HANDBOOK

MSc Finance with Advanced Pathways

2016-2017

with pathways to

MSc Finance and Commodities
MSc Finance with Accounting
MSc Finance and Banking

Birkbeck College
Department of Economics, Mathematics & Statistics

www.bbk.ac.uk/ems
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1 General Information

Welcome to the Department of Economics, Mathematics and Statistics. This Handbook aims to provide a quick guide to your academic programme. It also tells you how to locate more detailed and current information on the Department website (www.ems.bbk.ac.uk) and College website (www.bbk.ac.uk)

Full College regulations are available here: www.bbk.ac.uk/reg/regs/cas

1.1 People, services and how to reach them

The Programme Administrator handles all administrative aspects of the Programme, and is usually the first point of contact for students.

Programme Administrator for MSc Finance with Advanced Pathways

Naomi Mintrum
Room: 720 Malet St
Tel: 020 7631 6429
Fax: 020 7631 6416
Email: n.mintrum@bbk.ac.uk

Course Lecturers

The course lecturers and class teachers are the first point of contact for academic issues. The easiest way to initiate contact with your lecturers is via email. The email address of faculty members is initial.surname@bbk.ac.uk.

Programme Director

The Programme Director is in charge of the overall academic content and structure of the Programme. It is important to keep us informed of any relevant problems, including health, personal or work issues. It is especially important that you inform your Programme Director if you are considering withdrawing from the programme.

Simon Hubbert
Room: 756 Malet St
Tel: 020 7631 6404
Email: s.hubbert@bbk.ac.uk

Department Computer Representative

For any queries relating to your College computer account and other IT services, contact:

Nigel Foster
Room 759 Malet St
Tel: 020 7631 6402
Email: n.foster@bbk.ac.uk
Department Student Help Desk
The Help Desk is run by the Department computing staff, Nigel Foster (room 759), tel 020 7631 6402, and Awuku Danso (room 758), tel 020 7631 6433. helpdesk@ems.bbk.ac.uk
The helpdesk is available at the following times:
Term: Mon – Fri 16.00 – 18.00
Vacations: Mon – Thurs 16.00 – 18.00

ITS Reception Help Desk
Ground floor, Main Building
Tel.: 020 7631 6543.
Term: Mon – Fri 09.00 – 20.00
Vacations: Mon – Fri 09.00 – 18.00

Workstation Rooms
The Department has its own Workstation Room, Room 742, for specialized software. For more general software, ITS run the following Workstation Rooms:
- Rooms 10 and 11, 43 Gordon Square;
- Rooms 402, 412, 413, 422, 423 and 536 Main Building;
- Open access from library

Learning Co-ordinator
Eva Szatmari
Office: Room 715a, Malet Street Building
Tel: 0207 631 6254
e-mail: e.szatmari@bbk.ac.uk
Eva's role is to support students in their studies. She is available 4 days a week to meet with students and to discuss their needs. She can offer advice on a variety of mathematics skills, including: Algebra, Equations, Functions and Basic calculus.

Frequently Asked Questions by Students
Please use the following link if you require further information about the different services offered at Birkbeck, as well as personal tutor information and course related administrative questions our students may have while studying at Birkbeck: www.ems.bbk.ac.uk/for_students/

Communication between Students and the Department
General communication is principally through emails or on the 'Notice board' of the programme web pages in the 'For students' section which can be located on the department’s homepage: www.ems.bbk.ac.uk. Please check regularly for changes in room locations etc.
1.2 Academic Calendar

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td><strong>Econometrics project proposal deadline</strong></td>
<td>Friday 16 December 2016 (tbc)</td>
</tr>
<tr>
<td><strong>Dissertation proposal deadline</strong></td>
<td>Friday 24 March 2017 (tbc)</td>
</tr>
<tr>
<td><strong>Examinations</strong></td>
<td>First week of January 2016 and May/June 2017</td>
</tr>
<tr>
<td><strong>Dissertation submission deadline</strong></td>
<td>Friday 30 September 2017(tbc)</td>
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**Term Dates 2016 – 2017**

<table>
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<tr>
<th>Term</th>
<th>Dates</th>
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<tr>
<td>Autumn term</td>
<td>3 October to 16 December 2016</td>
</tr>
<tr>
<td>Spring term</td>
<td>9 January to 24 March 2017</td>
</tr>
<tr>
<td>Summer term</td>
<td>24 April to 7 July 2017</td>
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The College is closed on specified holidays over Christmas and Easter and on Bank Holidays. For a complete listing, and details of service availability on these holidays, see the College Calendar at [www.bbk.ac.uk/about-us/term-dates](http://www.bbk.ac.uk/about-us/term-dates)
Programme Structure

The MSc Finance programme aims to provide excellent training in the modern finance, including asset pricing, financial econometrics, corporate and international finance. Students who complete the programme successfully are financial specialists well suited to work in financial institutions, banks and insurance companies, or carry out academic research leading to a PhD.

