



# AFIN839

## Portfolio Management

S2 Day 2014

*Applied Finance and Actuarial Studies*

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## General Information

Unit convenor and teaching staff

Unit Convenor

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Credit points

4

Prerequisites

ACST603 or AFIN858 or (4cp in ACCG or BUS or ECON or MKTG units at 600 level) or admission to MCom or MIntBus or MEd or MActPrac prior to 2011

Corequisites

Co-badged status

Unit description

This unit covers the principles, theory and techniques of portfolio management. Study of this unit provides a basis for the effective management of investment portfolios, as well as an understanding of the limitations of techniques commonly applied to problems of portfolio construction and performance evaluation.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

Know the behavioural and statistical assumptions underlying the tools and techniques of portfolio management and have developed an awareness of their rationale and limitations

Understand the economic principles of arbitrage and market efficiency - with a particular focus on their implications for funds management

Be able to apply key factor pricing models to practical problems in portfolio construction

and performance evaluation - both as statistical tools and as economic points of reference

Have an understanding of the sources of modelled risk and approaches to managing such exposures

Have gained an understanding of alternative criteria for constructing portfolios and benchmarking performance

Have developed an awareness of the need to consider the limitations of models and techniques when applied outside of textbook examples - including exposures to risks that are outside the scope of standard models

## Assessment Tasks

Name	Weighting	Due
<a href="#"><u>Class Test 1</u></a>	10%	Week 3
<a href="#"><u>Class Test 2</u></a>	25%	Week 7
<a href="#"><u>Group Assignment</u></a>	25%	Week 12
<a href="#"><u>Final Examination</u></a>	40%	Examination Period

### Class Test 1

Due: **Week 3**

Weighting: **10%**

Submission

20-minute, closed book, in-class test based on the material covered in weeks 1 and 2. Short answers and calculations. The test will commence at the beginning of the week 3 class.

No extensions will be granted. Students who have not submitted the task prior to the deadline will be awarded a mark of 0 for the task, except for cases in which an application for special consideration is made and approved.

On successful completion you will be able to:

- Know the behavioural and statistical assumptions underlying the tools and techniques of portfolio management and have developed an awareness of their rationale and limitations
- Understand the economic principles of arbitrage and market efficiency - with a particular focus on their implications for funds management
- Be able to apply key factor pricing models to practical problems in portfolio construction

and performance evaluation - both as statistical tools and as economic points of reference

- Have an understanding of the sources of modelled risk and approaches to managing such exposures
- Have gained an understanding of alternative criteria for constructing portfolios and benchmarking performance

## Class Test 2

Due: **Week 7**

Weighting: **25%**

Submission

60-minute, closed book, in-class test based on the material covered in lectures 1 - 5 (inclusive). Short answers and calculations. The test will commence at the beginning of the week 7 class.

No extensions will be granted. Students who have not submitted the task prior to the deadline will be awarded a mark of 0 for the task, except for cases in which an application for special consideration is made and approved.

On successful completion you will be able to:

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## Group Assignment

Due: **Week 12**

Weighting: **25%**

Submission

This assignment involves multiple submissions: a progress report due in class in week 7 and a final submission due in week 12. Class presentations will also be scheduled for week 12.

No extensions will be granted. Late tasks will be accepted up to 72\* hours after the submission deadline. There will be a deduction of 20%\* of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission – 40% penalty). This penalty does not apply for cases in which an

application for special consideration is made and approved.

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- Have an understanding of the sources of modelled risk and approaches to managing such exposures
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## Final Examination

Due: **Examination Period**

Weighting: **40%**

Submission

*Final Examination* is an individual 'closed book' assessment task, attempted at an examination venue as timetabled by MQ Examinations, under invigilated and time-limited conditions, and submitted at the examination venue. The final examination will cover Week 1 through Week 12 topics, as listed in the Unit Schedule, in a mix of 'theory' and 'problem solving' questions eliciting: (a) through a mix of 'theory' and 'problem solving' questions, eliciting: responses selected from sets of pre-determined alternatives i.e. 'multiple-choices', requiring you to select the 'ONE best' alternative as the preferred answer; (b) medium length answers, to 'theory' questions; and (c) medium length calculations' questions. Several questions may have sub-parts. Total time available will be 180 minutes plus 10 minutes of 'reading' time.

