

IB359-15 Derivatives and Risk Management

26/27

Department

Warwick Business School

Level

Undergraduate Level 3

Module leader

Alexander Stremme

Credit value

15

Module duration

10 weeks

Assessment

Multiple

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This is an elective module available for WBS and non-WBS students. To find detailed availability and to apply for this module, log in to my.wbs.ac.uk using your normal IT login details and apply via the my.wbs module application system. Once you've secured a place on my.wbs you should apply via your home department's usual process, which usually takes place via eVision. Note that you do not require the module leader's permission to study a WBS module, so please do not contact them to request it.

[Module web page](#)

Module aims

To build and extend students' understanding of ...
the nature and characteristics of different types of financial risks
the characteristics of different types of "derivative securities":

- the mechanics of the markets on which they trade,
- their usage in risk management,

- the factors that determine their value, and
- the risks associated with trading them.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

A Introduction to Risk, Value-at-Risk

B Derivatives

B.1 Interest Rates and Bonds

B.2 Forwards and Futures

B.3 Options:

a) Foundations

b) Pricing

c) Advanced Topics

B.4 Interest Rate Derivatives

C Selected Advanced Topics (time permitting)

a) Current Issues

b) Credit Derivatives

c) Exotic Options

d) Term Structure Models

Learning outcomes

By the end of the module, students should be able to:

- Define and explain the characteristics of different types of derivative securities and markets..
- Define and explain different types of financial risk and the markets on which they trade.
- Define and explain mechanics, properties and limitations of models for the dynamics of asset prices.
- Define and explain the '(no)-arbitrage principle' for derivatives pricing by replication.
- Analyse and interpret financial market data in the context of the theory developed in the module.
- Discuss and evaluate quantitative results in the context of the theory developed in the module.

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

Use a variety of quantitative and statistical methods to:

- use financial market data to estimate and validate various measures of risk;

- operationalise models to compute and analyse the value and risks of derivatives;
- propose and assess performance of strategies for risk management in practice.

Transferable skills

- Report and present quantitative findings to specialist and lay audiences;
- Use a variety of quantitative and statistical software;
- Work effectively as leader or member of a team;
- Communicate effectively and efficiently.

Study

Study time

Type	Required
Lectures	10 sessions of 2 hours (13%)
Seminars	9 sessions of 1 hour (6%)
Private study	48 hours (32%)
Assessment	73 hours (49%)
Total	150 hours

Private study description

Private Study.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group D5

	Weighting	Study time	Eligible for self-certification
Participation	10%	7 hours	No
Group Project	20%	15 hours	No
Centrally-timetabled examination (On-	70%	51 hours	No

Weighting **Study time** **Eligible for self-certification**

campus)

- Answerbook Green (8 page)
- Students may use a calculator

Assessment group R2

	Weighting	Study time	Eligible for self-certification
Individual Assignment	30%		Yes (extension)
In-person Examination	70%		No

- Answerbook Green (8 page)
- Students may use a calculator

Feedback on assessment

my.wbs, verbal feedback in lectures/revision sessions.

[Past exam papers for IB359](#)

Availability

Pre-requisites

To take this module, you must have passed:

- Any of
 - IB235-12 Finance 1: Financial Markets
 - [IB253-15 Principles of Finance 1](#)
 - [IB266-15 Fundamentals of Finance](#)
 - [IB3FP-15 Principles of Finance \(for Finalists\)](#)

Courses

Course availability information is based on the current academic year, so it may change.

This module is Optional for:

- UIBA-N20B BSc in Management
 - Year 3 of N20B Management
 - Year 3 of N20B Management
 - Year 3 of N23K Management with Accounting