1.3 Courses

The programme can be completed through one year of full-time study or two years of part-time study, and includes the following elements:

- Introductory course in *Quantitative Techniques (Mathematics and Statistics)* which provides students with the foundations they need to successfully master the programme.
- Core courses in *Theory of Finance & Derivatives* and *Financial Econometrics*, which cover essential topics to help students pursue a successful career in all areas of Finance.
- A variety of options, which allow students to tailor the MSc programme experience to individual interests and demands.
- A final academic dissertation in which students pursue an empirical or theoretical study in a topic of their choice under supervision of one member of the faculty.

List of courses

**Compulsory courses:**

- Quantitative Techniques (September mathematics and statistics)
- Theory of Finance and Derivatives
- Financial Econometrics I
- Financial Econometrics II

**Optional courses (electives):**

- Corporate Finance
- Advanced Topics in Finance I (Asset Management)
- Market Risk
- Commodities and Commodities Derivatives
- Principles of Financial Reporting
- Contemporary Issues in Financial Reporting for Complex Entities
- Financial Markets, Banking and Regulation
- Monetary Economics
- Forecasting

**Awards**

*MSc Finance and Commodities:* Students who choose the Commodities and Commodity Derivatives option (30 credits) and write a suitable dissertation will obtain an MSc Finance and Commodities.

*MSc Finance with Accounting:* Students who choose the two Accounting options (30 credits) will obtain an MSc Finance with Accounting.
**MSc Finance and Banking:** Students who choose the Financial Markets, Banking and Regulation module and write a suitable dissertation will obtain an MSc Finance and Banking.

### 1.4 Organization of studies

Part-time students take the pre-sessional course in two stages: Mathematics in the first year, Statistics in the second year. Some options run in parallel, restricting the available combinations. Part-time students might therefore prefer to split the options unevenly across the two years in order to participate at their preferred options.

**Pathways**

**MSc Finance and Commodities**

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<th>Full-time</th>
<th>Part-time Year 1</th>
<th>Part-time Year 2</th>
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<tbody>
<tr>
<td>Quantitative Techniques (Mathematics and Statistics) (total of 30 credits)</td>
<td>Quantitative Techniques (Mathematics)</td>
<td>Quantitative Techniques (Statistics)</td>
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<td>Theory of Finance &amp; Derivatives (30 credits)</td>
<td>Theory of Finance &amp; Derivatives (30 credits)</td>
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<tr>
<td>Financial Econometrics I (15 credits)</td>
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<td>Financial Econometrics I (15 credits)</td>
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<td>Financial Econometrics II (15 credits)</td>
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<td>Dissertation (30 credits)</td>
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**MSc Finance with Accounting**

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<td>Financial Econometrics I (15 credits)</td>
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<td>Financial Econometrics I (15 credits)</td>
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The primary method of teaching involves lectures, held mostly at the Malet Street building between 6pm and 9pm in the evening. These are supplemented with problem-solving classes (mostly in the evening, but sometimes in the afternoons for full-time students) that allow you to reinforce the principles and techniques covered in lectures.

Attending lectures and classes are only part of the overall learning experience. Private study and independent research are crucial – this involves independent reading of texts and journal articles, working through problems and exercises, completing assignments, revising for examinations. Students must devote enough time each week to keeping up with the programme.

**Assessment**

Performance in individual courses depends on a combination of written exams and continuous assessment: the latter may take the form of in-class tests and or take-home assignments.

