



# ACST201

## Financial Modelling

S1 Evening 2015

*Dept of Applied Finance and Actuarial Studies*

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### Disclaimer

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## General Information

Unit convenor and teaching staff

Unit Convenor

Sachi Purcal

[sachi.purcal@mq.edu.au](mailto:sachi.purcal@mq.edu.au)

Contact via [sachi.purcal@mq.edu.au](mailto:sachi.purcal@mq.edu.au)

E4A 615

Mondays 1100–1200 during the thirteen teaching weeks.

Credit points

3

Prerequisites

15cp including (ACST101 and (STAT150 or STAT170 or STAT171))

Corequisites

Co-badged status

Unit description

This unit explores some basic concepts of finance, in particular: price; yield; the relationship between price and yield; interest rate risk; reinvestment risk; duration and its uses; volatility; the contingent payments approach; arbitrage pricing theory; pricing forwards; futures and options. To achieve understanding, this unit uses financial mathematics (the techniques learned in ACST101 are developed further here) to analyse transactions involving commonly used financial instruments in the context of the markets in which they are traded. At the same time, students develop skills in solving problems; in explaining financial ideas in simple language; in constructing spreadsheet models; and in working as part of a team. A range of assessment tasks are provided, some to generate feedback on how well the understanding and skills are developing, and others to determine the standard of understanding and skills attained.

## 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:

Demonstrate an understanding of the basic concepts and principles of financial analysis.

Design Excel spreadsheets to solve basic problems in financial analysis.

Appraise the work of others in the field of financial analysis.

Construct a solution to problem in financial analysis as part of a team.

## General Assessment Information

### Extensions

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

### Scaling

A Standardised Numerical Grade (SNG) gives you an indication of how you have performed within the band for your descriptive grade. The SNG is not a mark, and you may not be able to work it out based on your raw examination and other assessment marks. Nor are you able to determine you are “one mark away” from a different grade.

### Gradebook

It is the responsibility of students to view their marks for each within session assessment on iLearn within 20 working days of posting. If there are any discrepancies, students must contact the unit convenor immediately. Failure to do so will mean that queries received after the release of final results regarding assessment marks (not including the final exam mark) will not be addressed.

## Assessment Tasks

| Name                     | Weighting | Due                         |
|--------------------------|-----------|-----------------------------|
| <u>Final Examination</u> | 60%       | Exam period                 |
| <u>Class tests</u>       | 20%       | 18/3/15 and 13/5/15         |
| <u>On Line Quiz</u>      | 10%       | 1/4/15 and 29/4/15          |
| <u>Group Assignment</u>  | 10%       | 23/4/15, 1/5/15 and 25/5/15 |

### Final Examination

Due: **Exam period**

Weighting: **60%**

A three hour final examination for this unit will be held during the University Examination period.

You are permitted ONE A4 page of paper containing reference material printed on both sides. The material may ONLY be handwritten. The page will not be returned at the end of the final examination.

On successful completion you will be able to:

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Design Excel spreadsheets to solve basic problems in financial analysis.

## Class tests

Due: **18/3/15 and 13/5/15**

Weighting: **20%**

You will use iLearn to submit your solutions (in a PDF file) to two class tests.

You will use iLearn's peer assessment tool to mark the work of your classmates (due 26/3/15 and 21/5/15).

On successful completion you will be able to:

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Appraise the work of others in the field of financial analysis.

## On Line Quiz

Due: **1/4/15 and 29/4/15**

Weighting: **10%**

You will use iLearn to submit Excel spreadsheets you used to solve a variety of problems.

You will use iLearn's peer assessment tool to mark the work of your classmates (due 23/4/15 and 7/5/15).

On successful completion you will be able to:

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Design Excel spreadsheets to solve basic problems in financial analysis.
- Appraise the work of others in the field of financial analysis.

## Group Assignment

Due: **23/4/15, 1/5/15 and 25/5/15**

Weighting: **10%**

You will be assigned to a group to work on your Group Spreadsheet Project. There will be three tasks which count towards your final assessment. Your Excel files must be submitted electronically via iLearn.

You will use iLearn's peer assessment tool to mark the work of your classmates (due 11/5/15).

You will use iLearn's group assessment tool to appraise the contributions of your group mates (due 29/5/15).

