



# ACST1052

## Introduction to Actuarial Studies

Session 1, Weekday attendance, North Ryde 2020

*Department of Actuarial Studies and Business Analytics*

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## General Information

Unit convenor and teaching staff

Lecturer in Charge of ACST1052

Shauna Ferris

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

Contact via Via the dialogue module on iLearn

Level 7, building 6 Eastern Road

Check the tutor's consultation times on iLearn Announcements

Angela Chow

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

Credit points

10

Prerequisites

Admission to BActStud or BActStudBSc or BAppFinBActStud or BActStudBProfPrac or BActStudProfPrac(Hons)

Corequisites

STAT1371

Co-badged status

Unit description

This unit provides an introduction to the important underlying aspects of actuarial work. It looks at the development of actuarial techniques in the context of life insurance, general insurance, superannuation, and investment. The aim is to develop problem-solving and communication skills and give students some of the basic tools for risk management and financial modelling. The unit shows how studies in related disciplines (such as accounting, demography, economics, statistics, computing and mathematics) are essential to the education of an actuary. The unit works through the control cycle approach to insurance: business objectives, product design, risk assessment, modelling of insurance and financial risks (including claim frequency and claim size of individual claims and on a portfolio basis), pricing, reserving, investment and asset liability matching, claims management, legal requirements, solvency, profitability and responding to experience. This unit is relevant for students who want to become actuaries or risk managers. Students are assumed to have studied mathematics in high school up to at least HSC Extension 1 level or equivalent.

## 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:** Comprehend how the actuarial control cycle is used to identify and manage financial risks.

**ULO2:** Construct simple cash flow models which can be used for decision making and implement these in Excel or other softwares.

**ULO3:** Apply demographic data and statistical models to price policies, determine ruin probabilities and implement simulation models in Excel or other softwares.

**ULO4:** Explain why legislation, accounting standards, codes of conduct, and professional requirements are necessary and how the business environment affects the management of the financial services business.

**ULO5:** Identify and discuss the tools which can be used to manage risk, including the impact of diversification and leverage, capital, risk pooling and risk transfer.

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

### Checking your grades

Assessment criteria for all assessment tasks will be posted on the unit's iLearn site. 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."

### Special Consideration

Macquarie University recognises that students may experience events or conditions that adversely affect their academic performance. If you experience serious and unavoidable difficulties at exam time or when assessment tasks are due, you can consider applying for Special Consideration. The University Policy for Special Consideration is given at <https://students.mq.edu.au/study/my-study-program/special-consideration>. Where a Special Consideration

application is approved, the student may be offered an alternative assessment or may receive a mark based on the percentage mark achieved by the student in one or more other assessment tasks, at the Unit Convenor's discretion.

### **Extension of time for assignments**

? 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.

### **Information about the final examination**

The exam will be three hours plus ten minutes reading time. The exam will be held during the University Examination period for semester 1. The examination timetable will be posted on the University website later in the term.

Students will be allowed to use a non-programmable calculator during the examination (The calculator must NOT have text retrieval capability). No other aids are permitted during the final examination for this unit.

The Macquarie University examination policy describes the principles and conduct of examinations at the University. This policy is available at <http://www.mq.edu.au/docs/examination/policy.htm>

### **Supplementary exams**

If you miss the final examination (e.g. due to illness or other special circumstances), you can apply for special consideration. You MIGHT be given the opportunity to do a supplementary exam, at a later date. You should NOT assume that you will be given a supplementary exam, unless you meet the conditions specified in the Faculty policy. Please read the Faculty policy on this topic. 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)

## **Delivery and Resources**

### **Coronavirus (COVID-19) Update**

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

### **Information about Classes and Course Material**

The timetable for classes can be found on the University web site at <http://www.timetables.mq.edu.au/2020>. This timetable shows the class times and locations.

• **Lectures** : 2 hours per week

Please bring a calculator so that you can attempt some exercises during class. Be prepared to share your ideas.

\* **Tutorials** : 1 hour per week

You should enrol in one of the tutorial groups shown on the timetable. NOTE: There are NO TUTORIALS IN WEEK 1. In tutorials, we will work through some examples of actuarial problems. Tutorial questions will be posted on iLearn each week. Please attempt the tutorial questions BEFORE the class, so that you can ask your tutor if you need help. Note that the tutorial exercises provide excellent preparation for the class test and final exam.

Students may request a change of tutorial time if there is a good reason for the change (e.g. you have a part time job which clashes with your assigned tutorial).

\* **Consultation hours**

Sometimes, you may want extra help in understanding the course material. If so, you can attend our tutor's consultation hours. The tutor's consultation hours will be posted in the Announcements on iLearn. If the tutor cannot solve your problem (which is unlikely, our tutors are very capable), then you can send a message to the lecturer, Shauna Ferris, to make an appointment.

