

# IB253-15 Principles of Finance 1

**23/24**

**Department**

Warwick Business School

**Level**

Undergraduate Level 2

**Module leader**

Elizabeth Whalley

**Credit value**

15

**Module duration**

10 weeks

**Assessment**

Multiple

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

This is an elective module for non-WBS students.

Introduce students to the workings of the equity and bond markets.

Equip students with the skills and understanding to use quantitative tools for pricing stocks and bonds.

Develop in students a critical understanding of the trade-off between risk and return, and of techniques for exploiting that trade-off to maximum effect.

Make students aware of key empirical tests of the Efficient Markets Hypothesis, and the implications of those empirical findings.

Provide students with structured opportunities to practise using the key tools and techniques of Financial Markets theory.

Introduce students to the workings of the derivatives markets.

Equip students with the skills and understanding to use quantitative tools for pricing derivatives.

Prepare students for advanced undergraduate and postgraduate studies in Finance.

### Module aims

Introduce students to the workings of the equity and bond markets.

Equip students with the skills and understanding to use quantitative tools for pricing stocks and bonds.

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Provide students with structured opportunities to practise using the key tools and techniques of Financial Markets theory.

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## **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.

Financial Arithmetic:

Discounted cash flow, annuities, perpetuities, Gordon growth model, net present value, internal rate of return.

Investment under Certainty:

Inter-temporal consumption, Fisher Separation.

Investor Preferences :

Risk aversion, Expected utility

Optimal Portfolio Selection:

Diversification, Risk vs. Return, Capital Market Line.

Capital Asset Pricing Model:

Beta, CAPM, Securities Market Line

Bonds & Interest Rates:

Spot rates, forward rates, bond pricing, term structure of interest rates, Pure Expectations and Liquidity Preference hypotheses.

Market Efficiency :

Efficient Markets Hypothesis, calendar anomalies, speculative bubbles, empirical tests.

Financial Derivatives:

Arbitrage-free futures pricing, binomial and Black-Scholes option pricing.

## **Learning outcomes**

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

- Describe how the equity and bond markets function, and their importance to both individual investors and institutions.
- Explain how these markets price stocks and bonds.
- Explain how risk can be diversified by forming portfolios of assets, and how to construct the optimum portfolio.
- Critically assess theoretical relationships between risk and return.
- Distinguish between spot and forward rates of interest.
- Formulate different hypotheses for the term structure of interest rates.
- List the different forms of market efficiency, and interpret the results of key tests of the Efficient Markets Hypothesis.

- Describe how derivatives markets function.
- Explain how these markets determine the prices of derivative securities.
- Explain key theoretical models, and reflect critically on the limitations of those models and the assumptions that underpin them.
- Interpret empirical evidence.
- Solve structured numerical problems and analyse case-study information.
- Communicate complex ideas effectively, both verbally and in writing.

## **Indicative reading list**

### REQUIRED TEXT:

Hillier D, Ross SA, Westerfield RW, Jaffe J and Jordan BD, Corporate Finance (3rd ed. 2016), McGraw-Hill

### OTHER TEXTS:

Bodie Z, Kane A & Marcus AJ, Investments (12th ed. 2020), McGraw-Hill

Copeland TE, Weston JF & Shastri K, Financial Theory and Corporate Policy (4th ed. 2013), Pearson Addison-Wesley

## **Subject specific skills**

Use discounted cash-flow techniques to value financial securities and/or estimate the value added by capital projects.

Write informed critiques of key issues in asset valuation.

Analyse short case-studies and construct arguments to support a particular solution.

Calculate spot and forward rates of interest from observed market prices of calibration bonds, and use these rates to price other bonds and identify arbitrage opportunities.

Calculate the forward price of a traded asset using the no-arbitrage principle.

Price option contracts using the one-period binomial model or the Black-Scholes model.

## **Transferable skills**

Construct spreadsheets to value financial instruments and test how robust those values are to changes in key inputs.

Use web-based resources to source and retrieve financial-market data, and spreadsheets to process that data.

Explain and interpret financial-market data.

Use analytical models and/or spreadsheets to value simple derivative securities and to assess how robust those values are to changes in key inputs.

## **Study**

## **Study time**

<b>Type</b>	<b>Required</b>
Lectures	10 sessions of 1 hour (13%)
Seminars	9 sessions of 1 hour (12%)
Online learning (independent)	10 sessions of 1 hour (13%)
Private study	49 hours (63%)
Total	78 hours

### **Private study description**

No private study requirements defined for this module.

