



# ACST731

## Actuarial Control Cycle 1

S1 Day 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)

E4A615

Monday 1100–1300 during teaching weeks

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

This units shares lecture classes with ACST402.

Unit description

This unit, in conjunction with ACST732, will focus on special topics on developing and applying the actuarial principles and practices underlying the design, assessment, management and control of financial systems in life and general insurance, superannuation, and other areas of actuarial practice. The two units consider the process of actuarial and financial management including: product design, pricing, marketing, monitoring of experience, reserving, financing, solvency, surplus, and enterprise risk management. The commercial environment and professionalism are discussed. Students gaining a credit or higher in this unit will satisfy part of the requirements for exemption from Part IIA of the professional exams of the Institute of Actuaries of Australia.

A solid understanding of the development and application of actuarial principles and practices is a requirement for any advanced study in the actuarial studies area. This unit provides students with essential understanding of the actuarial principles and practices that develop the concepts and skills necessary for advanced research in actuarial studies.

## 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:

Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations

Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions

Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions

Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers

Demonstrate an understanding of enterprise risk management and its role in organisational management

Discuss and apply the process of product design

Select, describe, critically examine, explain and analyse an appropriate model to solve client problems

Discuss the importance of capital, project future levels of capital, identify risks to capital, and demonstrate an understanding of the interaction between risk and capital

Apply appropriate techniques to the pricing of products and contracts

Critically explore and evaluate the actuarial principles and practices of financial systems

## Assessment Tasks

Name	Weighting	Due
<u>Assessed coursework</u>	5%	Weekly
<u>Research report</u>	15%	11 May
<u>Assignment</u>	5%	27 April
<u>Presentation (Oral)/Discussion</u>	5%	see Unit Schedule
<u>Final Examination</u>	70%	12 June

### Assessed coursework

Due: **Weekly**

Weighting: **5%**

Description

A range of tasks based on the chapters of the textbook. The tasks are due each Monday evening (Sydney time) prior to the lectures on the relevant section of work. Only a selection of the textbook chapter tasks will be marked and graded.

### Submission

Textbook chapter tasks are submitted via the teaching website, and marks and feedback will be returned via the teaching website.

### Extension

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.

### Penalties

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:

- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
- Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers
- Demonstrate an understanding of enterprise risk management and its role in organisational management
- Discuss and apply the process of product design
- Select, describe, critically examine, explain and analyse an appropriate model to solve client problems
- Discuss the importance of capital, project future levels of capital, identify risks to capital, and demonstrate an understanding of the interaction between risk and capital
- Apply appropriate techniques to the pricing of products and contracts
- Critically explore and evaluate the actuarial principles and practices of financial systems

## Research report

Due: **11 May**

Weighting: **15%**

### Description

Assignment 1 is a written research report.

### Submission

Assignment 1 will be submitted via the teaching website, and marks and feedback will be returned via the teaching website.

### Extension

No extensions will be granted. Students who have not submitted the assignment 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.

### Penalties

Students who have not submitted the assignment 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:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
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## Assignment

Due: **27 April**

Weighting: **5%**

### Description

Assignment 2 is a written executive summary and slides. The task may be completed in groups.

### Submission

Assignment 2 will be submitted via the teaching website, and marks and feedback will be returned via the teaching website.

#### Extension

No extensions will be granted. Students who have not submitted the assignment 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.

#### Penalties

Students who have not submitted the assignment 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:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
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## Presentation (Oral)/Discussion

Due: **see Unit Schedule**

Weighting: **5%**

#### Description

The presentation, to be completed by campus and CBD students, is an oral presentation to the class based on Assignment 2.

The discussion contribution, to be completed by distance students, is an assessment based on contributions to the discussion forum.

#### Submission

Presentations (city / campus students) will be given in lecture classes on 28 April and 30 April. Discussion contribution (distance students) will be based on the quantity of discussion contributions as well as the quality of two nominated postings.

Further details will be provided on the website.

Marks and feedback will be returned via the teaching website.

### Extension

No extensions will be granted. Students who do not complete the tasks on the scheduled / due dates will be awarded a mark of 0, except for cases in which an application for special consideration is made and approved.

### Penalties

Students who do not complete the tasks on the scheduled / due dates will be awarded a mark of 0, except for cases in which an application for special consideration is made and approved.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
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- Demonstrate an understanding of enterprise risk management and its role in organisational management

## Final Examination

Due: **12 June**

Weighting: **70%**

### Description

The final examination is a three-hour (plus reading time) written examination.

