

**ACST345 CONTINGENT PAYMENTS**  
**SECOND SEMESTER 2004**  
**UNIT OUTLINE**

**Unit Description**

This unit brings together mathematics of finance from ACST200, probability from ACST210/211, rates of survivorship and death from ACST344 and material from various statistics courses. This results in techniques that may be used to price contracts that provide for the payment of specified benefits contingent on the happening of specified events. Examples studied include life insurance contracts, where benefits may depend on the survival or death of a particular person, disability insurance contracts, and superannuation fund benefits.

**How to Contact Teaching Staff Involved in the Unit**

The staff involved in the teaching of this unit are Clare Bellis, the Unit Coordinator, and Sue Clarke. Questions relating to the unit content should be directed to the lecturer for that section of work via the Discussion facility on the ACST345 website. Questions relating to the administration of the unit should be directed to Clare Bellis via the Discussion facility on the website. Please use the Private Mail facility on the website only to submit administrative questions of a private nature.

**Unit Details**

Unit Name:	Contingent Payments	Credit Points:	4
Prerequisites:	ACST344 (P) or ACST231 (P); ACST200 (P)	Co requisites:	none

Please consult with the unit coordinator if you have queries about the prerequisite requirements for the unit. If you do not satisfy the prerequisites and have not had the prerequisites waived then you will be automatically withdrawn from the unit, possibly after the HECS census date.

**Assumed Knowledge and Skills**

A very good knowledge of the material covered in ACST344, along with completed tables from the Tables tasks in this unit, is required.

Student Resource Centre  
Division of Economic and Financial Studies  
MACQUARIE UNIVERSITY

### Unit Timetable

Week	Week Beginning	Topic Covered	Lecturer	Friday Class
1	2 August	Mortality	CB	Tutorial (CB)
2	9 August	(Mortality continued)	CB	<b>Pres – Intro</b>
3	16 August	Select Mortality	CB	Tutorial (CB)
4	23 August	Multiple decrements	CB	Tutorial (CB)
5	30 August	Pension funds	CB	Tutorial (CB)
6	6 September	Annuities/assurances on two lives	CB	Tutorial (CB)
7	13 September	Disability insurance <b>Test</b>	CB	Tutorial (CB)
<b>STUDY</b>	20 September			
<b>BREAK</b>	27 September			
8	4 October	Various products	CB	Tutorial (CB)
9	11 October	(various products continued)	CB	<b>Pres - 1</b>
10	18 October	Profit testing I <b>Thursday Lab Class</b>	SC	<b>Pres – 2</b>
11	25 October	Profit testing II <b>Thursday Lab Class</b>	SC	<b>Pres – 3</b>
12	1 November	Special features	SC	Tutorial (SC)
13	8 November	Revision	CB	No class

### Timetable for Friday Classes

In the Unit Timetable above,

#### Tutorial = Tutorial Class

Tutorial classes will be conducted as an opportunity to raise questions with the lecturer for the corresponding week of work. These will be held in C5A301 on Fridays in weeks 1, 3-8 and 12. The class may run from 11 am to 1 pm, but we may cancel the second hour if there is no demand, in which case the tutorials will run from 11 am to noon. Therefore, please do not arrive for the tutorials in the second hour. There will be no Friday class in Week 13.

#### Pres = Group Research Presentations sessions

The **Pres – Intro** session provides an introduction to presentation and research skills, chaired by Clare Bellis. This will be held on 13 August in C5CT2.

**Pres – 1, 2 and 3** are sessions on 15, 22 and 29 October at which students will give their presentations. There will be three concurrent presentation streams for these sessions – you will be allocated to a stream during the semester. Presentation stream 1 classes are to be held in C5A301, stream 2 classes in E7B263 and stream 3 classes in W5A105.

You are required to attend all the presentation sessions for your stream.

### Timetable for Tuesday and Thursday Classes

Lectures are held Tuesdays 11 am - 1 pm in W5AT1 in Weeks 1 to 13.

Lectures are held Thursdays 11 am - 1 pm in E7BT2 in Weeks 1 to 9 and Week 12.

On Thursday of weeks 10 and 11 (21 and 28 October) classes will be held in the computer lab C5C 213 / 215 instead of the usual lecture room, at the usual time 11 am – 1 pm.

There will be no Thursday class in Week 13.

**Changes to the timetable may occur - any alterations will be advised on the website.**

## Textbooks

A set of unit notes, including lecture handouts and exercises for the first six topics, should be purchased from the Macquarie University Co-op Bookshop before the start of semester. These notes have blanks for you to complete during lectures. The complete notes are available to be downloaded from the website. Material for the remaining topics will be made available later in the semester.