For further information about the Exam and Assessment procedures at Birkbeck, please use the following link:

[www.bbk.ac.uk/mybirkbeck/services/administration/assessment](http://www.bbk.ac.uk/mybirkbeck/services/administration/assessment)
**Degree Classification**

The College will classify its awards as one of the following: Distinction, Merit or a Pass and is in accordance with Common Awards Scheme (CAS) requirements. Information about the degree classification can be found at:  
www.bbk.ac.uk/reg/regs/cas/conferment/postgradtaught

**Results**

The Examiners usually meet in July to provide an indication of the likely degree classification (that is Distinction, Merit, Pass or Fail), conditional on successful completion of the Dissertation. University regulations do not allow us to tell you the marks, or even give any indication of them. The marks are notified routinely by the University in November/December. Information about the publication of results can be found at:  
www.bbk.ac.uk/mybirkbeck/services/administration/assessment/exams/results

**Failure and Re-assessment of a Module**

Postgraduate candidates will normally be offered two attempts at passing a module (the original attempt plus one further attempt which will either be a re-assessment or a retake). Where a student fails a module, examination boards have different routes open to them to allow the student further attempts to pass. Please see a brief list below:

- **Re-take** for modules where a student obtained less than 40% at first attempt. In this case the student will be required to re-enrol on the module, attend lectures and classes and retake all the assessment associated with that module. A module mark achieved under this mode will not be capped at the pass mark. Note that: **students re-taking a module will be charged for the module.**

- **Re-assessment** for modules where a student obtained between 40% and 49% on the first attempt. The student is not required to attend lectures and will only need to re-attempt any failed element of that module (in most cases, the examination). Note that a reassessment will be capped at the pass mark 50% (this is a new College policy and applies to all students from 2015/16). If an application for consideration of mitigating circumstances has been accepted and a deferral awarded by the sub-board, the reassessment may be submitted without penalty and the reassessment will not be capped at the pass mark.

Further information about Alternative Assessment, Re-assessment & Re-takes, and a Compensated Fail can be found in the 'Common Award Scheme Regulations' document located on the My Birkbeck website:

www.bbk.ac.uk/mybirkbeck/services/rules/casregs.pdf

Please note students cannot re-sit in order to improve a pass mark. The earliest you can take a re-assessment is generally the next academic year, often in January or June. In some cases September re-assessments are offered for Core modules. Courses often evolve from one year to the next, with changes in content and emphasis and it is your responsibility to keep track of any variations in the syllabus. If you require further guidance about re-assessments, please contact your Programme Director.
2 MSc Finance with Advanced Pathways
Core Modules

2.1 Quantitative Techniques

Course number: BUEM027S6
September course
Full-time, Part-Time Year 1 and Part-Time Year 2
Credits: 30
Lecturers: Various

Part-time students take the introductory course in two stages: Mathematics in the first year, Statistics in September before the start of the second year.

Course Aims and Objectives

This course provides a review of the basic mathematical, and statistical techniques needed for the MSc programme.

Outline of Topics

Mathematics
- Matrix Algebra
- Differentiation and Integration
- Optimization
- Differential Equations

Statistics
- Probability Distributions
- Statistical Inference

Quantitative Techniques: Statistics
2.2 Theory of Finance and Derivatives

Lecturers

David Schröder (part 1)
Room 757
Office hour: Monday 5pm, or by appointment.

Phone: +44 (0) 20 7631 6408
Email: d.schroeder@bbk.ac.uk
Internet: http://www.EMS.bbk.ac.uk/faculty/schroeder/

Simon Hubbert (part 2)
Room 756
Office hour: by appointment

Phone: +44 (0) 20 7631 6404
Email: s.hubbert@bbk.ac.uk
Internet: http://www.EMS.bbk.ac.uk/faculty/hubbert/

Course description and goals

Course title: Theory of Finance and Derivatives, EMEC042S7

The module aims at giving thorough understanding of the foundation of modern asset pricing theory. The module intends to introduce students to the state-of-the-art financial economics as it is used in financial research and business practice over the last 30 years.

Part 1:
The module starts by introducing the concept of utility functions and expected utility theory, the main building block of modern financial economics. Then we look at risk, and see how diversification can reduce risk in a portfolio. Then we derive the basic pricing equation from a consumer’s utility maximization problem and apply it to many different areas of asset pricing. Then we derive the continuous-time pricing equation from its discrete-time equivalent. In the last part of the lecture, we look at optimal asset allocation strategies and modern interest rates models.

Part 2:
This part introduces the portfolio optimization problem for many assets, and develops the most important asset pricing models, including the CAPM and the APT.

