



ACST101

Techniques and Elements of Finance

S1 Evening 2014

Applied Finance and Actuarial Studies

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General Information

Unit convenor and teaching staff

Unit Convenor

David Westcott

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Contact via david.westcott@mq.edu.au

E4A728 (call 8568 on the House Phone near the lifts)

Tuesday 11am - 12pm, Thursday 2pm - 3pm

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
<u>Class Tests</u>	20%	Weeks 5, 9
<u>Final Examination</u>	60%	University Examination Period
<u>Weekly Quizzes</u>	20%	11:59pm Monday Weeks 2 to 13

Class Tests

Due: **Weeks 5, 9**

Weighting: **20%**

Date of Class Tests

Class Test 1 will be held in the first hour of the two hour lecture in Week 5.

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

Depending on the lecture enrolled this will be on Tuesday 1 April, Wednesday 2 April or Thursday 3 April.

Class Test 2 will be held in the first hour of the two hour lecture in Week 9.

Depending on the lecture enrolled this will be on Tuesday 13 May, Wednesday 14 May or Thursday 15 May.

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, 6, 7
Full details of the Class Tests will be given on iLearn.

The 2 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: **60%**

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.

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.

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.

Delivery and Resources

Learning and Teaching Activities

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

Class times can be found at: <http://www.timetables.mq.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.

Tutorial attendance is compulsory. Students must attend and fully participate in at least 9 tutorials.

Tutorial enrolment or change of tutorial can be made through eStudent in the first two weeks of the semester. No tutorial changes are allowed after Week 2.

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

There are no required textbooks. Students are encouraged to work through the material on iLearn.

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.

Consultation

Commencing in Week 2 tutors will be available each day in the Numeracy Centre C5A225. The timetable will be posted on iLearn. You can consult any of the tutors not just the one who takes your tutorial.

PAL

Commencing in Week 3 there will be Peer Assisted Learning (PAL) workshops where students can learn in a group setting. The workshops will be led by students who have recently studied ACST101 and who have achieved very good grades.

What has changed?

There have been no substantial changes since the previous offering of this unit.

Unit Schedule

Week	Elements and Class Tests (1st hour)	Techniques (2nd hour)
1	Unit Overview	Simple interest & simple discount
2	Elements Overview	Compound interest
3	Banks	Compound interest
4	RBA, Bank Regulation	Annuities
5	Class Test 1	Annuities
6	Non-bank institutions	Annuities
7	Non-bank institutions	Mortgage loans
	Semester Study Break	
8	Techniques Revision	Flat rate loans, NPV, IRR

9	Class Test 2	Bonds & debentures
10	Corporate finances and instruments	Tax on bonds
11	Government finances and instruments	Varying annuities
12	Derivatives	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

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

Disruption to Studies Policy 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/

Academic Honesty

The nature of scholarly endeavour, dependent as it is on the work of others, binds all members

of the University community to abide by the principles of academic honesty. Its fundamental principle is that all staff and students act with integrity in the creation, development, application and use of ideas and information. This means that:

- all academic work claimed as original is the work of the author making the claim
- all academic collaborations are acknowledged
- academic work is not falsified in any way
- when the ideas of others are used, these ideas are acknowledged appropriately.

Further information on the academic honesty can be found in the Macquarie University Academic Honesty Policy at http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

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>

Grading Appeals and Final Examination Script Viewing

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.businessandeconomics.mq.edu.au/new_and_current_students/undergraduate_current_students/how_do_i/grade_appeals/

Special Consideration Policy

The University is committed to equity and fairness in all aspects of its learning and teaching. In stating this commitment, the University recognises that there may be circumstances where a student is prevented by unavoidable disruption from performing in accordance with their ability. A special consideration policy exists to support students who experience serious and unavoidable disruption such that they do not reach their usual demonstrated performance level. The policy is available at:

http://www.mq.edu.au/policy/docs/special_consideration/policy.html

http://www.businessandconomics.mq.edu.au/new_and_current_students/undergraduate/how_do_i/special_consideration

The due date for receipt by the University of an application for Special Consideration is five (5) working days after the due date of the associated assessment task / final examination.

Session 1, 2014 Supplementary Examinations for units offered by the Faculty of Business and Economics will be held in mid July 2014.

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) 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

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

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

- Class Tests
- Final Examination
- Weekly Quizzes

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

- Class Tests
- Final Examination
- Weekly Quizzes

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

- Class Tests
- Final Examination
- Weekly Quizzes

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

- Class Tests
- Final Examination
- Weekly Quizzes

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.