



# ACST101

## Techniques and Elements of Finance

MQC1 Evening 2014

*Applied Finance and Actuarial Studies*

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## General Information

Unit convenor and teaching staff

Moderator

Timothy Kyng

[timothy.kyng@mq.edu.au](mailto:timothy.kyng@mq.edu.au)

Contact via [timothy.kyng@mq.edu.au](mailto:timothy.kyng@mq.edu.au)

Unit Convenor

Jerry Song

[jerry.song@mq.edu.au](mailto:jerry.song@mq.edu.au)

Contact via [jerry.song@mq.edu.au](mailto:jerry.song@mq.edu.au)

Credit points

3

Prerequisites

Corequisites

Co-badged status

Unit description

This unit provides an introduction to the pricing of financial instruments in the techniques section, and to the functions of the Australian financial system in the elements section. The principal components are the basic methods of financial mathematics and the structure of the financial system. In this unit students apply mathematical concepts in valuing a range of financial instruments including investment accounts, promissory notes, mortgage loans, personal loans and bonds. They also learn about financial institutions (eg, banks, insurance companies, superannuation funds), financial instruments (eg, bills, bonds, shares) and financial markets. A background of HSC Mathematics or equivalent numerical competency is assumed. Students who have not studied the necessary mathematics are advised to complete MATH123 before enrolling in this unit. The concepts developed in this unit are required in subsequent actuarial studies and finance units. The unit also provides a practical introduction to finance for students not planning to continue with study in the area.

## 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:

Understand the concepts of present value and future value and apply to problems involving single payments.

Apply the concepts of present value and future value to problems involving annuities.

Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.

Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

## Assessment Tasks

Name	Weighting	Due
<a href="#">Weekly Quizzes</a>	20%	11:59pm Monday Weeks 2 to 13
<a href="#">Class Tests</a>	30%	Weeks 4, 8, 12
<a href="#">Final Examination</a>	50%	University Examination Period

### Weekly Quizzes

Due: **11:59pm Monday Weeks 2 to 13**

Weighting: **20%**

#### Submission

For each of the 11 weekly online quizzes, students use iLearn to obtain the questions, enter the answers and view the solutions.

Before students can access Quiz 1 due in Week 3 they must score 100% in the Unit Requirements Quiz and at least 80% in both the Maths Revision Quiz and the Practice Quiz. These preliminary quizzes are all due early in Week 2.

#### Extension

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

#### What is required to complete the unit satisfactorily

A satisfactory attempt by the due date is required for at least 8 quizzes. A definition of satisfactory is given in the Unit Requirements Quiz.

#### Calculation of Overall Quiz mark

The marks for all 11 quizzes are used to calculate the final assessment mark out of 20 based on quizzes.

Quiz 1 and Quiz 2 count for 1 mark each and Quizzes 3 to 11 count for 2 marks each.

On successful completion you will be able to:

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.
- Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

## Class Tests

Due: **Weeks 4, 8, 12**

Weighting: **30%**

### Date of Class Tests

Class Test 1 will be held in the first hour of the two hour lecture in Week 4. Class Test 2 will be held in the first hour of the two hour lecture in Week 8 and Class Test 3 will be held in the first hour of the two hour lecture in Week 12.

Students must attend at the lecture time for which they are enrolled

### Extension

No extensions will be granted. Students who do not sit for the test will be awarded a mark of 0 for the test, except for cases in which an application for special consideration is made and approved.

### Topics Tested

Class Tests will be based on the following lecture topics from the Unit Schedule:

Techniques Elements Test 1 Weeks 1, 2, 3 Weeks 2, 3 Test 2 Weeks 4, 5, 6 Weeks 4, 5, 6  
Test 3 Weeks 7, 8, 9 Weeks 7, 8, 9

**Full details of the Class Tests will be given on iLearn.**

The 3 Class Tests each count 10% of the final assessment.

A list of basic formulae available on iLearn will be supplied to students.

On successful completion you will be able to:

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and

other financial instruments.

- Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

## Final Examination

Due: **University Examination Period**

Weighting: **50%**

### Examination conditions

The closed book final examination will contain questions from all techniques and all elements lectures. It will be a three hour written paper with 10 minutes reading time. Part A will consist of 45 multiple choice questions on both techniques and elements. Part A will be marked out of 45. Part B will contain 3 questions requiring the application of the techniques section to practical problems. Part B will be marked out of 30. A list of basic formulae available on iLearn will be supplied to students.