Students outside of Sydney must contact Hong Xie to organise (and confirm) the location of supervision of their final examination. Students who do not confirm their exam city by the announced due date are at risk of not being able to sit the exam in their location.

Calculators will be allowed in the final examination but a clear indication of the steps involved in every calculation must be shown. Any machines that have a text-retrieval capacity, specifically those with a full alphabet on the keyboard, are not allowed. Calculators may be checked at the commencement of the examination, and the make / model may be recorded.

Dictionaries are not permitted in the final examination. No reference material is allowed to be

taken into the final examination.

You should ensure that your handwriting is legible. Sections of work that are not legible will not be marked.

### Extension

No extensions will be granted. The only exception to sitting the examination at the designated time is due to documented illness or unavoidable disruption. In these circumstances you may apply for Special Consideration. Details are given in the Policies and Procedures section of this outline. If a supplementary examination is granted as a result of the special consideration process, the examination will be scheduled after the conclusion of the official examination period, and you must be available to sit the examination at the designated time.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
- Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers
- Demonstrate an understanding of enterprise risk management and its role in organisational management
- Discuss and apply the process of product design
- Select, describe, critically examine, explain and analyse an appropriate model to solve client problems
- Discuss the importance of capital, project future levels of capital, identify risks to capital, and demonstrate an understanding of the interaction between risk and capital
- Apply appropriate techniques to the pricing of products and contracts

## Delivery and Resources

### Classes

ACST731 is offered via classes on campus (Macquarie University), classes in the Sydney CBD, and by distance education to students throughout the world. Students share lecture classes and a common teaching website with the unit ACST402, which is also offered via classes on campus.

### Style of classes

We believe that the best way we can help you to master the Actuarial Control Cycle subject is not by giving traditional lectures where your role is basically to listen, think and take notes. We



have planned the face-to-face classes to be like workshops: a mixture of short "micro-presentations", small group work, discussions involving the whole class, and individual activities. Most weeks, we will ask you to do some preparatory work - reading, research, writing or just thinking. If you want to get the most out of the classes, do the preparation, and get involved in the classroom work.

## **Downloadable lecture recordings**

In all weeks, standard recordings of campus lectures using the University's lecture recording facility will be available. The recordings capture audio and screenshot. Since the classes in this unit are not traditional lectures but contain periods of group discussion, the recordings will contain some stretches of background noise which you will need to fast forward through.

In addition, for some weeks, a special downloadable presentation covering the lecture content has been created; this was produced specifically for distance students but is available to all students.

## **Timetable - Sydney campus and city classes**

The timetable for classes can be found on the Macquarie University website at:

<http://www.timetables.mq.edu.au>

Campus classes will all be held in the C5C Collaborative Learning Forum, on Mondays 1600–1800 and Thursdays 1400–1600.

Sydney CBD classes will be held at the Portside Centre, Level 5, 207 Kent Street, Sydney on Tuesdays 1730–2030.

Alterations to the class times or locations will be advised in class and on the teaching website.

## **Distance education class**

If you have enrolled for distance education mode (ACST731X) you will not be attending face-to-face classes (usually because you don't live in Sydney!) You will have access to all materials from the face-to-face classes (slides, handouts, exercises etc.) and the same discussions and other activities, via the teaching website.

## **Teaching staff**

Sachi Purcal is the unit convenor and will be taking two weeks of classes. Sachi can be contacted via Dialogue on the website, or during his consultation hours.

Bruce Edwards and Peter Carroll will be conducting other classes. Bruce and Peter are industry practitioners with a wide range of knowledge across many areas in which actuaries practice. Outside of classes, the forum for interaction with your industry lecturers will be the website Discussion forums.

Hong Xie is the teaching administrator, and can deal with any administrative queries related to the unit. Hong can be contacted via Dialogue on the website.

## Assumed knowledge

We assume from the start of the Actuarial Control Cycle that you have acquired the knowledge and skills in subjects CT1 to CT8 of Part I of the Actuaries Institute education program.

## Prize

The AMP Prize for Actuarial Control Cycle 1 is awarded for this unit.

## Required and recommended texts and materials

### Textbook

There is one textbook for this unit, referred to here and elsewhere as UAM:

Bellis, C., Lyon, R., Klugman, S and Shepherd, J. (2010). Understanding Actuarial Management: The Actuarial Control Cycle, 2nd edition, Institute of Actuaries of Australia.