## References

Reference will be made to *Formulae and Tables for Actuarial Examinations* published by the Institute of Actuaries and Faculty of Actuaries. This is an old edition, with a blue cover, and differs from the one currently on sale from the Institute/Faculty via ActEd. If you do not have this book, then you must have printouts of your own tables, which you were required to generate in ACST344.

You will be provided with this book or a photocopy of relevant sections of it in the class test, if required, and a copy of the book in the final examination. **You are required to be familiar with the contents and layout of these tables before using them under test or examination conditions.** You should look at the copies that are available in ERIC and in the library, where there are copies in Reserve, 3-day loan and unrestricted (HG8067.F67).

Note also that the copies with a green cover (those in the library) have more formulae in the front section than the blue copies (in ERIC). The books supplied for the class test and examination will be the blue version. The layout of the tables is the same in both versions.

## The ACST345 Website

To access this website, go to <http://online.mq.edu.au/>. If you did not understand this instruction, you can obtain training on how to use a web browser by contacting the Information Technology Training Unit on Level 1 of the Library.

Before logging on, you should follow the link labelled Using WebCT – Technical Information – Computer Rules, and read the Computer and Communications Security Policy and the Computer and Communications Usage Rules.

You can now logon. If you can't access the site due to having forgotten your password, contact the Information Technology Customer Support Desk also on Level 1 of the Library.

If your home computer does not have internet access, you can access this website from computers in the library.

The website will be used as an integral part of this unit. The main components of the website are as follows.

### Unit Outline

You can download this unit outline from here.

### Download Unit Notes

Complete notes and solutions to exercises will be posted here. It is important to attempt the exercises yourself before referring to the solutions.

### Download Exams and Tests

Previous examinations and tests for ACST345, with solutions, are available here.

### Class Discussion

Unit announcements will be made through this facility. You should use the Discussions facility, along with the tutorial time, as your main resource for asking questions about the unit. You are also encouraged to post answers to other students' questions. You are able to post messages anonymously if you wish, although we prefer that you reveal your identity. You should consult the Discussions frequently, at least once a week.

### Private Mail

You should use the Mail facility to contact the Unit coordinator about private administrative matters only. It will also be used to contact you individually, if necessary. Check your mailbox regularly for messages.

### Group Presentations

Information about the group research and presentation assessment task will be available here.

### Mortality Tables

Mortality rates used to construct tables used in this unit will be available here.

## **Grading**

Macquarie University uses the grades HD, D, Cr, P, PC and F for grading the achievements of students in units of study. The meaning of each symbol is explained in section 10 of the Bachelor Degree Rules in the current Macquarie University Handbook of Undergraduate Studies.

The numerical marks resulting from assessment of your work in this unit will be used as an initial indicator of the quality of your learning and understanding. The use of these numerical marks is, however, only a starting point in determining the appropriate grade. In particular, note that the mark ranges mentioned in the Handbook of Undergraduate Studies are not the raw marks. To obtain a grade you must satisfy the qualitative definition of that grade. Once your grade has been determined, you are allocated a standardised mark indicating your approximate position amongst students assigned that grade.

## **Assessment**

Class Test	10%
Group Research Presentation and Attendance	13%
Final Examination	77%

## **Class Tests**

There is one class test, worth 10% of the final assessment. The test is scheduled for Tuesday 14 September at 11 am and will cover the first four topics (i.e. weeks 1 to 5 inclusive). Tests will be returned to students at lectures, and if not collected will be available from ERIC. The class test date, time and coverage may be subject to change - any alterations will be advised on the website.

Normal examination rules apply to the conduct of class tests. These rules are set out under the heading "Rules Governing Students' Conduct of Examinations" in the Student Information – Assessment section of the current Macquarie University Handbook of Undergraduate Studies. Students are responsible for familiarising themselves with these rules prior to the class test.

### **Group Research Presentation**

You will be required to research a topic and make a group presentation to the class. You will also be required to attend other group research presentation sessions.

The group research presentation is worth a total 13% of the assessment. Details of the timing and location of the group research presentations are given above in the Timetable for Friday classes section. Further details of arrangements for and assessment of the group research presentation task will be provided in lectures or via the website.

### **Final Examination**

The final examination will be a three-hour written paper with ten minutes reading time. The final examination may include multiple choice questions. You should ensure that you bring several 2B pencils and an eraser to the examination.

The examination will cover the whole course, so it may include questions on material already tested in the class test.

