



# ACST8031

## Actuarial Control Cycle 1

Session 1, Infrequent attendance, North Ryde 2021

*Department of Actuarial Studies and Business Analytics*

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#### **Disclaimer**

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#### **Notice**

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

Unit convenor and teaching staff

Unit Convenor

Simon Guthrie

[simon.guthrie@mq.edu.au](mailto:simon.guthrie@mq.edu.au)

Credit points

10

Prerequisites

Permission by special approval

Corequisites

Co-badged status

Unit description

This unit, in conjunction with ACST8032, develops and applies the actuarial principles and practices underlying the design, assessment, management and control of financial systems in the areas of life insurance, general insurance, superannuation and other less traditional areas of actuarial practice. The two units together consider the process of actuarial and financial management including: product design; pricing; marketing; monitoring of experience; reserve setting; financing; solvency; determination and distribution of surplus; and its role in enterprise risk management. The overall control process is studied within the constraints imposed by the commercial environment and the actuarial professional code of conduct and standards. This includes a discussion of business ethics and issues of professionalism in actuarial practice. Students gaining a Credit average in both ACST8031 (or ACST831) and ACST8032 (or ACST832) (minimum mark of 60 on both units) will satisfy the requirements for exemption from the Actuarial Control Cycle subject of the Actuary program of the Actuaries Institute.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://students.mq.edu.au/important-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.

**ULO2:** Relate the main features of actuarial control cycle within the general environment

to medium and long-term commercial decisions.

**ULO3:** Analyse the main features and risks of financial products and contracts from the point of view of consumers and providers.

**ULO4:** Demonstrate an understanding of enterprise risk management and apply a risk assessment framework to identify and assess the risks in a range of situations.

**ULO5:** Discuss and apply the process of product design.

**ULO6:** Explain and justify decision making to different stakeholders using the Actuarial Control Cycle framework.

## 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 and extensions

Tasks 10% or less – 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.

Tasks above 10% - No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission – 20% penalty). This penalty does not apply for cases in which an application for special consideration is made and approved. No submission will be accepted after solutions have been posted.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Assessed Coursework</u>	7%	No	Weekly
<u>Assignment</u>	11%	No	Week 6
<u>Case Study</u>	12%	No	Week 7
<u>Postgraduate student task</u>	0%	Yes	Week 8
<u>Final Exam</u>	70%	No	Exam period

### Assessed Coursework

Assessment Type <sup>1</sup>: Problem set

Indicative Time on Task <sup>2</sup>: 7 hours

Due: **Weekly**

Weighting: **7%**

A range of tasks due throughout the session based on textbook chapters, iLearn discussion and class quizzes.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.
- Relate the main features of actuarial control cycle within the general environment to medium and long-term commercial 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 apply a risk assessment framework to identify and assess the risks in a range of situations.
- Discuss and apply the process of product design.

## Assignment

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 6**

Weighting: **11%**

The assignment consists of Powerpoint presentaion and a script of 1000 - 1500 words.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.
- Relate the main features of actuarial control cycle within the general environment to medium and long-term commercial 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 apply a risk

assessment framework to identify and assess the risks in a range of situations.

- Discuss and apply the process of product design.

## Case Study

Assessment Type <sup>1</sup>: Case study/analysis

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Week 7**

Weighting: **12%**

An individual, written, case study report (word limit of up to 5000 words).

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.
- Relate the main features of actuarial control cycle within the general environment to medium and long-term commercial 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 apply a risk assessment framework to identify and assess the risks in a range of situations.
- Discuss and apply the process of product design.
- Explain and justify decision making to different stakeholders using the Actuarial Control Cycle framework.

## Postgraduate student task

Assessment Type <sup>1</sup>: Qualitative analysis task

Indicative Time on Task <sup>2</sup>: 2 hours

Due: **Week 8**

Weighting: **0%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

Postgraduate (ACST8031 and ACST8031 External) students are required to complete a postgraduate student task, to be submitted via iLearn.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.
- Relate the main features of actuarial control cycle within the general environment to medium and long-term commercial 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 apply a risk assessment framework to identify and assess the risks in a range of situations.
- Discuss and apply the process of product design.
- Explain and justify decision making to different stakeholders using the Actuarial Control Cycle framework.

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 28 hours

Due: **Exam period**

Weighting: **70%**

The final examination will be closed book, a three-hour written paper with ten minutes reading time, to be held during the University Examination period.

On successful completion you will be able to:

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations.
- Relate the main features of actuarial control cycle within the general environment to medium and long-term commercial 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 apply a risk assessment framework to identify and assess the risks in a range of situations.
- Discuss and apply the process of product design.

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

- the academic teaching staff in your unit for guidance in understanding or completing this

type of assessment

- the [Learning Skills Unit](#) for academic skills support.

<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

## Delivery and Resources

### Classes

ACST8031 is offered via classes on campus (Macquarie University) which are recorded and distributed online for students all over the world. Students share lecture classes and a common teaching website with the units ACST4002 and ACST7031.

### 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 "micropresentations", 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 (ECHO360) 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. To access the recordings for all weeks, click on the ECHO360 link on the right hand side of the webpage, then select the relevant lecture recording date, then click Play.

### Timetable

The timetable for classes can be found on the Macquarie University website at:  
<http://www.timetables.mq.edu.au>

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

### Teaching staff

Simon Guthrie is the unit convenor and will be taking four weeks of classes including supervising presentations. Simon can be contacted via Dialogue on the website, or during his consultation hours.

Bruce Edwards will be conducting other classes and supervision of presentations. Bruce is an industry practitioner with a wide range of knowledge across many areas in which actuaries practice. Outside of classes, the forum for interaction with Bruce 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.

### **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. 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 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. The Unit Schedule sets out the assessment and the topics covered in each week of the semester.

#### **Exemptions**

The Macquarie University units ACST4002/7031/8031 (Control Cycle 1) and ACST4003/7032/8032 (Control Cycle 2) together will satisfy the requirements for exemption from the Actuarial Control Cycle subject of the Actuary program of the Actuaries Institute. You will be recommended for exemption if you attain grades of Credit or better in these two units. If you



attain a Pass in one 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 both units, and the average SNG is at least 65. For students who have completed part of Actuarial Control Cycle 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 please contact Hong Xie via iLearn.

## Unit Schedule

Week	Week beginning	Topic	Lecturer	UAM Chapter	Assessment task	Notes
1	22-Feb	Context of Actuarial Work	SG	5, 14 (part)	-	
2	1-Mar	Meeting Consumers' Needs	BE	4	TCT1	
3	8-Mar	Financial Services Overview	BE	Readings	TCT2	
4	15-Mar	Product Development	BE	8	TCT3	
5	22-Mar	ERM	SG	2	TCT4	
6	29-Mar	Presentations	-	-	Presentation	
Study break	5-Apr	-	-	-	-	
Study break	12-Apr	-	-	-	-	
7	19-Apr	Applying Risk Management	BE	6	TCT5, Case Study	
8	26-Apr	Modelling	SG	9,10	TCT6	
9	3-May	Capital 1	SG	11	TCT7	
10	10-May	Capital 2	BE	11	-	
11	17-May	Pricing 1	BE	13	TCT8	
12	24-May	Pricing 2	BE	13	-	
13	31-May	Revision	BE	-	-	

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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 [Student Policies](https://students.mq.edu.au/support/study/policies) (<https://students.mq.edu.au/support/study/policies>). 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.edu.au) (<https://policies.mq.edu.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 [eStudent](#), (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 [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## 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 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 Enquiry Service

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Equity 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.

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.