Division of Economic and Financial Studies
Department of Actuarial Studies

M
MACQUARIE
UNIVERSITY~SYDNEY

ACST151

INTRODUCTION TO ACTUARIAL STUDIES

Semester 1, 2005

LEARNING GUIDE

ACST151 Teaching Team

Team Member	Team Role	Room	Telephone	Consultation Hours
John Shepherd	Coordinator & Lecturer	C5C 491	9850 8573	Mondays, 11-12am Thursdays, 2-3pm
Prof John Pollard	Lecturer			
Rupeng Chen	Tutor			
Brian Chu	Tutor			
Katelyn Priester	Tutor			
Alison Petto-Hamilton	Administrative Assistant	C5C 492		

ACST151 Learning Objectives

The overall aim of ACST151 is to use some simplified examples to introduce you to typical actuarial work in several of the areas in which actuaries commonly practise (eg general insurance, life insurance, investments and superannuation). Specific learning objectives are for you to:

• understand why your actuarial education will include some economics, some accounting, some business finance, some computing and some statistics, as well as the core actuarial subjects;

• learn some fundamental tools used by actuaries (such as life table, chain ladder method, investment models);

• understand some basic concepts of actuarial work (like expected present values, cash flow projections, equations of value, etc);

• understand why actuaries develop and use mathematical models of real-world processes;

• read and summarise an article from an actuarial journal, magazine or conference.

Lecture classes

You will have two lecture classes (one 2-hour & one 1-hour) each week:

Lectures	Day	Time	Location
	Tuesday	11am - 1pm	Price Theatre
	Wednesday	12-1 pm	X5BT1

Any alterations to the lecture times or locations will be advised in classes and on the ACST151 WebCT site.

Tutorial groups

There are six tutorial groups. Each group meets once a week, on Friday, for a 1-hour tutorial class. You must be registered for one of these tutorial groups:

Day	Time	Location	Tutor
Friday	9-10 am	C5A310	Katelyn Priester
		C5A313	Rupeng Chen
	10-11 am	C5A313	Brian Chu
		W5A103	Rupeng Chen
	12-1 pm	W6B315	Katelyn Priester
		C5A313	Brian Chu

Your tutorial class is an important part of your weekly learning cycle, and is also a good opportunity to get to know some of your fellow students. Your tutor will work through weekly exercises with you, and help you with anything you don't fully understand.

Textbook

The textbook for ACST151 is:

- Pollard, J H (2004), *Introduction to Risk and Insurance*, Perdisco, Sydney.

For a price of $79.95 (including GST) you will receive a printed copy of the textbook, plus an internet based electronic workbook. The workbook complements the textbook by giving you access to sample spreadsheets that illustrate the actuarial techniques covered, as well as weekly practice problems to help you learn those techniques, and the eight assignments that form part of your assessment for ACST151. The workbook is internet based, so you can use it any time of day, any day of the week, from anywhere in the world where you can get internet access.

See the separate document (available on the ACST151 WebCT site, or from ERIC) for how to get your copy of the textbook and electronic workbook.

EFS Resource & Information Centre (ERIC)

The EFS Resource & Information Centre (ERIC) is in Room C5C 244, Building C5C. Copies of lecture overheads, handouts, examples and solutions, In-Class Tests and solutions, etc will all be available in ERIC. For more information, including opening hours, visit the ERIC web page at:

http://www.efs.mq.edu.au/services/eric.htm

Grading your learning in ACST151

Macquarie University uses the grades HD (High Distinction), D (Distinction), CR (Credit), P (Pass), PC (Pass Conceded) and F (Fail) for grading the learning of students in units of study. In ACST151, your grade will be determined by how well you show you understand the basic principles and concepts covered. P represents the lowest (basic) level of understanding, CR a higher level than P, D a higher level than CR, and HD the highest level. This table is a guide to the meaning of each grade in the context of ACST151:

Grade	Level of understanding represented by that grade
HD	• Able to apply basic principles to solve unfamiliar, non-standard problems • Able to explain solutions & interpret results in clear, simple, non-technical language
D	• Able to apply basic principles to solve problems which differ significantly from the familiar • Able to explain solutions & interpret results clearly and concisely
CR	• Able to apply basic principles to solve problems which differ slightly from the familiar • Able to explain rationale for calculations & interpret results in those cases
P	• Able to perform basic numeric procedures on standard problems in familiar scenarios • Able to explain rationale for calculations & interpret results for standard problems
PC	• Marginally satisfactory achievement of P level understanding • Able to perform basic numeric procedures, but not able to explain them clearly
F	• No evidence of achieving P level understanding

Assessment components in ACST151

The assessment components for ACST151 are as follows:

Assessment component	Weighting	
	Each	Total
Two (2) In-Class Tests	7.5%	15%
Group Assignment		15%
Literature review		10%
Final Examination		60%

Further details of each assessment component are given on the next page.

In-Class Tests

There will be two In-Class Tests, held during Wednesday lecture classes, in X5BT1, as follows:

Test	Topics included	Date	Time
Test 1	Topics for weeks 1, 2, 3 & 4	Wednesday, 6 April	12 noon
Test 2	Topics for weeks 5, 6, 7 & 8	Wednesday, 18 May	12 noon

Normal examination rules apply to the conduct of In-Class Tests. These rules are set out under the heading "Rules governing students' conduct in examinations" in the 2005 Macquarie University Undergraduate Handbook. You are responsible for familiarising yourself with these rules prior to the first In-Class Test.