In addition, make sure to read the current Final Examination Policy and Final Examination Procedure.

*To be eligible to pass this unit, a pass is required in the combined examinations component of the assessment.*

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- Have an understanding of the sources of modelled risk and approaches to managing such exposures
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## Delivery and Resources

### Classes

Classes are 3-hour seminars running 12-3pm on Thursdays in E4B 316. A typical class will be structured as a 2-hour lecture followed by 1-hour tutorial - though the distinction between the two may be blurred. Please feel free to ask (and answer!) questions throughout the class. Attendance at classes is compulsory.

**Consultation hours: TBA**

### Required and Recommended Texts and/or Materials

#### Prescribed

The recommended text for purchase is:

**Investment Analysis and Portfolio Management** by Reilly and Brown. 10th Edition, 2011, South-Western Cengage Learning. ISBN 0538482389

However, we will supplement the book with readings from journals and other textbooks. Other useful texts are listed below.

**Modern Portfolio Theory and Investment Analysis** by Elton, Gruber, Brown and Goetzmann. 7th Edition, John Wiley and Sons, Inc, 2007. ISBN 978-0470-05082-2

**Modern Investment Theory** by Haugen, 5th Edition, Prentice Hall, 2001. ISBN 0-13-019170-1

**Investments** by Levy and Post. Pearson Publishing, 2005. ISBN 0-273-65164-1

Refer to the unit web page for other useful references and resources.

### **Technology Used and Required**

Necessary technology: scientific or business calculator without alphanumeric capabilities, internet access, computer with MS Excel.

Useful technology: The MATLAB software environment is **very** useful if you intend doing this sort of work professionally.

For details of the student version please refer to:

[http://www.mathworks.com.au/academia/student\\_version/](http://www.mathworks.com.au/academia/student_version/)

### **Unit Web Page**

Log in via <https://ilearn.mq.edu.au>

### **Teaching and Learning Activities**

The first two hours of each class will be a lecture-style presentation, the third hour an interactive tutorial.

You are strongly advised to attempt all assigned tutorial questions before the weekly tutorial class, and before consulting the solutions. It is very easy to be lulled into a false sense of security by simply reading questions and looking at the solutions.

Each week you are required to submit your attempt at the tutorial questions. Success in this unit depends on keeping up with the weekly content, so doing the tutorial work is essential. Whilst no assessment marks are allocated to tutorial assignments, submission of your work will be recorded to provide evidence of your satisfactory performance/progress.

Solutions to tutorial questions will be provided at the end of the week in which they're due.

### **Research and Practice**

- This unit uses research by Macquarie University researchers (Week 10, 11)
- This unit uses research from external sources (most weeks)
- This unit gives you practice in applying your own research findings in your assignments

### **Changes since Last Offering of this Unit**

The Class Test 3 had been replaced by a Final Examination.

## **Unit Schedule**

### **Week 1: Introduction & Overview** (*Week beginning August 4, 2014*)

*Topics:* Objectives, some statistical and mathematical background, definitions etc.

*Reading:* Lecture notes and supplements, + Reilly and Brown (R&B) Ch 1 & 2.

**Week 2: Traditional (Mean-Variance) Portfolio Theory** (*Week beginning August 11, 2014*)

*Topics:* Risk aversion, discrete versus continuous compounding, optimisation problem, estimation issues

*Reading:* R&B Ch 7; Elton, Gruber, Brown and Goetzmann (EGBG) Ch 4 & 5.

**Week 3: Informational Efficiency** (*Week beginning August 18, 2014*)

*Topics:* Definitions, theory, empirical evidence with relevance to funds management.