### **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 D8**

	<b>Weighting</b>	<b>Study time</b>
Participation	10%	7 hours
In-person Examination	90%	65 hours

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

#### **Assessment group D9**

	<b>Weighting</b>	<b>Study time</b>
Participation	10%	7 hours
In-person Examination	90%	65 hours

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

#### **Assessment group R2**

	<b>Weighting</b>	<b>Study time</b>
In-person Examination - Resit	100%	

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

## Feedback on assessment

Feedback via My.WBS

[Past exam papers for IB253](#)

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## Availability

### Courses

This module is Optional for:

- Year 4 of UIBA-MN34 Law and Business Four Year (Qualifying Degree)
- UECA-3 Undergraduate Economics 3 Year Variants
  - Year 2 of L100 Economics
  - Year 2 of L100 Economics
  - Year 2 of L100 Economics
  - Year 2 of L116 Economics and Industrial Organization
  - Year 2 of L116 Economics and Industrial Organization
  - Year 3 of L116 Economics and Industrial Organization
  - Year 3 of L116 Economics and Industrial Organization
- UECA-LM1D Undergraduate Economics, Politics and International Studies
  - Year 2 of LM1D Economics, Politics and International Studies
  - Year 2 of LM1D Economics, Politics and International Studies
- UPHA-L1CA Undergraduate Economics, Psychology and Philosophy
  - Year 2 of L1CA Economics, Psychology and Philosophy
  - Year 2 of L1CC Economics, Psychology and Philosophy (Behavioural Economics Pathway)
  - Year 2 of L1CD Economics, Psychology and Philosophy (Economics with Philosophy Pathway)
  - Year 2 of L1CE Economics, Psychology and Philosophy (Philosophy and Psychology Pathway)
  - Year 3 of L1CA Economics, Psychology and Philosophy
  - Year 3 of L1CC Economics, Psychology and Philosophy (Behavioural Economics Pathway)
  - Year 3 of L1CD Economics, Psychology and Philosophy (Economics with Philosophy Pathway)
  - Year 3 of L1CE Economics, Psychology and Philosophy (Philosophy and Psychology Pathway)
- UPHA-L1CB Undergraduate Economics, Psychology and Philosophy (with Intercalated

Year)

- Year 4 of L1CG Economics, Psychology and Philosophy (Behavioural Economics Pathway) (with Intercalated Year)
- Year 4 of L1CH Economics, Psychology and Philosophy (Economics with Philosophy Pathway) (with Intercalated Year)
- Year 4 of L1CJ Economics, Psychology and Philosophy (Philosophy and Psychology Pathway) (with Intercalated Year)
- Year 4 of L1CB Economics, Psychology and Philosophy (with Intercalated Year)
- Year 4 of L1CB Economics, Psychology and Philosophy (with Intercalated Year)
- Year 2 of UIPA-L8N1 Undergraduate Global Sustainable Development and Business
- Year 4 of UIBA-MN32 Undergraduate Law and Business Studies
- Year 5 of UIBA-MN37 Undergraduate Law and Business Studies (Qualifying Degree) with Intercalated Year
- Year 5 of UIBA-MN36 Undergraduate Law and Business Studies with Intercalated Year (4+1)
- Year 3 of USTA-G300 Undergraduate Master of Mathematics, Operational Research, Statistics and Economics
- USTA-G1G3 Undergraduate Mathematics and Statistics (BSc MMathStat)
  - Year 3 of G1G3 Mathematics and Statistics (BSc MMathStat)
  - Year 4 of G1G3 Mathematics and Statistics (BSc MMathStat)
- USTA-G1G4 Undergraduate Mathematics and Statistics (BSc MMathStat) (with Intercalated Year)
  - Year 4 of G1G4 Mathematics and Statistics (BSc MMathStat) (with Intercalated Year)
  - Year 5 of G1G4 Mathematics and Statistics (BSc MMathStat) (with Intercalated Year)

This module is Unusual option for:

- UPHA-L1CA Undergraduate Economics, Psychology and Philosophy
  - Year 2 of L1CA Economics, Psychology and Philosophy
  - Year 3 of L1CA Economics, Psychology and Philosophy
- UPHA-V7ML Undergraduate Philosophy, Politics and Economics
  - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)
  - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)
  - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)

This module is Option list A for:

- Year 3 of UESA-HN15 BEng Engineering Business Management
- Year 4 of UESA-HN13 BEng Engineering Business Management with Intercalated Year

This module is Option list B for:

- Year 4 of UMAA-G105 Undergraduate Master of Mathematics (with Intercalated Year)
- UMAA-G100 Undergraduate Mathematics (BSc)
  - Year 3 of G100 Mathematics
  - Year 3 of G100 Mathematics
  - Year 3 of G100 Mathematics
- UMAA-G103 Undergraduate Mathematics (MMath)

- Year 3 of G100 Mathematics
- Year 3 of G103 Mathematics (MMath)
- Year 3 of G103 Mathematics (MMath)
- Year 3 of UMAA-G106 Undergraduate Mathematics (MMath) with Study in Europe
- USTA-GG14 Undergraduate Mathematics and Statistics (BSc)
  - Year 3 of GG14 Mathematics and Statistics
  - Year 3 of GG14 Mathematics and Statistics
- Year 4 of USTA-GG17 Undergraduate Mathematics and Statistics (with Intercalated Year)
- Year 4 of UMAA-G101 Undergraduate Mathematics with Intercalated Year
- USTA-Y602 Undergraduate Mathematics,Operational Research,Statistics and Economics
  - Year 3 of Y602 Mathematics,Operational Research,Stats,Economics
  - Year 3 of Y602 Mathematics,Operational Research,Stats,Economics
- Year 4 of USTA-Y603 Undergraduate Mathematics,Operational Research,Statistics,Economics (with Intercalated Year)

This module is Option list G for:

- UPHA-V7ML Undergraduate Philosophy, Politics and Economics
  - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)
  - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)
  - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)