You will be provided with a copy of the book *Formulae and Tables for Actuarial Examinations* in the final examination. You should familiarise yourself with the tables book prior to the examination, as described previously.

### **Reference Material in Exams and Tests**

You are permitted to bring to the class test and the final examination, **ONE** A4 sheet of paper containing reference material printed on both sides. The sheet may be handwritten, typed or photo-reduced.

### **Legibility of Handwriting**

You should ensure that your handwriting in the class assessment tasks and in the final examination is legible. Sections of work that are not legible will not be marked. For true/false questions, answers that are not clearly legible as either T or F will be assumed to be wrong and marked accordingly.

### **Special Consideration**

Applications for special consideration in respect of the class test or the group presentation task must be made on the "Advice of Absence or other Circumstances" form. These are available from and should be submitted to the Student Enquiry Service on Level 1 of the Lincoln Building.

Applications in respect of the final exam must be made on the "Request for Special Consideration" form. These forms are available from and should be submitted to the Academic Program Section on Level 4 of the Lincoln Building.

Applications based on medical grounds (whether for the class test, group presentation task, or final examination) **must** be accompanied by the Professional Authority Form. Applications omitting this form (such as those which only supply a doctor's certificate) will be ignored.

The application forms are also online at <http://www.registrar.mq.edu.au/academic-index.html>.

## **Exemptions**

The unit ACST345 corresponds to the professional subject 105. **You require a Credit grade or higher to receive the exemption.**

## **Mobile Phones**

Academic Senate has resolved that no mobile phones should be used in classrooms.

Communication devices, including but not restricted to mobile phones, text message receivers, pagers and wireless-equipped calculators, may not be brought into the class tests or exam. If a student is found to have brought such a device into the examination room, the argument that the device was turned off will NOT be regarded as an acceptable excuse.

## **Calculators/Computers**

Calculators will be allowed in the class tests and 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, whether or not they have a full alphabet on the keyboard, are not allowed. Calculators may be checked at the commencement of the class tests and final exam, and the make/model may be recorded.

## **Use of Computers for Coursework**

Please take careful note of the policy of the Department of Actuarial Studies regarding the use of computers, which follows.

### **DEPARTMENT OF ACTUARIAL STUDIES NOTICE TO STUDENTS RE USE OF COMPUTERS FOR COURSEWORK**

1. Computers do occasionally break down. This is a normal part of working life. When completing assignments, you should not leave computer work until the last moment, assuming the system will be available when you need it.
2. You are the person responsible for keeping backup copies of any data or files you create on a computer. If you fail to keep backup copies, loss of data or files, for whatever reason, is not an acceptable excuse for failing to complete an assignment on time.
3. You should have at least two backups. If you have only one backup disk, then a computer malfunction while you are updating your backups may simultaneously corrupt both the original version (on the hard disk or network) and your backup disk. Do not store your two backups together. Spread your risks.
4. If you are planning to write a document on one computer (eg. your home computer) and print it from a different computer, you should test well ahead of the due date that the second computer can print your document. This particularly applies if your documents incorporate graphs, tables, unusual fonts or special formatting.

### **Cheating and Plagiarism**

To cheat in the context of university assignments, tests and examinations is to attempt to gain an unfair advantage by violating the principles of intellectual and scholarly integrity. Cheating also encompasses plagiarism, which is the appropriation or imitation of another person's ideas and manner of expressing them.

You are responsible for familiarising yourself with the document entitled "The dangers of cheating and plagiarism and how to avoid them" at <http://www.student.mq.edu.au/plagiarism/>.

### **ACSTINFO Website**

To access the site, go to: <http://online.mq.edu.au/pub/ACSTINFO/> (Note that the address is case-sensitive.)

This site is used to distribute information to all students majoring in actuarial studies. The information supplied may include administrative information and job advertisements. You will retain access to this site during the vacation following the end of this semester. It is to your advantage to ensure you read information on this website regularly. You should not assume that information posted there will also be repeated in lectures.

When you login to this site, please read the section labelled "How to use this site." This contains useful information which will help you determine when there is new information on the site which you should read.

### **EFS Resource and Information Centre (ERIC)**

The EFS Resource and Information Centre is located in room C5C 244 and offers photocopying facilities, reading areas and reference material. Class tests not collected in class may be picked up from ERIC.

### **The Institute of Actuaries of Australia**

Please refer to [http://www.actuary.mq.edu.au/current\\_students/join\\_institute.shtmlm](http://www.actuary.mq.edu.au/current_students/join_institute.shtmlm) for information on the advantages of joining the Institute of Actuaries of Australia as a student.