

# ACST2001

## **Financial Modelling**

Session 2, Special circumstances 2021

Department of Actuarial Studies and Business Analytics

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#### Disclaimer

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#### Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the  $\underline{MQ}$  COVID-19 information page for more detail.

### **General Information**

Unit convenor and teaching staff

**Unit Covenor** 

Colin Zhang

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Credit points

10

Prerequisites

50cp at 1000 level or above including [(ACST101 or ACST1001) and (STAT150 or STAT1250 or STAT1770 or STAT1170 or STAT171 or STAT1371)]

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 ACST1001 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:

**ULO1:** Apply the basic concepts and principles of financial analysis into solving financial problems.

**ULO2:** Design Excel spreadsheets to solve basic problems in financial analysis.

**ULO3:** Appraise the work of others in the field of financial analysis.

**ULO4:** Construct a solution to a problem in financial analysis as part of a team.

### **General Assessment Information**

Assessment criteria for all assessment tasks will be provided on the unit iLearn site.

It is the responsibility of students to view their marks for each within-session-assessment on iLearn within 20 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 tasks (not including the final exam mark) will not be addressed.

#### Late submissions of assessments

Sometimes unavoidable circumstances occur that might prevent you from submitting an assessment on time and, in that case, you may be eligible to lodge a <u>Special Consideration request</u>.

Unless a <u>Special Consideration request</u> has been submitted and approved, please note that no extensions to assessment deadlines will be granted. Assessments that are submitted late will attract a late penalty:

- 1. There will be a deduction of 10% of the total available marks for each 24 hour period or part thereof that the submission is late.
- 2. No assessment will be accepted more than 72 hours after the original due date and time (incl. weekends).
- 3. No late submissions will be accepted for timed assessments (e.g., quizzes, online tests) or for tasks with a weighting of 10% or less.

### **Assessment Tasks**

Name	Weighting	Hurdle	Due
Take-home Quizzes	20%	No	17/8/21 and 12/10/21
Spreadsheet Project Task	20%	No	5/10/21
Online Exam	60%	No	University Examination Period

### Take-home Quizzes

Assessment Type 1: Quiz/Test Indicative Time on Task 2: 20 hours

Due: 17/8/21 and 12/10/21

Weighting: 20%

You will use the quiz links on iLearn to complete two take-home quizzes.

On successful completion you will be able to:

- Apply the basic concepts and principles of financial analysis into solving financial problems.
- · Appraise the work of others in the field of financial analysis.

## Spreadsheet Project Task

Assessment Type 1: Quantitative analysis task Indicative Time on Task 2: 20 hours

Due: **5/10/21** Weighting: **20%** 

There are two components (an individual task and a group spreadsheet task). You will need to submit the tasks via iLearn.

On successful completion you will be able to:

- Apply the basic concepts and principles of financial analysis into solving financial problems.
- 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 a problem in financial analysis as part of a team.

### Online Exam

Assessment Type 1: Examination
Indicative Time on Task 2: 28 hours
Due: **University Examination Period** 

Weighting: 60%

The final examination will be an open book online exam, to be held during the University Examination period.

On successful completion you will be able to:

· Apply the basic concepts and principles of financial analysis into solving financial

problems.

- 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 a problem in financial analysis as part of a team.

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- · the Writing Centre for academic skills support.

## **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 ACST2001:

- 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.

For those wishing useful reference material on using Microsoft Excel, you may wish to buy a SIMnet online account <a href="http://mq.simnetonline.com">http://mq.simnetonline.com</a>.

## **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.

#### **Software**

<sup>&</sup>lt;sup>1</sup> If you need help with your assignment, please contact:

<sup>&</sup>lt;sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

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. In addition, students in ACST2001 will be given access to the financial industry data platform, FactSet. This can be accessed through a web browser. You will use the data from FactSet to complete a number of the assessment tasks in the unit.

### **PDF file**

You might need to electronically submit your solutions (using iLearn) as PDF files for some of your assessments. 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 assessment 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 and short-term financial instruments, compound interest and bonds
2–3	Short-term financial instruments and bond prices
4	Bond prices, bond yields and zero coupon bonds
5	Re-investment risk and TRCY
6	Horizon analysis
7	Horizon analysis, bond duration
	Session break
8	Bond duration
9-10	Contingent payments, forward contracts
11	Forward contracts
12	Option pricing
13	Revision

## **Policies and Procedures**

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy

- Assessment Policy
- · Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit <u>Student Policies</u> (<u>https://students.mq.edu.au/support/study/policies</u>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.e du.au) and use the search tool.

### Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

### Results

Results published on platform other than <a href="mailto:eStudent">eStudent</a>, (eg. iLearn, Coursera etc.) 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 <a href="mailto:eStudent">eStudent</a>. For more information visit <a href="mailto:ask.mq.edu.au">ask.mq.edu.au</a> or if you are a Global MBA student contact <a href="mailto:globalmba.support@mq.edu.au">globalmba.support@mq.edu.au</a>

### Student Support

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

### **Learning Skills**

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

- Getting help with your assignment
- Workshops
- StudyWise
- Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

### Student Services and Support

Students with a disability are encouraged to contact the <u>Disability Service</u> 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

If you are a Global MBA student contact globalmba.support@mq.edu.au

## IT Help

For help with University computer systems and technology, visit <a href="http://www.mq.edu.au/about\_us/">http://www.mq.edu.au/about\_us/</a> offices\_and\_units/information\_technology/help/.

When using the University's IT, you must adhere to the <u>Acceptable Use of IT Resources Policy</u>. The policy applies to all who connect to the MQ network including students.