Prerequisites

The course requires some basic understanding of financial markets and some essentials in probability theory. A good overview is provided in Chapters 1 and 16 of the textbook by Cvitanic and Zapatero.
Time and location

Time: Tuesdays and Wednesdays, 6-9pm in the autumn term

Location:
- Tuesday: Malet Street, main building, room 415
- Wednesday: Malet Street, main building, room 540

Part 1: Tuesdays (first 5 weeks of autumn term), Wednesday (all 10 weeks autumn term)
Part 2: Tuesdays (second 5 weeks autumn term)

Textbooks & additional reading

Main textbooks:
- **Cvitanic J., Zapatero, F.: Introduction to the Economics and Mathematics of Financial Markets**, MIT Press. Covers most important aspects of asset pricing theory, slightly easier than Cochrane, especially when it comes to options and interest rates

Some additional reading:
- Dixit, Pindyck: Investment under Uncertainty, Princeton University Press. Comprehensive overview about the real options literature. Includes a very simple introduction to stochastic calculus.
- Klebaner, Fima: Introduction to stochastic calculus with applications. Imperial College Press. Easy but comprehensive. Much more than we need in the course.
- Martellini, Lionel; Priaulet Philippe; Priaulet Stéphane: Fixed-Income securities. The standard textbook for interest rates and fixed income. Not very technical.

Note: The general advice is that you should have a look at the first chapters of the Cochrane book. The first chapter is actually available online (for free). For a better understanding, the book by Cvitanic and Zapatero is probably very helpful.
Lecture notes

The lecture notes (i.e., the lecture slides) will be made available at the beginning of the course on moodle.

http://moodle.bbk.ac.uk/

You will need your ITS password to access the slides. Note that the lecture notes are organized by topics and not by lectures. The lecture notes are incomplete without having attended the lectures.

Classes

In the second half of every second evening in the part I, we will have some classes.

Students are expected to solve the exercises before the class, and to demonstrate their solutions on the whiteboard. Similar to the lecture notes, the class exercises will be available on the internet. After each lecture, I will post the class exercises for the next week. The solutions to some of the exercises will also be available on the net - after each class.

Note that the classes contain partly new material, complementing the lectures.

Course assessment

The main assessment of the module is the final exam in January 2017 (80%). In addition, coursework accounts for 20% of the final mark.

- In-class test in November (20%)
- Final exam (80%):

  The final exam will take place in January 2017. Past exam papers are available on the internet.
Course outline (part 1)

1. **Utility theory**

2. **Portfolio theory**

3. **Consumption-based asset pricing**
   - Duffie, Darrel: Dynamic asset pricing theory. Chapter 1.

4. **Stochastic calculus**
   - Duffie, Darrel: Dynamic asset pricing theory. Chapter 5 and appendices.
   - Klebaner, Fima: Introduction to stochastic calculus with applications.

5. **Continuous-time asset pricing**
   - Cochrane, John: Asset Pricing. Chapter 1.5.

6. **Dynamic optimization**
   - Duffie, Darrel: Dynamic asset pricing theory. Chapter 3.

7. **Option Pricing**

8. **Interest rates**
   - Cochrane, John: Asset Pricing. 19.

Note that this schedule might be subject to modifications along the course. It only covers the lectures by David Schröder.
2.3 **Financial Econometrics I**

Course number: BUEM045H7  
Autumn term  
Full-Time and Part-Time Year 2  
Credits: 15  
Lecturer: Ron Smith

**Course Aims and Objectives**

This course provides an introduction to theoretical and applied econometrics with a focus on time-series methods. The course aims to help you in actually doing applied econometrics, with applicability to finance. This involves combining theory, statistical methods and an understanding of the data with the ability to use the appropriate software and interpret the output.

At the end of the course students will be able to demonstrate that they can:

- derive standard estimators (OLS, ML, GMM) and understand their properties;
- explain the basis for standard exact and asymptotic tests and use them in practice;
- develop and analyse basic univariate and multivariate time-series models for integrated and cointegrated data and know how to choose between alternative models;
- use standard econometrics packages and interpret their output;
- read, understand and explain empirical articles in the literature of the sort that appear in the Economic Journal or American Economic Review;
- conduct and report on an independent piece of empirical research that uses advanced econometric techniques.

**Assessment**

The course is assessed through a two-hour test.

**Indicative Reading**

A course booklet will be distributed, which will contain a fuller reading list.

- Marno Verbeek's *A guide to modern econometrics*, 3rd edition, Wiley 2008 covers most of the material in the course at a similar level.


