UNIT OUTLINE

Teaching Staff Involved in the Unit

The staff involved in the teaching of this unit are

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Topic</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shauna Ferris</td>
<td>Superannuation</td>
<td>C5C 494</td>
</tr>
<tr>
<td>Jim Farmer</td>
<td>Life Insurance</td>
<td>C5C 490</td>
</tr>
<tr>
<td>David Finnis</td>
<td>General Insurance</td>
<td>External</td>
</tr>
<tr>
<td>David Watson</td>
<td>Health Financing</td>
<td>External</td>
</tr>
</tbody>
</table>

Questions relating to the administration of the unit should be directed to the Unit Coordinator, Ms Ferris, via the private mail facility on the website (see below for instructions about the website).

Questions about course content for any topic should be directed to the lecturer teaching that topic. Please post any questions on the website using the "Discussion" facility. This will enable other students to see your questions and the lecturer's answers.

Visiting Lecturers

Mr David Watson is a visiting lecturer, teaching the Health Financing topic. He is a graduate of the Macquarie Actuarial Studies program, and has worked in the health insurance industry for 30 years. He is currently the Public Officer of HCF, Australia's fourth largest health fund. He is an active member of the Health Practice Committee of the Institute of Actuaries of Australia. He has lectured in health insurance for eight years.

Mr David Finnis is a qualified actuary with more than 20 years of practical experience, predominantly in the general insurance area. He was previously a member of the General Insurance Working Party of Institute of Actuaries of Australia. He has published a number of research papers on topics such as setting premiums, profit measurement, capital management, and risk management in general insurance.
Unit Details

Unit Name: Insurance and Superannuation Practice

Credit Points: 4

Prerequisites: 36 Credit Points including ACST101 (P); GPA of at least 2.00

Corequisites: none

If you do not satisfy the prerequisites and have not had the prerequisites waived then you should withdraw from this unit as soon as possible. If you do not, you will be automatically withdrawn from the unit, possibly after the HBCS census date.

Please consult with the unit coordinator if you have queries about the prerequisite requirements for the unit.

Unit Description

This unit examines the fields of life insurance, general insurance, health funding and superannuation. For each industry, it examines the products available, the industry structure, the historical development of the industry, and the form of government supervision.

Unit Timetable

<table>
<thead>
<tr>
<th>Week Number</th>
<th>Week Beginning</th>
<th>Topic Covered / Lecturer Tuesday class</th>
<th>Topic Covered Thursday class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28 February</td>
<td>Health Finance / D Watson</td>
<td>Health Finance / D Watson</td>
</tr>
<tr>
<td>2</td>
<td>7 March</td>
<td>Health Finance / D Watson</td>
<td>Superannuation / S. Ferris</td>
</tr>
<tr>
<td>3</td>
<td>14 March</td>
<td>Superannuation / S. Ferris</td>
<td>Superannuation / S. Ferris</td>
</tr>
<tr>
<td>4</td>
<td>21 March</td>
<td>Superannuation / S. Ferris</td>
<td>Superannuation / S. Ferris</td>
</tr>
<tr>
<td>5</td>
<td>28 March</td>
<td>Superannuation / S. Ferris</td>
<td>Superannuation / S. Ferris</td>
</tr>
<tr>
<td>6</td>
<td>4 April</td>
<td>Life Insurance / J Farmer</td>
<td>Superannuation / S Ferris</td>
</tr>
<tr>
<td>7</td>
<td>12 April</td>
<td>Life Insurance / J Farmer</td>
<td>Class Test</td>
</tr>
<tr>
<td>BREAK</td>
<td>18 April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BREAK</td>
<td>25 April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2 May</td>
<td>General Insurance / D. Finnis</td>
<td>Life Insurance / J. Farmer</td>
</tr>
<tr>
<td>9</td>
<td>9 May</td>
<td>General Insurance / D. Finnis</td>
<td>Life Insurance / J. Farmer</td>
</tr>
<tr>
<td>10</td>
<td>16 May</td>
<td>General Insurance / D. Finnis</td>
<td>Life Insurance / J. Farmer</td>
</tr>
<tr>
<td>11</td>
<td>23 May</td>
<td>General Insurance / D. Finnis</td>
<td>Life Insurance / J. Farmer</td>
</tr>
<tr>
<td>12</td>
<td>30 May</td>
<td>General Insurance / D. Finnis</td>
<td>Life Insurance / J. Farmer</td>
</tr>
<tr>
<td>13</td>
<td>6 June</td>
<td>General Insurance / D. Finnis</td>
<td>General Insurance / D Finnis</td>
</tr>
</tbody>
</table>