\* **Announcements**

Note that rooms and times for tutorials may change depending on the number of students enrolling in both ACST1052 and in other units across the University - any changes will be announced in Lectures and on iLearn. Make sure that you regularly check the Announcements on iLearn.

\* **Computer skills.**

In this unit students learn how to use EXCEL to build simple financial models and do simulations. We have provided some Camtasia recordings to demonstrate how to build spreadsheets and use common EXCEL functions. These Camtasia recordings are available on iLearn. This material is examinable so students should watch these recordings. The best way to develop computing skills is to attempt sample problems, so please work through the examples in the Camtasia recordings. Some students already have EXCEL skills, but others have not had this opportunity. Therefore our tutor will be available to provide help with Excel, during his/her weekly consultation hours.

\* **Course Materials**

Lecture material (Powerpoint slides) and course notes will be provided via iLearn. You will not need any other textbooks. The library does have some actuarial textbooks which may be useful as a source of additional practice problems (references will be posted on iLearn).

Each week (after week 1) tutorial problems and solutions will be posted on iLearn.

In most weeks, you will be asked to do an online quiz. The solutions to these quizzes will be posted on iLearn.

Copies of old class tests and exams, with worked solutions, are available on iLearn.

Camtasia recordings of Excel tutorials will be available on iLearn.

Lectures are usually recorded using the Echo360 system. The recordings are posted on iLearn after the lecture. On the iLearn home page, look for the Echo360 icon on the right hand side of the home page (you might need to scroll down). If you click on this icon then you will have access to the recordings. [Note: We cannot guarantee that the recordings will always be available. Sometimes there are technical hitches, or someone accidentally turns off the recording devices].

**Beware** - if you talk to the lecturer during the lecture, your voice may be recorded - so do not discuss personal matters when standing near the lectern.

### **\* Technology**

Students will need to use computers to access iLearn. Students who do not own a computer can use the University's PC labs.

The written report may require some research (e.g. using Google Scholar or the library's electronic databases).

Some assignments will require the use of Excel spreadsheets. Most spreadsheet problems can be solved using either the PC version or the Mac version of Excel - however in some cases the Mac version is slightly different. So on some occasions, students who have Macs may need to use the PCs in the University's PC labs.

Students will be encouraged to download and use R software, which is open-source (available for free online).

### **\* iLearn**

The course notes, readings, recordings, tutorial questions, tutorial solutions, and sample exams for this unit will be posted on the iLearn system. There will be a separate folder for each week.

To find the iLearn page, go to [ilearn.mq.edu.au](http://ilearn.mq.edu.au) and enter your user name and password. Once you log in, you should see a list of all the units you are enrolled in - and this should include ACST1052 Introduction to Actuarial Studies. Click on the unit name to go to the unit's iLearn home page.

\* If you have trouble logging in to iLearn or you can't remember your password, ring 9850 HELP or send a question by email to [OneHelp@mq.edu.au](mailto:OneHelp@mq.edu.au).

\* If you have any personal questions, then you can send Shauna a message via iLearn (click on "Send a message"). For example, if you are sick and you need Special Consideration, or you want to switch tutes because you have a timetable clash, send a message to Shauna via iLearn. "Send a Message"

\* If you have any general questions about the unit, you can post a message under **General Discussion** (which is on iLearn). This is a public noticeboard: all the students and staff

can see your message. For example, if you have a question about one of the assignments, you can post the question here.

- \* Students are encouraged to help each other. If you notice that one of your colleagues has posted a question on General Discussion, and you think you know the answer, you may post a reply. You are encouraged to help each other with tute questions.
- \* Please be polite to each other when you post messages on iLearn.
- \* If you have any helpful suggestions for how to improve the course, please feel free to send Shauna a message via the Dialogue.
- \* Important information is often posted on the Announcements in iLearn - for example we might want to tell you about a scholarship, or an ASSOC event, or a room change for a tute. So please read the Announcements, which are sent to your University email.

## 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](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>).

## 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](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)

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

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

Based on the student feedback, students were fairly happy with this unit in 2019, so we have not made many changes. Some students thought the EXCEL assignment was too hard, so we will try to include more EXCEL practice questions this year, so that students can be better prepared for the assignment.

This course is designed to give students an understanding of practical problems which actuaries must solve. So we will be keeping an eye on current financial events which affect the financial services industry and the actuarial profession. These issues will be discussed in tutorials.

Many students said that the online quizzes and tutorial exercises were very helpful in preparing for the test and final exam. If you have trouble understanding any of the tutorial or quiz problems, please go and see a tutor during the weekly consultation times. [The consultation hours will be posted on iLearn Announcements].