2.4  Financial Econometrics II

Course number: BUEM050H7
Spring term
Full-Time and Part-Time Year 2
Credits: 15
Lecturer: Roald Versteeg

Course Aims and Objectives
This course builds on Financial Econometrics I. The first half of the course will look at a number of advanced econometric techniques and the second half of the course at a number of econometric applications in finance. In addition students will be independently working on an econometrics project.

Outline of Topics
Advanced Time Series Analysis
- Time Varying Volatility: GARCH
- Limited Dependent Variables
- GMM

Applications to Financial Time Series
- Event Study Analysis
- Asset Pricing
- Predictability of Asset Returns

Course Assessment
- 2 hour examination in June (80%)
- An econometric project (20%), parts of which may be used for the MSc dissertation.

Recommended Texts
3 MSc Finance Options

3.1 Corporate Finance

Course number: BUEM043H7
Full-Time and Part-Time Year 2
Spring Term
Credits: 15
Lecturers: Emanuela Sciubba and Khaled Soufani

Course Aims and Objectives

The course considers two broad sets of questions. The first part of the course focuses on assessing investment opportunities and (real and financial) asset valuation. The second part of the course considers how to raise funds necessary to finance investments. Here special attention is devoted to implications of informational asymmetries, the possibility of bankruptcy and differential tax treatments of debt and equity incomes. The analysis will then broaden to allow for the possibility that debt/equity choices may the corporate decision making process.

Course Assessment

2 hour examination in June

Outline of Topics

To be announced

Recommended Texts

The lectures will be based on textbooks and journal articles. The journal articles will be circulated during the lectures.


3.2 Advanced Topics in Finance I (Asset Management)

Course number: BUEN040H7
Full-Time and Part-Time Year 1/2
Spring Term
Credits: 15
Lecturers David Schroeder

Course Aims and Objectives

The module aims at giving thorough understanding of the foundations of modern asset management in both theory and practice.

In the short introduction, we discuss the meaning of asset management and review the basic concepts of portfolios optimization. In the first part of the module, we turn to utility-based long-term (strategic) asset allocation strategies, including important extensions, such as labour income and life-cycle investment strategies. In the second part of the module, we look at specific asset management concepts, including portfolio insurance, hedge funds, pension funds and private wealth management. In the last section, we look at the performance measurement of investment funds.

The module includes also a variety of guest lectures with distinguished speakers from the asset management industry.

Outline of Topics (Provisional)

- Portfolio optimization
- Strategic asset allocation
- Hedge funds
- Performance measurement

Course Assessment

2 hour examination in June (80% of the total marks) and course-work (20%).

Recommended Texts

- Campbell, Viceira: Strategic Asset Allocation. Oxford University Press
- Claus Munc: Dynamic Asset Allocation, unpublished manuscript

More texts will be indicated in the course outline to be distributed at the beginning of the module.
3.3 Financial Markets, Banking & Regulation

Course number EMEC055S7
Full-Time and Part-Time Year 1/2
Spring Term
Credits: 30
Lecturers Various

AIMS AND OBJECTIVES

In this course we use theoretical and historical approaches to explain why banks and financial markets are inherently vulnerable to crises and to analyze the role of policy and institutions. Building on basic training in microeconomics, we introduce theoretical models where frictions such as asymmetric information and coordination failures create a role for intermediaries and produce problems such as bank runs, asset price bubbles and herding. We examine the role of monetary policy, bank supervision and regulation, corporate governance and ratings agencies in mitigating or exacerbating bad outcomes. We discuss policy proposals for dealing with financial crisis.

OUTLINE OF TOPICS

COURSE OUTLINE

- A history of bubbles and banking crises.
- Adverse selection and moral hazard in financial markets.
- Coordination failures: how self-fulfilling expectations can lead to bank runs, contagion and bubbles.
- Individual remuneration and the culture of banking.
- Banking in small economies: the Icelandic banking crisis.
- Securitisation
- The role of government: central bank as lender and market maker of last resort;
- Bank structure and regulation, Basel III

COURSE ASSESSMENT

Coursework counts for 20% and the final examination for 80%. The coursework takes the form of an assignment to be completed over the Easter break.

