



ACST4003

Actuarial Control Cycle 2

Session 2, Special circumstance 2020

Department of Actuarial Studies and Business Analytics

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Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

Notice

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

To check the availability of face-to-face and online 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

Maggie Lee

Contact via in class, iLearn Dialogue or Discussion forums

Refer to iLearn

Wednesday 10-12pm during teaching weeks

Lecturer

Bruce Edwards

Contact via in class or Discussion forums

Teaching Assistant

Hong Xie

Contact via iLearn Dialogue (admin enquiries)

Angela Chow

angela.chow@mq.edu.au

Credit points

10

Prerequisites

ACST402 or ACST4002

Corequisites

Co-badged status

Unit description

This unit, in conjunction with ACST4002 Actuarial Control Cycle 1, 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, and 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 across ACST4002 (or ACST402) and ACST4003 (or ACST403) (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://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

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

ULO1: Show an understanding of how models are used to solve client problems

ULO2: Recognise the importance of capital.

ULO3: Apply relevant approaches and techniques to the valuation of liabilities.

ULO4: Apply appropriate techniques to the pricing of products and contracts.

ULO5: Demonstrate an understanding on the principles of measuring, reporting and managing solvency; measuring and reporting emerging profits and/or costs; monitoring and assessing experience; and responding to emerging experience.

General Assessment Information

It is the responsibility of students to view their marks for each within session assessment on iLearn within 20 working 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 marks (not including the final exam mark) will not be addressed. Assessment criteria for all assessment tasks will be provided on the unit iLearn site.

Late submission

For individual assessment tasks worth 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.

For individual assessment tasks worth more than 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.

Details of the assessments

Details of the assessments, including the task question and rubrics, will be uploaded on iLearn. If there are any discrepancies between the unit guide and the detailed assessment documents on iLearn, the details in the assessment documents on iLearn should be the point of reference. It is the students responsibility to be aware of this and to contact the unit convenor if any clarifications are needed.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Assessed Coursework</u>	7%	No	Various - See iLearn for details
<u>Assignment</u>	11%	No	12pm Wednesday 9/9/2020
<u>Case Study</u>	12%	No	12pm Wednesday 30/09/2020
<u>Final Exam</u>	70%	No	University Exam timetable

Assessed Coursework

Assessment Type ¹: Problem set

Indicative Time on Task ²: 7 hours

Due: **Various - See iLearn for details**

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:

- Show an understanding of how models are used to solve client problems
- Recognise the importance of capital.
- Apply relevant approaches and techniques to the valuation of liabilities.
- Apply appropriate techniques to the pricing of products and contracts.
- Demonstrate an understanding on the principles of measuring, reporting and managing

solvency; measuring and reporting emerging profits and/or costs; monitoring and assessing experience; and responding to emerging experience.

Assignment

Assessment Type ¹: Presentation

Indicative Time on Task ²: 5 hours

Due: **12pm Wednesday 9/9/2020**

Weighting: **11%**

The assignment consists of Powerpoint presentation and a script of 600 words.

On successful completion you will be able to:

- Show an understanding of how models are used to solve client problems
- Recognise the importance of capital.
- Apply relevant approaches and techniques to the valuation of liabilities.
- Apply appropriate techniques to the pricing of products and contracts.
- Demonstrate an understanding on the principles of measuring, reporting and managing solvency; measuring and reporting emerging profits and/or costs; monitoring and assessing experience; and responding to emerging experience.

Case Study

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 12 hours

Due: **12pm Wednesday 30/09/2020**

Weighting: **12%**

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

On successful completion you will be able to:

- Show an understanding of how models are used to solve client problems
- Recognise the importance of capital.
- Apply relevant approaches and techniques to the valuation of liabilities.
- Apply appropriate techniques to the pricing of products and contracts.
- Demonstrate an understanding on the principles of measuring, reporting and managing solvency; measuring and reporting emerging profits and/or costs; monitoring and

assessing experience; and responding to emerging experience.

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 28 hours

Due: **University Exam timetable**

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:

- Show an understanding of how models are used to solve client problems
- Recognise the importance of capital.
- Apply relevant approaches and techniques to the valuation of liabilities.
- Apply appropriate techniques to the pricing of products and contracts.
- Demonstrate an understanding on the principles of measuring, reporting and managing solvency; measuring and reporting emerging profits and/or costs; monitoring and assessing experience; and responding to emerging experience.

¹ 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 [Writing Centre](#) for academic skills support.

² 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

ACST4003 is offered via classes on campus (Macquarie University). Students share lecture classes and a common teaching website with the units ACST7032 and ACST8032, which are also offered via classes in the Sydney CBD and via distance education throughout the world.

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 or zoom) 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. The recordings will either be provided via the ECHO360 link which is located on the right hand side of the webpage or via a zoom link.

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

Maggie Lee is the unit convenor and will be taking four weeks of classes. Maggie can be contacted via Dialogue on the website, or during her 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 from the Foundation Program (Part 1s) 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	27-Jul	Valuation of Liabilities	BE	12		

2	03-Aug	Measuring Profits	BE	16	TCT1	
3	10-Aug	Big Data/Data Analytics	ML		Discussion contribution 1	
4	17-Aug	Solvency	ML	15	TCT2	
5	24-Aug	Managing an Insolvent Insurer Regal / Occidental Case study	BE	15	TCT3	
6	31-Aug	Regulation and Ethics	ML	7, 3 (Parts)	TCT4	
7	07-Sep	Presentation week			Presentation, Discussion contribution 2	
Break	14-Sep					
Break	21-Sep					
8	28-Sep	Stress Testing	BE		Case Study	
9	05-Oct	Public Holiday October 7 Monitoring Experience 1	BE	17	TCT5	
10	12-Oct	Monitoring Experience 2	ML	17		
11	19-Oct	Responding to Experience 1	BE	18	TCT6, Discussion contribution 3	
12	26-Oct	Responding to Experience 2	BE	18		
13	02-Nov	Revision	BE			

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). 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](#) (**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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/study/getting-started/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 or if you are a Global MBA student contact 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) 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 [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

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

IT Help

For help with University computer systems and technology, visit 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.

Changes from Previous Offering

Topic "Professionalism" has been reduced and now also includes "Regulation" and "Ethics" in response to changes to the Actuaries Institute Syllabus.