



# ACST403

## Actuarial Control Cycle 2

S2 Day 2017

*Dept of Applied Finance and Actuarial Studies*

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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.

## General Information

Unit convenor and teaching staff

Unit Convenor

Shauna Ferris

[shauna.ferris@mq.edu.au](mailto:shauna.ferris@mq.edu.au)

Contact via [shauna.ferris@mq.edu.au](mailto:shauna.ferris@mq.edu.au)

e4a 617

by appointment - send an email to Shauna to arrange a meeting

Lecturer

Peter Carroll

Contact via Please contact in class or via the Discussion Forum

Lecturer

Bruce Edwards

Contact via Please contact in class or via the Discussion Forum

Administrator

Hong Xie

Contact via please contact via iLearn Dialogue (admin enquiries)

Angela Chow

[angela.chow@mq.edu.au](mailto:angela.chow@mq.edu.au)

Credit points

3

Prerequisites

ACST402

Corequisites

Co-badged status

### Unit description

This unit, in conjunction with ACST402 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 grade of credit or higher in all of ACST402, ACST403 and ACST404 are eligible for exemption from Part 2 of the professional exams of the Institute of Actuaries of Australia.

## 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

Apply a Risk Assessment Framework to identify and assess the risks in a range of commercial situations

Apply relevant approaches and techniques to the valuation of liabilities

Measure and report emerging profits and/or costs

Measure, report, and manage Solvency

Monitor and Assess Experience; understand how the management of the business should be responsive to the experience

Provide written and oral presentations, which may be either individual or group work

## General Assessment Information

Details of assessment tasks will be provided on iLearn. Please check your announcements regularly (at least twice a week) for announcements about assessment tasks.

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

The Macquarie University units Actuarial Control Cycle 1, Actuarial Control Cycle 2, and Investment Management are accredited by the Actuaries Institute.

The Actuaries Institute sends external examiners to review the performance of borderline students and to verify that appropriate exemption standards have been maintained.

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 refer to [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)

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#"><u>Assessed Coursework</u></a>	12%	No	Weeks 2 to 12 (see Schedule)
<a href="#"><u>Presentation</u></a>	6%	No	See Instructions
<a href="#"><u>Major Assignment</u></a>	12%	No	4 pm Monday October 23
<a href="#"><u>Final Examination</u></a>	70%	No	University Exam Timetable

### Assessed Coursework

Due: **Weeks 2 to 12 (see Schedule)**

Weighting: **12%**

Assessed Coursework includes Textbook Chapter Tasks (4%), Discussion Forum Contributions (4%), and Pop-up Quizzes (4%).

#### (a) Textbook Chapter Tasks (4%)

Submission: You must submit textbook chapter tasks from time to time during the term. Submit electronically via iLearn before 4 pm on Monday (Sydney time)

Each textbook chapter task requires you to read a chapter of the textbook or a related reading and provide a one-page answer to a question based on the chapter's topic. A sample of these chapter tasks will be marked - we will not tell you which textbook chapter tasks will be marked.

Please use the first chapter tasks as an indicator of your progress in the unit. If you have difficulties in satisfactorily completing these tasks, please talk to the Unit Convenor and consider withdrawing from the unit before the census date on Friday of week 4.

as per the schedule on iLearn.

Extensions: 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 disruptions to studies is made and approved.

**(b) Discussion Forum Postings (4%)**

Students should contribute to the discussion forum by posting answers to discussion questions. Students must make at least 4 postings during the term. Students will earn 1 mark for each satisfactory posting (Postings which do not reflect much thought, such as "I agree with Tom" will not earn marks). Further information about this assessment task will be provided via iLearn.

Submission

Discussion contributions are submitted via the teaching website, and marks and feedback will be returned via the teaching website.

Extensions / penalties 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 Disruption to Studies is made and approved.

**(c) Class quizzes (4%)**

There will be four random quizzes held during class times, worth 1% each. The timing of the quizzes will NOT be notified in advance.

Submission Quizzes will be submitted during class time, and marks and feedback will be returned via the teaching website.

Extensions / penalties

No extensions will be granted. Students who do not submit the task (or are not in classes to complete the task) will be awarded a mark of 0 for the task, except for cases in which an application for Disruption to Studies is made and approved.

On successful completion you will be able to:

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- Apply a Risk Assessment Framework to identify and assess the risks in a range of commercial situations
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## Presentation

Due: **See Instructions**

Weighting: **6%**

Description The presentation is an oral presentation to the class. Students may do an individual presentation, or may work in groups (maximum 3 people per group).

Submission Presentations will be given in week 8, in the week commencing Monday October 2. In order to facilitate scheduling, students will have to tell the unit administrator whether they wish to make an individual presentation, or work in a group. This must be done by registering groups and topics via iLearn before 4 pm Monday September 11 2017. The schedule of presentation times will be posted on iLearn after students have registered. For administrative purposes, copies of the Powerpoint slides (or other presentation material) used in the presentation must be submitted via iLearn before 4 pm on Monday October 2. Marks and feedback will be returned via the teaching website. The schedule of presentation times will be posted on iLearn.

Extension No extensions will be granted. Penalties: Penalties will be applied if students fail to register on time. Students who do not complete the presentation on the scheduled date will be awarded a mark of 0 for the task, except for cases in which an application for Disruption to Studies is made and approved.