BACKGROUND READING

We will rely on a combination of articles from academic journals and the popular press, but the following books are useful as background reading

- Kindleberger and Aliber (2005), Manias, Panics, and Crashes, 5th edition
3.4 Commodities

EMEC054S7
Full-time and Part-time Year 2
Autumn and Spring Term
Credits: 30
Lecturers: Hélyette Geman and Rita D’Ecclesia

Course Aims and Objectives
This course provides a thorough analysis of commodity markets, their specificities and how they differ from bond and stock markets. The students will become familiar with the Exchanges, the instruments and the hedging and trading strategies. The different sub-classes of commodities are analysed and discussed: metals, agricultural, shipping.

The energy class (crude oil, coal and natural gas, electricity) will be analysed in particular details given its importance in the UK and worldwide. The course provides a thorough overview of recent developments in energy and commodities modelling, along with the necessary computational methods. A particular attention will be brought to the economic fundamentals, including the relationship between inventory, price volatility and the forward curve – the so called Theory of Storage. Moreover, commodities provide in a unique manner a large array of complex options, such as Asian, exchange, spread, swing options, whose valuation and hedging will be studied in details.

At the end of this course, students will be able to demonstrate that they can:
- understand the specificities of commodities as a new asset class;
- recognise the unique features of electricity markets (natural gas, hydro, nuclear and emissions);
- understand mathematical and statistical techniques;
- understand some of the important financial concepts underlying the theory of energy instruments as well as other commodities;
- apply econometric models to commodity spot and forward prices in order, in particular, to build a consistent model for a multi-commodity
- use trees and Monte-Carlo methods for the pricing of volumetric options (financial or real) that are specific to commodities markets

Course Assessment
Coursework counts for 20% and the June exam for 80%

Recommended Texts
- H. Geman (2008) "Risk Management in Commodity Markets: From Shipping to Agriculturals and Metals"
- Harris (2006) "Electricity Markets", Wiley Finance
3.5 Principles of Financial Reporting (Accounting)

Course number: BUMN039H7
Full-Time and Part-Time Year 2
Autumn Term
Credits: 15
Lecturers: Dr Libon Fung

Course Aims and Objectives

This module explores the fundamental concepts which underpin the development of the current practices of financial reporting. It provides knowledge to students to enable them to understand and interpret the importance of accounting information in decision making for complex entities. In this module you will learn how to prepare and interpret financial statements for individual and group of companies. There is an emphasis on International Financial Reporting and the accounting information in capital markets.

The aims of this module are to:

• develop an understanding of the theory and practice of accounting;
• critically assess theoretical issues and recent developments in accounting;
• develop communication skills, both oral and written; and
• develop skills in summarising and critically assessing professional reports and statements and academic articles.

Course Assessment

Test (15%), Coursework 3000 words counts for (35%) and Examination for (50%)

Recommended Texts

• Additional articles and further readings will be recommended throughout the module.
3.6  Contemporary Issues in Financial Reporting for Complex Entities

Course number: BUMN040H7
Full-Time and Part-Time Year 2
Spring Term
Credits: 15
Lecturers: Dr Libon Fung

Course Aims and Objectives

This module builds on the materials covered in Principles of Financial Reporting and aims to provide students with a full understanding of the current issues relating to financial reporting for international entities with complex organizational structures.

This module aims to:
• Further develop an strong understanding of the theory and practice of accounting;
• critically assess theoretical issues and recent developments in accounting;
• develop communication skills, both oral and written; and
• develop skills in summarising and critically assessing professional reports and statements and academic articles.

Course Assessment

Test (25%) and Examination (75%)

Recommended Texts

• Additional articles and further readings will be recommended throughout the module.
3.7 Monetary Economics

Course number: EMEC055H7
Full-Time and Part-Time Year 1/2
Autumn and Spring Term
Credits: 15
Lecturers: Ivan Petrella, Yunus Aksoy

Course Aims and Objectives

This option provides an analytical survey of changes in academic and central bank views regarding monetary economics, macro finance, and monetary policy in developed countries over the last few decades, including the evolution of policy from money growth targeting in the 1970s to modern variants of inflation targeting. Topics include: transformations of banking and credit markets; intersections of macroeconomics and finance including market perceptions of central bank policy; empirical support for models advanced to illustrate successes and failures of historical monetary policies; and proximate causes of and central bank responses to the credit crisis that began in mid-2007.

Students should be able to demonstrate:
- familiarity with key issues in the design of contemporary monetary policy;
- use of small analytical models to illustrate these issues;
- empirical puzzles associated with competing descriptions of agent responses;
- the policy transmission roles of expectations in financial markets.