Please note that changes to the timetable may occur and that any alterations will be advised in lectures/on the unit webpage.
Lectures

Lectures are held at the following times:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>9:00 to 11:00</td>
<td>C5C T2</td>
</tr>
<tr>
<td>Thursday</td>
<td>9:00 to 11:00</td>
<td>C5C T2</td>
</tr>
</tbody>
</table>

Any alterations to the lecture times or locations will be advised in lectures/on the unit webpage.

Some of the lectures will be recorded (audio only) and will be available via the website as iLectures.

Textbooks

Course notes and other useful information (such as past exam papers) will be posted on the ACST300 website (see below for instructions about the website)

The textbook for the life insurance topic will be available on the website. Note that the 2005 version includes significant new material compared to earlier editions of this book. Please make sure you read the version which is on the website.

The lecturers will sometimes post additional readings on the ACST300 website, (and/or provide references to material available on other websites); so you should check the website each week.

ACST300 Web site

This web site uses software called WebCT. If several of your units use this software, you might find it more convenient to go to http://online.mq.edu.au/student/ and use the “login” link on that page. This leads you to a page which lists all Macquarie University WebCT sites to which you have access.

If you did not understand the above, you can obtain training on how to use a web browser by contacting the Information Technology Training Unit on Level 1 of the Library. 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.

Before logging in to this site, you should follow the link labelled “Technical Information” and read all the information there, including the Computer and Communications Security Policy and the Computer and Communications Usage Rules. This technical information mentions a number of “plugins” that may be required. Of those listed, in this unit you will only need Acrobat Reader.

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

It is to your advantage to ensure you read information on this web site regularly.

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.
Assessment

Your performance in this unit will be assessed based on:

- One Class Test (Superannuation / Health)
- Life Insurance On-line Quizzes
- General Insurance Assessment task
- Final Examination Paper 1 (short answer)
- Final Examination Paper 2 (optional)

The weighting for each component of the assessment is described in the section on "grading" below.

You will be given more information about your life insurance and general insurance assessment tasks when lectures on these topics commence.

Class Test

The class test is scheduled for Thursday April 14, at 9:00 am. The test is worth 10% of the assessment.

Please note that the class test dates, times and coverage may be subject to change, and that any alterations will be advised in lectures/on the unit webpage.

Normal examination rules apply to the conduct of class tests. These rules are set out under the heading “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.

Final Examination

The final examination will have two parts, Part 1 and Part 2.

Part 1 of the final exam will be short questions designed to test understanding of straightforward factual information. These may include true/false questions, multiple choice questions, questions requiring you to fill in the missing word or number, short calculation questions, and/or short answer questions. Your will have 2 hours to complete Part 1. You should ensure that you bring several 2B pencils and an eraser to the examination.

Part 2 is optional. The questions in second paper give you the opportunity to demonstrate deeper understanding. These will tend to be longer written answers or calculation questions. You will have two hours to complete Part 2.

The test and the examination will be closed book. You may not bring any notes or dictionaries into the examination room.

The University's examination rules apply to the conduct of the class test and the final exam. These rules are given in the 2005 handbook of Undergraduate Studies. You are responsible for familiarising yourself with these rules.
In both papers of the final exam, the marks will be divided in the following proportions:

<table>
<thead>
<tr>
<th>Health Insurance</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superannuation</td>
<td>30%</td>
</tr>
<tr>
<td>Life Insurance</td>
<td>30%</td>
</tr>
<tr>
<td>General Insurance</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Assessment and Grading**

In the grading process, we will start by calculating your "Stage 1" score, score based on:

<table>
<thead>
<tr>
<th>Class Test</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Insurance Online Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>General Insurance Assessment Task</td>
<td>10%</td>
</tr>
<tr>
<td>Part 1 of the Final Exam</td>
<td>70%</td>
</tr>
<tr>
<td>Total = Stage 1 Score</td>
<td>100%</td>
</tr>
</tbody>
</table>

The "Stage 1" results will be used to divide students into the categories of "Fail", "Conceded Pass", and "Pass or better". Note that you should NOT assume that a score of 50% will be a passing grade. The questions on Part 1 are predominantly easy questions, so a mark above 50% will usually be required to satisfy the definition of a “Pass” according to University standards (as given below).