- Year 3 of N234 Management with Digital Business
- Year 3 of N235 Management with Entrepreneurship
- Year 3 of N232 Management with Finance
- Year 3 of N252 Management with Marketing
- Year 3 of N23L Management with Strategy and Organisation
- UIBA-MN3C Law and Business Four Year (Qualifying Degree)
 - Year 3 of MN3C Law and Business Four Year (Qualifying Degree)
 - Year 4 of MN3C Law and Business Four Year (Qualifying Degree)
- Year 3 of UIBA-N400 Undergraduate Accounting and Finance
- UIBA-N404 Undergraduate Accounting and Finance (with Foundation Year and Placement/Undergraduate Partnership Programme)
 - Year 5 of N4N7 Accounting and Finance (Foundation Year and Intercalated)
 - Year 5 of N404 Accounting and Finance (Foundation Year and Placement)
 - Year 5 of N405 Accounting and Finance (Foundation Year and UPP)
 - Year 5 of N403 Accounting and Finance (with Foundation Year)
- Year 4 of UIBA-N403 Undergraduate Accounting and Finance (with Foundation Year)
- UIBA-N401 Undergraduate Accounting and Finance (with Placement Year/Undergraduate Partnership Programme)
 - Year 4 of N401 Accounting and Finance (Placement)
 - Year 4 of N402 Accounting and Finance (Undergraduate Partnership Programme)
- Year 3 of UCSA-I1N1 Undergraduate Computer Science with Business Studies
- Year 4 of UCSA-I1NA Undergraduate Computer Science with Business Studies (with Intercalated Year)
- Year 1 of UIOA-EEU Undergraduate EU Exchange
- Year 4 of UGEA-RN21 Undergraduate German and Business Studies
- Year 3 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business
- Year 4 of UIPA-L8N2 Undergraduate Global Sustainable Development and Business Studies (with Intercalated Year)
- Year 4 of UIBA-N1RA Undergraduate International Business with French
- Year 4 of UIBA-N1RB Undergraduate International Business with German
- Year 4 of UIBA-N1RC Undergraduate International Business with Italian
- Year 4 of UIBA-N1RD Undergraduate International Business with Spanish
- UIBA-N20F Undergraduate International Management
 - Year 4 of N20F International Management
 - Year 4 of N20F International Management
 - Year 4 of N20S International Management (with Accounting)
 - Year 4 of N20T International Management (with Chinese)
 - Year 4 of N20P International Management (with Entrepreneurship)
 - Year 4 of N20M International Management (with Finance)
 - Year 4 of N20U International Management (with French)
 - Year 4 of N20L International Management (with Marketing)
 - Year 4 of N20V International Management (with Spanish)
 - Year 4 of N20W International Management (with Strategy and Organisation)
 - Year 4 of N20N International Management with Digital Business
 - Year 4 of N20E Management (with Foundation Year)
 - Year 4 of N234 Management with Digital Business

- Year 3 of UIBA-MN3A Undergraduate Law and Business Studies
- UIBA-N20J Undergraduate Management (with Foundation Year and Placement Year/Undergraduate Partnership Programme)
 - Year 5 of N20J Management (Foundation Year and Placement)
 - Year 5 of N20K Management (Foundation Year and UPP)
 - Year 5 of N23H Management with Digital Business (with Foundation Year and Placement Year)
 - Year 5 of N23J Management with Entrepreneurship (with Foundation Year and Placement Year)
 - Year 5 of N23G Management with Finance (with Foundation Year and Placement Year)
 - Year 5 of N255 Management with Marketing (with Foundation Year and Placement Year)
- UIBA-N20E Undergraduate Management (with Foundation Year)
 - Year 4 of N20E Management (with Foundation Year)
 - Year 4 of N23N Management with Accounting (with Foundation Year and Placement Year)
 - Year 4 of N23M Management with Accounting (with Foundation Year)
 - Year 4 of N23E Management with Digital Business (with Foundation Year)
 - Year 4 of N23F Management with Entrepreneurship (with Foundation Year)
 - Year 4 of N23D Management with Finance (with Foundation Year)
 - Year 4 of N252 Management with Marketing
 - Year 4 of N254 Management with Marketing (with Foundation Year)
 - Year 4 of N23P Management with Strategy and Organisation (with Foundation Year)
- UIBA-N20C Undergraduate Management (with Placement Year/Undergraduate Partnership Programme)
 - Year 4 of N20M International Management (with Finance)
 - Year 4 of N20B Management
 - Year 4 of N20D Management (Undergraduate Partnership Programme)
 - Year 4 of N20C Management (with Placement Year)
 - Year 4 of N20Q Management with Accounting (with Placement Year)
 - Year 4 of N236 Management with Digital Business (with Placement Year)
 - Year 4 of N235 Management with Entrepreneurship
 - Year 4 of N237 Management with Entrepreneurship (with Placement Year)
 - Year 4 of N232 Management with Finance
 - Year 4 of N233 Management with Finance (with Placement Year)
 - Year 4 of N253 Management with Marketing (with Placement Year)
 - Year 4 of N23L Management with Strategy and Organisation
 - Year 4 of N20R Management with Strategy and Organisation (with Placement Year)
- Year 3 of UMAA-G1N4 Undergraduate Mathematics with Business Studies
- Year 4 of UMAA-G1N5 Undergraduate Mathematics with Business Studies (with Intercalated Year)
- UIOA-EOS Undergraduate Overseas Exchange
 - Year 1 of UEOS Undergraduate Overseas Exchange
 - Year 1 of UEOS Undergraduate Overseas Exchange
- Year 4 of UPXA-F3ND Undergraduate Physics and Business Studies (with Intercalated

Year)

- Year 3 of UPXA-F3N2 Undergraduate Physics with Business Studies
- Year 1 of UIOA-EUS Undergraduate USA Exchange