Outline of Topics

- Real business cycle model
- Nominal frictions: New-Keynesian model
- Credit cycles
- Leverage, liquidity and the fragility of banks
- Optimal policy: time consistency and discretion
- Consumption-based asset pricing
- Determinants of credit risk spreads
- The term structure and anticipated policy
- Safe assets, money, and non-standard monetary policy measures

Course Assessment

A two-hour examination in June (TBC).

Recommended Texts

3.8 Market Risk Management

Course number: BUEM053H7
Full-Time and Part-Time Year 2
Autumn
Credits: 15
Lecturers: Simon Hubbert

Course Aims and Objectives

To demonstrate an understanding of the different reasons for (and approaches to) measuring market risk. To gain fundamental knowledge of the mathematical and statistical theory behind the subject and to be able to apply this to solve real-world problems.

On successful completion of this module a student will be expected to be able to:

- measure financial losses;
- demonstrate a sound theoretical knowledge of Value at Risk (VaR) and Tail Value at Risk (TVaR);
- compute VaR and TVaR (under certain distributional assumptions) for a given portfolio of risky assets;
- employ statistical tools to examine the stylized facts of asset returns;
- build and use risk models featuring jumps and stochastic volatility;
- demonstrate sound knowledge of the GARCH family of risk models and its applications;
- compute VaR for derivatives;
- use extreme value theory applied to VaR and TVaR calculations;
- measure risk using simulation methods;
- statistically evaluate a given risk model using back-testing techniques.

Outline of Topics

The course will focus on the following topics:

- Properties of financial time series
- Value at Risk and related measures for portfolios of standard assets
- Risk factor models – strengths and weaknesses
- Value at Risk for derivative portfolios
- Time series analysis for risk managers
- Extreme Value Theory and its applications in finance

Course Assessment

The final grade is determined through a two-hour exam in June and a take-home exercise in the Christmas vacation

Recommended Texts


This will be complemented with further readings from selected books and articles.
4.9 Forecasting

Course number: BUEN033H7
Full-Time and Part-Time Year 1/2
Spring Term
Credits: 15
Lecturers: Ivan Petrella, Ron Smith

Course Aims and Objectives

This module examines the principles and practice of making forecasts of economic and financial time series for decision making in government, business and economics more generally. The first part of the course will cover the basics of point forecasts and their statistical evaluation and focus on forecasting financial time series. The second part will focus on forecasting macroeconomic series and cover more advanced techniques. Economic evaluation using forecast densities will also be covered. We make use of the EViews software to build forecasting models and to make and assess forecasts.

Students who complete the course should be able to:
- use a range of models to produce point forecasts of economic and financial variables;
- undertake both economic and statistical evaluation of point forecasts;
- understand the limitations of point forecasts and be able to quantify forecast uncertainty through the use and evaluation of density forecasts.

Outline of Topics

Introduction to Forecasting
- Forecasting with ARMA Models
- Predictive regressions
- Subjective forecasts from surveys
- Modeling and Forecasting the Trend
- Modeling and forecasting cycles: ARIMA Models
- Modeling seasonality
- Statistical Evaluation and combining point forecasts
- Using Economic Models: Macroeconomic forecasting/forecasting for policy
- Real time data and Now-casting
- Generating and Combining Density Forecasts
- Evaluating Forecast Performance

Course Assessment

A two-hour examination in June.

Recommended Texts

- Diebold, F.X., Elements of Forecasting, latest Edition, Thomson South-Western
- Elliot, G, Granger, CWJ. &Timmermann, A, (Eds.), Handbook of Economic Forecasting, Volume 1, 2006, North-Holland
5 Dissertation

Course number: BUEM028S7
Full-Time and Part-Time Year 2
Spring and Summer Terms
Credits: 30

Aims and Objectives

The Dissertation requires students to apply the techniques and knowledge acquired from the taught courses. Students should:

- show that they have a good knowledge of the relevant literature on their chosen topic;
- identify an interesting question associated with that topic and analyse this question either in a new way or with new data;
- demonstrate they have a good grasp of techniques (statistical, numerical or theoretical) relevant for analysing the question;
- present the results of their analysis in a clear and convincing manner, within the word limit (8,000 words excluding bibliography)

Students must choose a suitable topic; any subject that relates to material covered in the Programme is admissible, but it is generally sensible to stick to projects which contain some substantial element of statistical or numerical analysis. Theoretical projects are difficult although occasionally students have produced good work of this type. Purely institutional topics are not permitted.