### What is required to complete the unit satisfactorily

To be eligible for a passing grade in this unit, a pass is required in the final examination **as well as** all other assessments in this unit.

On successful completion you will be able to:

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.
- Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

## Delivery and Resources

### Learning and Teaching Activities

There are 3 hours of face-to-face teaching per week consisting of one 2 hour lecture and one 1 hour tutorial.

Class times can be found at MQC Student Portal: <http://student.mqc.edu.au>

### Lectures

The **Elements** lecture is held in the first hour of the 2 hour class. The **Techniques** lecture is held in the second hour of the 2 hour class.

The lecture notes for both techniques lectures and elements lectures are available from ACST101 iLearn. A copy should be brought to each lecture.

### **Tutorials**

Tutorials which are held weekly commence in the second week of the semester.

To prepare for each weekly tutorial, print a copy of the Tutorial Exercises from iLearn and attempt the first few questions eg for the Week 2 tutorial you should attempt Q1 to Q4 of the Tutorial Exercises on Week 1.

Check on eStudent for the location of your tutorial. Some tutorial rooms may have been changed since you enrolled. You must attend your allocated tutorial.

## **Required and Recommended Texts and/or Materials**

Refer to the booklist for this unit.

Although this unit usually prescribe two textbooks, focus should be placed more on the materials delivered in Lectures. Namely the lecture notes and tutorial questions.

## **Technology Used and Required**

### **Calculators**

Calculators will be allowed in the class tests and the final examination but a clear indication of the steps involved in every calculation must be shown.

Non-programmable calculators with no text-retrieval capacity are allowed. Calculators that have a full alphabet on the keyboard are not allowed. Graphics calculators are not allowed.

You will need a calculator which has  $xy$  or  $^x$ ,  $1/x$  and  $\log$  or  $\ln$  functions, and a memory.

## **Unit Web Page**

Course material is available on the learning management system (iLearn). The web page for this unit can be found at <http://ilearn.mq.edu.au>

The following are available on the website:

1. Lecture notes and Revision Exercises for "Techniques".
2. Lecture notes and internet exercises for "Elements".
3. Tutorial Exercises and solutions.
4. Quizzes.
5. Class Test solutions for the past two semesters and the current semester.
6. Final Examination papers and solutions.

## **Teaching and Learning Strategy**

This unit is taught via lectures and tutorials. Tutorial exercises will be provided for each tutorial so that you can practise applying the results developed in lectures. Weekly online quizzes will encourage you to revise the material regularly.

Understanding of concepts is required rather than memorisation of formulae. It is essential that you work steadily and consistently over the whole semester. Each topic builds on the previous one. It is extremely difficult to catch up if you fall behind.

## Support Class

There will be a support class running on Tuesday of each teaching week during the semester. For further information please refer to iLearn. Attendance is NOT compulsory however it is strongly encouraged that students utilise these classes to ask questions in relation to the unit material.

## What has changed?

There hasn't been any major change to the teaching material in this unit. However, we have replaced the Excell Assignment (10% of total assessment) from 2013S3 by an additional in-class test this semester.

## Unit Schedule

Week	Elements and Class Tests	Techniques
1	Unit Overview	Simple interest & simple discount
2	Elements Overview	Compound interest
3	Banks	Compound interest
4	<b>Class Test 1</b>	Annuities
5	RBA, Bank Regulation	Annuities
6	Non-bank institutions	Annuities
7	Non-bank institutions	Mortgage loans
8	<b>Class Test 2</b>	Flat rate loans, NPV, IRR
9	Corporate finances and instruments	Bonds & debentures
10	Government finances and instruments	Tax on bonds
11	Derivatives	Varying annuities
12	<b>Class Test 3</b>	Sinking funds and capitalised costs
13	Elements Revision	Techniques Revision

## Learning and Teaching Activities

### Lectures

The first hour is elements and the second hour is techniques

### Tutorials

Tutorials will revise concepts presented in lectures. Students are given exercises which should be attempted before the tutorial.