On successful completion you will be able to:

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Design Excel spreadsheets to solve basic problems in financial analysis.
- Appraise the work of others in the field of financial analysis.
- Construct a solution to problem in financial analysis as part of a team.

## Delivery and Resources

### Reference books

You do NOT have to buy a printed textbook. You may find these books useful as additional references for some topics in ACST201:

- Knox, D M, Zima, P & Brown, R L (1999) *Mathematics of Finance* (Second edition), Irwin/McGraw-Hill
- Sherris, M (1996) *Money & Capital Markets* (Second Edition), Allen & Unwin (available in library only)
- Viney C (2011) *Financial Market Essentials*, McGraw-Hill
- Valentine, T, Ford, G & Copp, R (2006) *Financial Markets & Institutions in Australia*, Prentice Hall

The recommended texts are available in the reserve section of Macquarie University Library.

### Technology Used and Required

#### Calculators

You may use a calculator in the class tests and at the final exam provided that it is portable, silent and battery operated, but you must show clearly the steps involved in every calculation. In the final exam you may NOT use any calculators that have a text-retrieval capacity, whether or not they have a full alphabet on the keyboard. Calculators may be checked at the commencement of the final exam, and the make/model may be recorded.

#### Spreadsheet program

Many of the problems you will encounter in this unit can be solved easily with the spreadsheet program, Excel. You can use this spreadsheet program to verify your solutions to many of the problems you are solving. You will need to use Excel to do the Spreadsheet quizzes and the Group Spreadsheet Project.

#### Class tests

You need to electronically submit your solutions (using iLearn) to the class tests as PDF files. Some possibilities to produce these files are: scan your handwritten solutions to a PDF file; use WORD (or similar software) to type out your solutions and save your work as a PDF file. For each class test you can only submit one PDF file; it must contain all the pages of your solution (so make sure, if your scanner produces separate PDF pages, that you can combine them into one file).

## Unit Schedule

|    |  |
|----|--|
| 1  | Simple interest/discount and short-term financial instruments                      |
| 2  | Short-term financial instruments and revision of compound interest and bond prices |
| 3  | Bond prices, bond yields and zero coupon bonds                                     |
| 4  | Re-investment risk and TRCY  |
| 5  | Horizon analysis   |
| 6  | Horizon analysis, bond duration  |
|    | <b>Semester break</b>  |
| 7  | Bond duration  |
| 8  | Contingent payments, forward contracts   |
| 9  | Forward contracts  |
| 10 | Option pricing   |
| 11 | Option pricing, swap pricing   |
| 13 | Revision   |

## 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/)

## Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](#).

### Supplementary Exams

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

[http://www.businessandconomics.mq.edu.au/current\\_students/undergraduate/how\\_do\\_i/specia/consideration](http://www.businessandconomics.mq.edu.au/current_students/undergraduate/how_do_i/specia/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

### Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

#### Learning outcomes

- Design Excel spreadsheets to solve basic problems in financial analysis.
- Appraise the work of others in the field of financial analysis.
- Construct a solution to problem in financial analysis as part of a team.

#### Assessment tasks

- Final Examination
- Class tests
- On Line Quiz
- Group Assignment

### Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

#### Learning outcomes

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Appraise the work of others in the field of financial analysis.
- Construct a solution to problem in financial analysis as part of a team.

#### Assessment tasks

- Final Examination
- Class tests
- On Line Quiz
- Group Assignment



## Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

### Learning outcomes

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Design Excel spreadsheets to solve basic problems in financial analysis.
- Appraise the work of others in the field of financial analysis.
- Construct a solution to problem in financial analysis as part of a team.

### Assessment tasks

- Final Examination
- Class tests
- On Line Quiz
- Group Assignment

## Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

### Learning outcomes

- Demonstrate an understanding of the basic concepts and principles of financial analysis.
- Design Excel spreadsheets to solve basic problems in financial analysis.
- Appraise the work of others in the field of financial analysis.
- Construct a solution to problem in financial analysis as part of a team.

### Assessment tasks

- Final Examination
- Class tests
- On Line Quiz
- Group Assignment

## **Changes from Previous Offering**

No changes have been made from the previous offering.

## **Research and Practice**

This unit uses research by Macquarie University researchers and external sources (references will be given in the lectures, tutorials and assignment).