Schedule

Exact dates can be found in the Academic Calendar (in the Student Handbook). In general the following steps are of importance:

1. Submission proposal econometrics project (End of Autumn Term)
2. Submission econometrics project (End of Spring Term)
3. Submission proposal dissertation (End of Spring Term)
4. Assignment supervisor (End of Summer Term)
5. Submission dissertation (End of September)

Note that many supervisors are away in July and August so make sure to contact your supervisor at an early stage. Also consider communicating via email in those periods

Notes

- The proposal for the dissertation needs to be uploaded on Moodle. The deadline can be found in the Academic Calendar and Moodle.
- You will be assigned a supervisor after the submission of your proposal. It is your responsibility to establish contact and arrange meetings.
- Further guidelines on the MSc Finance dissertation can be found on Moodle.
- Two bound copies of the dissertation need to be submitted; in addition you need to submit your dissertation electronically on Moodle, together with your data and programmes.

Note that many supervisors are away in July and August so make sure to contact your supervisor at an early stage. Also consider communicating via email in those periods.
6 Timetables

Term Timetables can be viewed by using this link: http://www.bbk.ac.uk/ems/for_students/msc_finance_with_advanced_pathways
Employability

Careers and Employability Service

We provide comprehensive careers, recruitment and employability advice, events and information services for our students, both online and face-to-face at our dedicated support space on the Birkbeck campus in Bloomsbury. These include: speaking to a careers advisor; panel discussions with employers, Birkbeck alumni and careers consultants; workshops and events on finding work, CV and application writing, and preparing for interviews; and online social media support.

We also work closely with Birkbeck Talent, our in-house recruitment service, to provide bespoke support for student pursuing employment and internship opportunities.

To find out more, visit bbk.ac.uk/careers

Birkbeck Talent: a dedicated in-house recruitment service for students

Birkbeck Talent is a professional recruitment service aimed exclusively at assisting Birkbeck students to find work whilst studying and after graduation. We work with London’s top employers to offer innovative internships, prestigious job vacancies and exciting graduate opportunities.

To find out more, visit bbk.ac.uk/talent

Business Engagement Team

The School of Business, Economics and Informatics has a dedicated Business Engagement team where you can take advantage of extra support - in addition to what is offered by Birkbeck Talent and the Careers and Employability Service. Based in Malet Street, the team deliver a range of activities to support you in your career aspirations including:

Mentoring Pathways

Mentoring Pathways pairs successful applicants with industry professionals for individual advice and guidance. There are approximately 100 places available for final year undergraduates and post-graduate students. We have partnerships with a number of employers including Credit Suisse, PwC, University London College Hospital, Enfield Council, Hounslow Council and work alongside Birkbeck alumni, who are employed in a range of exciting and dynamic businesses.

Enterprise Pathways

Whether you are setting out in your journey as an entrepreneur or have already established a thriving business, we offer a range of initiatives to support you. These include workshops, access to digital resources, opportunities for networking, competitions and coaching.

Events

An events schedule can be found overleaf and our events will also be advertised through emails, the Business Engagement student newsletter and social media.
These events will help you to find out more about industry sectors, entrepreneurs and professional bodies.

To accommodate for busy lives and responsibilities at work, many of these events are filmed and later uploaded to our bespoke on demand video service, BEInspired.

Please visit our website www.bbk.ac.uk/business/business-services for resources and information about all of these initiatives.

*Insiders’ Guides*

We would like to take a small number of students to visit workplaces and ask questions about the culture, the roles and career progression. If your employer would like to participate, or you have a particular industry or sector that you would like included as part of this series, please contact us at developus@bbk.ac.uk for further details. Look out for opportunities to be part of the student group via our newsletter and social media.

You can also follow BEI on social media for information and conversations:

- Twitter: @BirkbeckBEI
- Facebook: BirkbeckBEI
Get Ahead: Stay Ahead
www.bbk.ac.uk/ahead

Helping you get the best possible start to your course

At Birkbeck we want to make sure you get all the help you need to get your studies off to a great start and to provide you with support during your course. On the Get Ahead: Stay Ahead website you can access a range of online resources to help you:

* consider how you can achieve your goals
* find out what studying at Birkbeck is like
* improve your study skills and succeed on your course

The online materials are interactive tutorials that are free to use and you can work through them at your own pace.

www.bbk.ac.uk/ahead