## 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/)

## Grades

Macquarie University uses the following grades in coursework units of study:

- HD - High Distinction
- D - Distinction
- CR - Credit
- P - Pass



· F – Fail

Grade descriptors and other information concerning grading are contained in the Macquarie University Grading Policy which is available at:

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

For further information, please refer to the following link:

<http://universitycouncil.mq.edu.au/legislation.html>

## **Grade Appeals and Final Examination Script Viewing City Campus**

If, at the conclusion of the unit, you have performed below expectations, and are considering lodging an appeal of grade and/or viewing your final exam script please refer to the following website which provides information about these processes and the cut off dates in the first instance. Please read the instructions provided concerning what constitutes a valid grounds for appeal before appealing your grade.

<http://www.city.mq.edu.au/reviews-appeals.html>

## **Attendance at Macquarie City Campus**

All Students are required to attend at least 80% of the scheduled course contact hours each Session. Additionally Macquarie City Campus monitors the course progress of international students to ensure that the student complies with the conditions of their visa relating to attendance.

This minimum level of attendance includes all lectures and tutorials. Tutorial attendance will be recorded weekly. If any scheduled class falls on a public holiday this will be rescheduled as advised by your Lecturer. Attendance at any mid-Session or in-class test is compulsory unless otherwise stated.

Unavoidable non-attendance due to illness or circumstances beyond your control must be supported by appropriate documentation to be considered for a supplementary test. Other non-attendance will obtain zero for the test. You should refer to the Disruptions Policy for more details about this.

## 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 Support at Macquarie City Campus

Students who require assistance are encouraged to contact the Student Services Manager at Macquarie City Campus. Please see reception to book an appointment.

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://students.mq.edu.au/support/>

At any time students (or groups of students) can book our Student Advising rooms on Level 6 by emailing [info@city.mq.edu.au](mailto:info@city.mq.edu.au) with a day and time and nominated contact person. There are additional student study spaces available on Level 1.

Macquarie University Campus Wellbeing also has a presence on the City Campus each week. If you would like to make an appointment, please email [info@city.mq.edu.au](mailto:info@city.mq.edu.au) or visit their website at: <http://www.campuslife.mq.edu.au/campuswellbeing>

StudyWISE provides:

- Online learning resources and academic skills workshops [http://www.mq.edu.au/learning\\_skills](http://www.mq.edu.au/learning_skills)
- Personal assistance with your learning & study related questions
- ALPS - [http://www.students.mq.edu.au/support/learning\\_skills/postgraduate/alps/](http://www.students.mq.edu.au/support/learning_skills/postgraduate/alps/)

### 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.

### IT Help at Macquarie City Campus

If you wish to receive IT help, we would be glad to assist you at <http://informatics.mq.edu.au/help/> or call 02 9850-4357.

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 and it outlines what can be done.

Students must use their Macquarie University email addresses to communicate with staff as it is University policy that the University issued email account is used for official University communication.

Students are expected to act responsibly when utilising Macquarie City Campus IT facilities. The following regulations apply to the use of computing facilities and online services:

- Accessing inappropriate web sites or downloading inappropriate material is not permitted.
- Material that is not related to coursework for approved unit is deemed inappropriate.
- Downloading copyright material without permission from the copyright owner is illegal, and strictly prohibited. Students detected undertaking such activities will face disciplinary action, which may result in criminal proceedings.

Non-compliance with these conditions may result in disciplinary action without further notice.

If you would like to borrow headphones for use in the Macquarie City Campus computer labs (210, 307, 311, 608) at any point, please ask at Level 2 Reception. You will be required to provide your MQC Student ID card. This will be held as a deposit while using the equipment.

For assistance in the computer labs, please see a Lab Demonstrator (usually they can be found in Lab 311, otherwise ask at Level 2 Reception).

## Graduate Capabilities

### Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

#### Learning outcome

- Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

#### Assessment tasks

- Weekly Quizzes
- Class Tests
- Final Examination

### 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

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.
- Describe the functions of the Australian financial system and the financial institutions, financial instruments and financial markets which form part of it.

## Assessment tasks

- Weekly Quizzes
- Class Tests
- Final Examination

## 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

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.

## Assessment tasks

- Weekly Quizzes
- Class Tests
- Final Examination

## 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

- Understand the concepts of present value and future value and apply to problems involving single payments.
- Apply the concepts of present value and future value to problems involving annuities.
- Use the concepts from 1. and 2. to price mortgage loans, bonds and debentures and other financial instruments.

## Assessment tasks

- Weekly Quizzes
- Class Tests
- Final Examination

## Research and Practice

This unit uses research from external sources. The teaching is at an introductory level. Hence you can find the research we are using in the textbooks cited above, rather than needing to source recent research papers.