Please note that the In-Class Test dates, times and coverage may be subject to change, and that any alterations will be advised in classes and on the ACST151 WebCT site.

Your graded In-Class Tests will be returned to you at your tutorial class. Your In-Class Tests will count towards your final grade (each Test is weighted 7.5%).

Assignments

There will be a group assignment (weighted 15%). Further details of the group assignment, requiring you, as part of a team, to do some spreadsheet modelling and write a report, will be available later.

There will also be eight internet based assignments, each consisting of some problems for you to solve. You will access the assignments through your internet based workbook (published by Perdisco) - the workbook you will also use for weekly practice problems. Each assignment will be accessible for a limited time only. Assignment accessibility dates will be shown in the electronic workbook. These assignments are to help you learn by giving you feedback, and do not count directly towards your final grade for ACST151.

Literature review

For this assessment task (weighted 10%), you will read an article (which you will choose from a list of several articles) that have been published in major actuarial journals in recent years. You will write a review of the article you choose, summarising the contents of the article, explaining the main points the author makes, and giving your own views on the article. Further details of this assessment task will be given later in a separate document.

Final Exam

The Final Exam will be a 3-hour written paper with ten minutes reading time. The Final Exam will count 60% towards your overall grade for ACST151. It will be held on a date to be advised during the Macquarie University Mid-Year Examination Period (15 to 29 June, 2005).

Help with using & making spreadsheets

Many of the actuarial techniques you will learn in ACST151 will be illustrated by spreadsheet models. You will also be asked to develop or use several spreadsheet models. If you feel that your spreadsheet skills need to be upgraded, you may find the Excel tutorials (which are free to use) at this web site helpful:

http://www.fgcu.edu/support/office2000/excel/index.html

Electronic workbook

You will use an internet based electronic workbook, published by Perdisco, in ACST151 this semester. The workbook has been designed to assist your learning and to help you understand and practise the material covered in ACST151. The workbook includes practice questions (giving you practice at applying what you learn in ACST151 to solving financial problems), as well as eight assignments. You will be able to access the workbook from the computing labs on campus, from the library, from home, from work, from internet cafes – in short, from anywhere you can get access to the internet. The workbook is available 24 hours a day, 7 days a week.

You need to purchase the Workbook for $79.95 (including GST) from its publisher Perdisco. See the separate handout about the ACST151 electronic workbook, which tells you how to purchase your copy.

For most major topics in ACST151, you will find a set of practice problems in the workbook. These problems will help you to understand the subject better by giving you practice at applying the basic ideas in solving a range of problems. The workbook will not only give you feedback on whether or not your answers are correct, it will provide you with *complete solutions* to all problems.

The practice questions will not count towards your assessment in this unit. They are there to help you learn and to give you feedback, not to be used in assessing your learning. The eight assignments you will do with the aid of the workbook will not count towards your final grade in ACST151.

ACST151 WebCT Site

You can access the WebCT site by using your Macquarie University username and password (MQID) to log in at this web page:

http://online.mq.edu.au/pub/ACST151

Special Consideration

If the quality of your learning and work in this subject is adversely affected by illness, accident or some other form of unavoidable disruption, you should familiarise yourself with the special consideration provisions in Macquarie University's Bachelor Degree Rules 7 and 9 on pages 91-92 in the 2005 Handbook of Undergraduate Studies. **All requests for special consideration should be made in writing, on the standard form, and submitted to the Student Enquiry Service on level 1 of the Lincoln Building.**

You must complete a Professional Authority Form to accompany any application for special consideration based on medical grounds. The special consideration application and professional authority forms are available from the Student Enquiry Service, or from this web site (click on *Academic Forms*):

http://www.reg.mq.edu.au/academic-index.htm

Calculators

You will need to use a calculator at the In-Class Tests and the Final Exam. Your calculator must be portable, silent and battery operated. In any question requiring calculations you will have to give a clear indication of the working involved in arriving at your answer.

Week No	Week Beginning	Topics	In-class Test	Lecturer
1	28 Feb	Estimating retirement benefits		JS
2	7 March	Gambling risk and ruin		JP
3	14 March	Risk transfer by insurance		JP
4	21 March	More varied risks		JP
5	28 March	Insurance profit		JP
6	4 April		Test 1	JP
7	11 April	The uncertainty of life		JP
	18 April	**NO CLASSES**		
	25 April	**NO CLASSES**		
8	2 May	Long term life insurance		JP
9	9 May	Varying investment returns		JP
10	16 May		Test 2	JP
11	23 May	Financing retirement incomes		JS
12	30 May	Financing long term care		JS
13	6 June	Actuarial control cycle		JS

Note :

*(1) There **will be** tutorial classes during Week 1 (on Friday, 4 March).*

*(2) There **will not be** tutorial classes during Week 4 (on Friday, 25 March).*

(3) Topics covered may not coincide exactly with the semester weeks as shown above.

(4) Changes to the timetable may occur. Any alterations will be advised in classes and on the ACST151 WebCT site.