*Reading:* R&B Ch 6 + Additional readings

**Week 4: Asset Allocation Parameters + Class Test 1** (*Week beginning August 25, 2014*)

*Topics:* Issues of estimation, shrinkage, factor models

*Reading:* Haugen Chapter 6; EGBG Chapter 7.

**Week 5: Equity Portfolio Management** (*Week beginning September 1, 2014*)

*Topics:* Index investment, active management, investment strategies (strategic, tactical, statistical arbitrage etc), Black-Litterman

*Reading:* R&B Ch 16

**Week 6: Bond Portfolio Management** (*Week beginning September 8, 2014*)

*Topics:* Risk sources (price volatility, credit etc), duration, convexity, call provisions, portfolio construction.

*Reading:* R&B Ch 19 + additional reading(s) on unit web page.

**Week 7: Class Test 2 (Mid-semester)** (*Week beginning September 15, 2014*)

*Assignment groups will make progress reports after the test this week.*

**Mid-Semester Break: September 20 - October 6, 2014**

**Week 8: Performance Measurement** (*Week beginning October 6, 2014*)

*Topics:* Jensen, Sharpe, Treynor Indices; Information ratio, Portfolio Performance Index (PPI), Extrapolation issues.



*Reading:* R&B Ch 25, plus additional readings on the unit web page.

**Week 9: Portfolio Construction (Extensions), Derivatives and Portfolio Management** (*Week beginning October 13, 2014*)

*Topics:* Alternative objectives and portfolio construction criteria; role of derivatives.

*Reading:* R&B Ch 20 + additional readings

**Week 10: Hedge Funds, Alternative Assets and Risk Management** (*Week beginning October 20, 2014*)

*Topics:* Alternative investments with particular focus on Hedge Funds

*Reading:* R&B Ch 24 + additional readings

**Week 11: Models: Limitations & Failure** (*Week beginning October 27, 2014*)

*Topics:* Behavioural biases, statistical issues and potential responses

*Reading:* To be provided

**Week 12: Summary and Miscellaneous Extensions and Group Presentations** (*Week beginning November 3, 2014*)

*Reading:* To be provided

**Week 13: Revision** (*Week beginning November 10, 2014*)

## **Policies and Procedures**

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

Supplementary Exams

Further information regarding supplementary exams, including dates, is available here

[http://www.businessandeconomics.mq.edu.au/current\\_students/undergraduate/how\\_do\\_i/special\\_consideration](http://www.businessandeconomics.mq.edu.au/current_students/undergraduate/how_do_i/special_consideration)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

## IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

## Graduate Capabilities

### PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

#### Learning outcomes

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- Be able to apply key factor pricing models to practical problems in portfolio construction and performance evaluation - both as statistical tools and as economic points of reference
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- Have gained an understanding of alternative criteria for constructing portfolios and benchmarking performance

#### Assessment tasks

- Class Test 1
- Class Test 2
- Group Assignment
- Final Examination

### PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

#### Learning outcomes

- Know the behavioural and statistical assumptions underlying the tools and techniques of

portfolio management and have developed an awareness of their rationale and limitations

- Understand the economic principles of arbitrage and market efficiency - with a particular focus on their implications for funds management
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- Have developed an awareness of the need to consider the limitations of models and techniques when applied outside of textbook examples - including exposures to risks that are outside the scope of standard models

## **Assessment tasks**

- Class Test 1
- Class Test 2
- Group Assignment
- Final Examination

## **PG - Research and Problem Solving Capability**

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

## **Learning outcomes**

- Understand the economic principles of arbitrage and market efficiency - with a particular focus on their implications for funds management
- Be able to apply key factor pricing models to practical problems in portfolio construction and performance evaluation - both as statistical tools and as economic points of reference
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## **Assessment tasks**

- Class Test 1
- Class Test 2
- Group Assignment
- Final Examination