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- Provide written and oral presentations, which may be either individual or group work

## Major Assignment

Due: **4 pm Monday October 23**

Weighting: **12%**

Submission: Submit electronically via iLearn before 4 pm Monday October 23

What is required : 1750 word report.

**Extensions:** 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 disruption of studies is made and approved. No submission will be accepted after solutions have been posted.

On successful completion you will be able to:

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## Final Examination

Due: **University Exam Timetable**

Weighting: **70%**

Examination conditions: The exam will be 3 hours long, with ten minutes reading time.

Normal University examination rules apply. 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 exam.

You are permitted ONE A4 page of paper containing reference material printed on both sides. The material may be handwritten or typed. The page will not be returned to you at the end of the final examination. No other reference materials are allowed to be taken into the final exam.

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

Date and location of Examination: The Examination will be conducted during the University examination period. The examination timetable will be published on the University website later in the term. The exam timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

On successful completion you will be able to:

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## Delivery and Resources

### Classes

The Actuarial Control Cycle 2 is a co-taught unit, available to both ACST403 and ACST832 students. Lectures are offered in three modes – campus classes (North Ryde), city classes (Sydney CBD) and distance education (students can be located anywhere).

Please refer to the University timetable at <https://timetables.mq.edu.au/2017/> to find the times and locations of lectures for the campus classes.

### Required and Recommended Texts and/or Materials

Required texts : Bellis, C, Lyon, R, Klugman, S & Shepherd, J (2010) *Understanding Actuarial Management: the actuarial control cycle*, 2nd edition, Institute of Actuaries of Australia.

Copies of the textbook are available in the Special Reserve section of the library.

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

Additional readings will be posted on iLearn.

### 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, software to produce pdf documents, and word-processing software to produce reports.

### Downloadable lecture recordings

The University audio-visual team usually makes recordings of on-campus lectures. These will be available via iLearn (use the Echo360 tab on the right hand side of the home page).

Some additional recordings will be posted on iLearn in MP4 format.

### Unit web page

The web page for this unit can be accessed via the “login” button on <http://ilearn.mq.edu.au>

You should check the website regularly (at least twice a week) to read announcements posted by University staff. Announcements are also posted to your University email account, and you should check your email regularly. This is your responsibility and we cannot make allowances for students who miss important information.

### Teaching and Learning Strategy

We assume that you have acquired the knowledge and skills included in the syllabi for the Part I (Core technology) subjects and Actuarial Control Cycle I.

You should prepare for each lecture by reading the relevant chapter of the textbook, the Learning Guide, and any other readings posted on iLearn. We encourage all students to actively participate in class discussions and group work.

## Unit Schedule

Week		Topic	Lecturer
1		Valuation of Liabilities	Bruce Edwards
2		Measuring Profits	Bruce Edwards
3		Professionalism	Peter Carroll
4		Solvency 1	Shauna Ferris
5		Solvency 2	
6		Managing an Insolvent Insurer Regal / Occidental Case study	Bruce Edwards
7		Risk Management	Bruce Edwards
Break	September 18		
Break	September 25		
8		Public Holiday October 2 Class Presentations	Bruce Edwards, Peter Carroll, Shauna Ferris
9		Monitoring Experience 1	Shauna Ferris

10	Monitoring Experience 2	Bruce Edwards
11	Responding to Experience 1	Bruce Edwards
12	Responding to Experience 2	Bruce Edwards
13	Revision	Shauna Ferris

## 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\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.html)

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public [http://www.mq.edu.au/policy/docs/complaint\\_management/procedure.html](http://www.mq.edu.au/policy/docs/complaint_management/procedure.html)

Disruption to Studies Policy (in effect until Dec 4th, 2017): [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html)

Special Consideration Policy (in effect from Dec 4th, 2017): <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>

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

Information regarding supplementary exams, including dates, is available at:

[http://www.businessandconomics.mq.edu.au/current\\_students/undergraduate/how\\_do\\_i/disruption\\_to\\_studies](http://www.businessandconomics.mq.edu.au/current_students/undergraduate/how_do_i/disruption_to_studies)

## 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://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.

## Graduate Capabilities

### 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

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

- Apply a Risk Assessment Framework to identify and assess the risks in a range of commercial situations
- Apply relevant approaches and techniques to the valuation of liabilities
- Measure and report emerging profits and/or costs
- Measure, report, and manage Solvency
- Monitor and Assess Experience; understand how the management of the business should be responsive to the experience
- Provide written and oral presentations, which may be either individual or group work

## **Assessment tasks**

- Assessed Coursework
- Major Assignment
- 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**

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
- Apply a Risk Assessment Framework to identify and assess the risks in a range of commercial situations
- Apply relevant approaches and techniques to the valuation of liabilities
- Measure and report emerging profits and/or costs
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- Provide written and oral presentations, which may be either individual or group work

## **Assessment tasks**

- Assessed Coursework
- Major Assignment
- 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

- Discuss and apply an Actuarial Control Cycle in a variety of practical commercial situations
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### Assessment tasks

- Presentation
- Major Assignment
- Final Examination

## Changes from Previous Offering

Learning Guides, readings, and lecture overheads are regularly updated to reflect developments in financial markets and actuarial practice.

## Research

### RESEARCH

This unit uses research in several ways:

- \* The unit uses research by Macquarie University researchers (e.g. current and former Macquarie staff members are editors and authors of the textbook 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.

