



ACST3055

Contingent Payments 2

Session 2, Special circumstance 2020

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 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

Lecturer in Charge of Unit

Shauna Ferris

shauna.ferris@mq.edu.au

Contact via Via the dialogue module on iLearn

4 Eastern Road Level 7

Tutor

Ben Howe

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Contact via Via the dialogue module on iLearn

Angela Chow

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Credit points

10

Prerequisites

ACST358 or ACST3058

Corequisites

Co-badged status

Unit description

This unit covers the advanced analysis of cash flows dependent on uncertain events. Multiple decrement and multiple state models are considered, and the valuation of benefits and contributions under superannuation plans is examined. Techniques for the valuation of annuity and assurance products involving two lives are developed. Expected cash flow models and profit test models are developed for life insurance products including traditional products and unbundled unit linked contracts. The concepts of pricing and reserving for future contingent liabilities, and the effect of the pricing and reserving basis on the emergence of profit, are considered. Students gaining a Credit average in both ACST2055 and ACST3055 (minimum mark of 60) will satisfy the requirements for exemption from professional subject CT5 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: Analyse cash flows dependent upon the death or survival of either or both of two lives, and cash flows dependent upon a fixed term as well as age.

ULO2: Develop and apply methods to model cash flows contingent upon competing risks.

ULO3: Apply the technique of discounted emerging costs for use in pricing, reserving and assessing profitability.

ULO4: Describe the principal forms of heterogeneity within a population and the ways in which selection can occur.

ULO5: Identify key unit concepts and integrate them to solve and analyse novel problems.

General Assessment Information

Online Quizzes. (worth 8% of unit score) You will have 9 online quizzes during the semester. The average of your best 8 scores will count for assessment. Quizzes will be due at 5pm on Fridays in most weeks after week 1 (except in weeks when you will be busy with another assessment task). Please use the quizzes as an indicator of whether you are progressing satisfactorily in the unit. If you are having difficulties, please contact Shauna Ferris and consider withdrawing before the census date.

Mid-semester class test (worth 20% of unit score). The mid-semester test will be a 90-minute written paper with 10 minutes reading time. It will be held during the Wednesday lecture time-slot (# pm to 5 pm) in Week 9 (October 7). We intend to hold the class test on campus. If the coronavirus makes this impossible, we will notify you via the Announcements on iLearn. If you are located interstate or overseas, please contact Shauna Ferris via the iLearn dialogue module to make alternative arrangements. The class test will cover all the course material covered up to the end of week 7.

Assignment (worth 12% of the unit score). Information about this assessment task will be provided via iLearn.

Final Exam (worth 60% of the unit score). The final examination will be a 3-hour written paper with ten minutes reading time. It will be held during the University examination period. We intend to hold the examination on campus. If the coronavirus makes this impossible, we will notify you via the Announcements on iLearn. If you are located interstate or overseas, please contact Shauna Ferris via the iLearn dialogue module to make alternative arrangements.

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
Online Quizzes	8%	No	Fridays 5pm (most weeks)
Assignment	12%	No	Friday Oct 16 at 5 pm
Class Test	20%	No	Wednesday Oct 7 at 3pm (Week 9)
Final Exam	60%	No	University Exam Period

Online Quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Fridays 5pm (most weeks)**

Weighting: **8%**

Online quizzes will be held weekly.

On successful completion you will be able to:

- Analyse cash flows dependent upon the death or survival of either or both of two lives, and cash flows dependent upon a fixed term as well as age.
- Develop and apply methods to model cash flows contingent upon competing risks.
- Apply the technique of discounted emerging costs for use in pricing, reserving and assessing profitability.
- Describe the principal forms of heterogeneity within a population and the ways in which selection can occur.
- Identify key unit concepts and integrate them to solve and analyse novel problems.

Assignment

Assessment Type ¹: Quantitative analysis task

Indicative Time on Task ²: 12 hours

Due: **Friday Oct 16 at 5 pm**

Weighting: **12%**

This is an individual assignment which focuses on problem solving using R or Excel.

On successful completion you will be able to:

- Analyse cash flows dependent upon the death or survival of either or both of two lives, and cash flows dependent upon a fixed term as well as age.
- Apply the technique of discounted emerging costs for use in pricing, reserving and assessing profitability.
- Identify key unit concepts and integrate them to solve and analyse novel problems.

Class Test

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Wednesday Oct 7 at 3pm (Week 9)**

Weighting: **20%**

The test will be approximately 90 minutes, to be held during class time.

On successful completion you will be able to:

- Analyse cash flows dependent upon the death or survival of either or both of two lives, and cash flows dependent upon a fixed term as well as age.
- Develop and apply methods to model cash flows contingent upon competing risks.
- Identify key unit concepts and integrate them to solve and analyse novel problems.

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 28 hours

Due: **University Exam Period**

Weighting: **60%**

The final examination will be 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:

- Analyse cash flows dependent upon the death or survival of either or both of two lives, and cash flows dependent upon a fixed term as well as age.
- Develop and apply methods to model cash flows contingent upon competing risks.
- Apply the technique of discounted emerging costs for use in pricing, reserving and

assessing profitability.

- Describe the principal forms of heterogeneity within a population and the ways in which selection can occur.
- Identify key unit concepts and integrate them to solve and analyse novel problems.

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

The timetables for classes can be found on the University website at <https://timetables.mq.edu.au/2020/>

Each week we will provide you with recorded lectures, and we will also have a Zoom session every Wednesday at 3pm

Tutorials commence in week 2. Tutorials will be held on campus on Tuesdays at 12:00 at 09WW 102 Theatrette. The tutorial will be recorded and will be available online.

Required and Recommended tests and/or materials

Course Material: We will provide course notes and readings via iLearn, so you do not need to buy a textbook for this unit.

Technology Requirements. We will be using Excel, R, and Word.

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.