In order to pass this unit, your performance must be satisfactory on both the coursework assessment tasks and the final exam.

The second paper of the exam is optional. If a student decides not to attempt Paper 2, then his/her mark will be based solely on the "Stage 1" results. The highest possible grade will be a Pass. If you do not want a grade which is better than "Pass", you need not attempt the second paper.

If you passed at "Stage 1", and you attempt the second paper of the exam, then we will assess your "Stage 2" performance using the following weights:

<table>
<thead>
<tr>
<th>Class Test</th>
<th>6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Insurance Online Quizzes</td>
<td>6%</td>
</tr>
<tr>
<td>General Insurance Assessment Task</td>
<td>6%</td>
</tr>
<tr>
<td>Paper 1 of the Final Exam</td>
<td>41%</td>
</tr>
<tr>
<td>Paper 2 of the Final Exam</td>
<td>41%</td>
</tr>
<tr>
<td>Total = Stage 2 Score</td>
<td>100%</td>
</tr>
</tbody>
</table>

For students who pass Stage 1 and attempt the second paper, the Stage 2 results will be used to determine whether the grade will be Pass, Credit, Distinction, or High Distinction. However, students will not fail as a result of attempting the second paper - if you earned a Pass at Stage 1, and you do badly on Stage 2, you will still be awarded a Pass.

Macquarie University uses the grades HD, D, Cr, P, PC and F for grading the achievements of students in units of study. The grades of achievement are defined as follows:

**High Distinction (HD)** denotes performance which meets all unit objectives in such an exceptional way and with such marked excellence that it deserves the highest level of recognition.
**Distinction (D)** denotes performance which clearly deserves a very high level of recognition as an excellent achievement in the unit.

**Credit (C)** denotes performance which is substantially better than would normally be expected of competent students in the unit.

**Pass (P)** denotes performance which satisfies unit objectives.

**Conceded Pass (PC)** denotes performance which meets unit objectives only marginally.

**Fail (F)** denotes performance which does not meet unit objectives.

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. The standardised mark is called a Single Numerical Grade (SNG).

To gain a clear pass in this unit you will need to demonstrate a clear understanding of the relevant factual information when confronted with straightforward questions. To gain a grade of credit or better you must demonstrate the ability to select relevant points from this body of information and arrange them in a logical manner to solve more complex problems.

These complex problems could, for example, require you to:

- apply factual knowledge to scenarios or problems which you have not previously encountered;
- determine which pieces of factual knowledge present in the unit are relevant to some practical scenario;
- explain, in clear simple non-technical language, the rationale behind legislation of industry practice (rather than just stating what the industry practice is).

When you work as an actuary or in any other profession, if you misunderstand a concept you may provide incorrect advice to a client possibly with severe financial consequences for your client and yourself. However, if you realise that you have no understanding of a concept you may refrain from giving advice on it until you have filled the gaps in your knowledge. That is, misunderstandings are more dangerous than a lack of knowledge. The grading philosophy and marking scales adopted in this unit reflect the above situation. While correct and relevant statements earn marks, statements that are incorrect will result in the deduction of marks. If your answers reveal that your misunderstandings are very severe or numerous, you might earn a negative mark for a question.

As an example, suppose that we set an exam question which says "List three types of restrictions which apply to superannuation fund investments". One student might give no answer and earn 0 marks. Another student might attempt to guess, giving one correct answer and one incorrect answer, e.g. "Superannuation funds cannot invest money overseas" (incorrect) and "Superannuation funds cannot lend money to members" (correct). The correct answer would earn +1, the incorrect answer would earn -1, giving a score of 0.