The textbook can be purchased from the Actuaries Institute, at:

<http://www.actuaries.asn.au/knowledge-bank/book-shop?id=8>

You should buy the book immediately, if you haven't already, as assessment tasks based on the book are due at the beginning of the second week of classes.

Copies of the book are available in the Reserve section of the Macquarie University library.

Other useful articles will be set out at the beginning of each Learning Guide, and made available on the teaching website.

### Learning Guide

There is a Learning Guide for each section of work. You should read the Learning Guide in advance of the lectures, and bring a copy with you to classes.

## Technology Used and Required

In this unit, you will need to have access to and to be able to use software to produce overhead slides, .pdf documents, and word-processing software to produce reports.

### Teaching Website

Course material is available on the online learning management system (iLearn).

The teaching website is integral to this course unit. Passive involvement in this unit greatly reduces the likelihood of achieving the exemption standard of understanding. Interaction with other students and with teachers is very important, and the website is the forum for that interaction.

You will need to be accessing the website regularly to see announcements, read postings and stay informed - at least every couple of days. This is your responsibility and we cannot make any allowances for students who miss important information due to not checking the website regularly.

The website entry page is at:

<http://ilearn.mq.edu.au>

## Teaching and Learning Activities

The unit is taught as set out in the Classes section for face-to-face classes and distance students. The Unit Schedule available under the Unit Information section of the website sets out the assessment and the topics covered in each week of the semester.

## Exemptions

The Macquarie University units ACST402/731/831/831X (Control Cycle 1), ACST403/732/832/832X (Control Cycle 2) and ACST404/771/871/871X together count for exemption from the Actuaries Institute Part II subject. You will be recommended for exemption from Part II if you attain grades of Credit or better in these three units. If you attain a Pass in one or more of these units, then the exemption will be recommended if and only if a Standardised Numerical Grade (SNG) of at least 60 is achieved in all three units, and the average SNG is at least 65. For students who have completed part of Part II at a different university, each case is considered individually based on the exemption requirements at those universities.

It is the responsibility of the student to apply to Macquarie University to recommend them to the Actuaries Institute for professional exemptions. For information about this process and links to relevant forms, see:

[http://www.businessandconomics.mq.edu.au/current\\_students/undergraduate/how\\_do\\_i/exemptions\\_for\\_professional\\_examinations](http://www.businessandconomics.mq.edu.au/current_students/undergraduate/how_do_i/exemptions_for_professional_examinations)

## Changes since the last offering

The learning objectives, structure of assessment, class format and text are all the same as in the last offering. Learning Guides, readings, lecture slides and lecture recordings are updated each year, and the individual assessments are new each year. There has also been a change in the order in which topics are covered since the last offering. The unit convenor has changed this year.

## Unit Schedule

The Unit Schedule is available under the Unit Information section of the website.

## 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](http://ask.mq.edu.au).

## 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

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
- Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers
- Demonstrate an understanding of enterprise risk management and its role in organisational management
- Discuss and apply the process of product design
- Select, describe, critically examine, explain and analyse an appropriate model to solve client problems
- Discuss the importance of capital, project future levels of capital, identify risks to capital, and demonstrate an understanding of the interaction between risk and capital
- Apply appropriate techniques to the pricing of products and contracts

#### Assessment tasks

- Assessed coursework
- Research report
- 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

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
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- Apply appropriate techniques to the pricing of products and contracts
- Critically explore and evaluate the actuarial principles and practices of financial systems

### Assessment tasks

- Assessed coursework
- Research report
- 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**

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
- Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers
- Demonstrate an understanding of enterprise risk management and its role in organisational management
- Critically explore and evaluate the actuarial principles and practices of financial systems

## **Assessment tasks**

- Research report
- Assignment
- Presentation (Oral)/Discussion

## **PG - Effective Communication**

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

## **Learning outcomes**

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Interpret and discuss how current economic, social, demographic and economic factors can affect medium- and long-term commercial decisions
- Examine the need for, and impact of, regulation and government policy on medium- and long-term financial decisions
- Demonstrate an understanding of enterprise risk management and its role in organisational management

## **Assessment tasks**

- Assessed coursework

- Research report
- Assignment
- Presentation (Oral)/Discussion
- Final Examination

## **Research and Practice**

This unit uses research in several ways.

- This unit uses research by Macquarie University researchers (e.g., current and ex Macquarie staff members are editors and authors of the main text and other readings)
- This unit uses research from external sources (references will be provided)
- This unit gives you practice in applying research findings in your assignments

The unit has an independent research component consisting of 20% of the assessment (the Research Report and the Assignment).