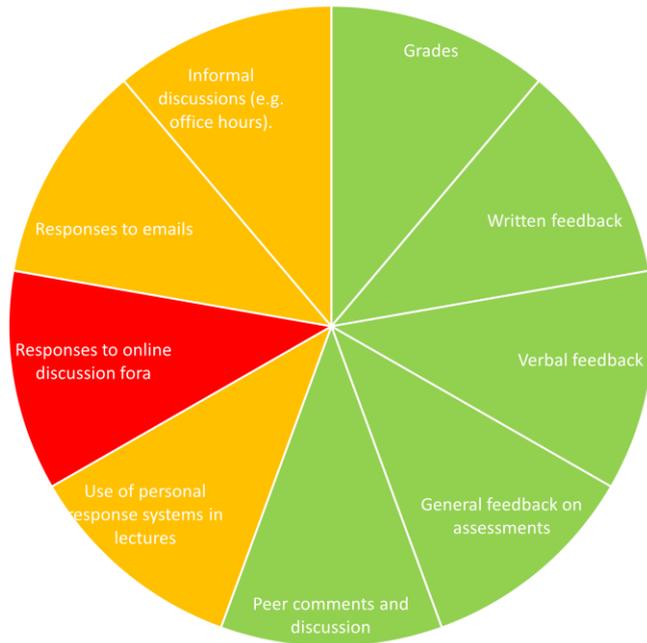
### **Assessment and Feedback Details**

1. Class Test worth 20%. Date: 25<sup>th</sup> of February 2025. Marks/Feedback will be released on or before Tuesday 18<sup>th</sup> of March 2025.
2. Group Assignment worth 20%. Due: Monday 24<sup>th</sup> of March 2025. Feedback/Marks will be released on or before Monday 14<sup>th</sup> of April 2025.
3. Final exam worth 60%. Date: During semester 2 exam diet.

An overall weighted average mark of 40% is required to pass the module.

It is a requirement for course completion to submit all assessed coursework. Non-submission of any part will result in an overall mark of zero being awarded for the module.

The following forms of feedback will assist you in this module:



## Artificial Intelligence

You are not permitted to use Gen-AI tools for this module unless you are a student with an adjustment report on Pegasus where this is explicitly specified as a 'reasonable adjustment'. Any student suspected of using such tools will be subject to investigation outlined in the [Student Discipline Procedure - Academic Misconduct.pdf \(strath.ac.uk\)](#) process.

## Reading List

Please refer to the AG313 Myplace page to access the Reading List.

## UG Module Manual (1<sup>st</sup>-3<sup>rd</sup> Year)

Please refer to the accounting and finance UG manual module for the following ([Years 1-3 Module Manual.docx](#)):

- Tutorial Attendance
- Useful Contacts
- Penalties for Late Submission
- Feedback
- Compensation Scheme
- Resit Policy
- Reassessment
- Universal Marking Guide
- Useful Links