As an example, suppose we set true/false questions. We usually give +1/2 mark for a correct answer, -1/2 mark for an incorrect answer, and 0 for no answer. If a student is just guessing on each question, so that he/she has a 50-50 chance of getting the correct answer, the expected value of his/her score will be 0.
**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.

**The Institute of Actuaries of Australia**


**Special Consideration**

Applications for special consideration in respect of a class test or other class assessment 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. PLEASE ENSURE THAT ANY APPLICATIONS FOR SPECIAL CONSIDERATION ARE SUBMITTED BEFORE THE DEADLINE.

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. Instructions for requesting Special Consideration are given on the Division website at [http://www.efs.mq.edu.au/services/policies_consider.htm](http://www.efs.mq.edu.au/services/policies_consider.htm). PLEASE READ THIS.

Applications based on medical grounds (whether for a class test or other class assessment task, or for the 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](http://www.registrar.mq.edu.au/academic-index.html)

**Mobile Phones**

*Please be considerate to your fellow students*: turn off your mobile phones during classes.

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**

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 policy on cheating and plagiarism, available at http://www.efs.mq.edu.au/services/policies_cheat.htm

For actuarial students: note that the IAAust regards unethical behaviour with great concern. Any incidents of cheating or plagiarism may affect your eligibility to be a member of the profession.
MACQUARIE UNIVERSITY
ACST200 : MATHEMATICS OF FINANCE
1st Semester 2005

This document contains important information about this unit. You should read it carefully. If anything in it is unclear, please ask for clarification before you leave the first lecture.

1. **Things you should do as soon as possible after the first lecture**
   1. Go to the ACST200 web site (The web site is described in section 4). Make sure you can login.
   2. On the web site, go to the quiz section. Do the practice quiz several times. Try getting answers right and wrong to see how it behaves.
   3. Do the certification quiz.

Please try to do all these steps before the Thursday class in week 1 of term, so that any problems can be resolved at that class.

2. **Unit Timetable**
The public holidays have necessitated some shuffling of the topics.

<table>
<thead>
<tr>
<th>Week</th>
<th>Week Begins</th>
<th>Topics Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28 Feb</td>
<td>1. Compound Interest &amp; Discount; Forces of Interest</td>
</tr>
<tr>
<td>2</td>
<td>7 March</td>
<td>3. Annuities</td>
</tr>
<tr>
<td>3</td>
<td>14 March</td>
<td>2. Inflation and Capital Gains Tax (Reading topic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Annuities payable m’thly</td>
</tr>
<tr>
<td>4</td>
<td>21 March</td>
<td>5. Housing Loans &amp; Flat Rate Loans (Friday public holiday)</td>
</tr>
<tr>
<td>5</td>
<td>28 March</td>
<td>7. Unit Pricing Systems (Reading Topic) (Monday public holiday)</td>
</tr>
<tr>
<td>6</td>
<td>4 April</td>
<td>6. Bonds</td>
</tr>
<tr>
<td>7</td>
<td>11 April</td>
<td>8. Yields on funds.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Project Appraisal. (NPV, IRR) (Reading Topic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-week study break</td>
</tr>
<tr>
<td>8</td>
<td>2 May</td>
<td>10. Yield Curves.</td>
</tr>
<tr>
<td>9</td>
<td>9 May</td>
<td>11. “No Arbitrage” Assumption and Forward Contracts</td>
</tr>
<tr>
<td>10</td>
<td>16 May</td>
<td>12. Bond Statistics</td>
</tr>
<tr>
<td>11</td>
<td>23 May</td>
<td>13. Immunisation</td>
</tr>
<tr>
<td>12</td>
<td>30 May</td>
<td>14. Stochastic Models</td>
</tr>
<tr>
<td>13</td>
<td>6 June</td>
<td>15. Statistics</td>
</tr>
</tbody>
</table>

Changes to the timetable may occur and any alterations will be advised in lectures.
(Repeating students will notice that there is one topic less than last year. “Introduction to options” has been removed from this unit since ACCG253 is now an exemption unit and options are introduced there. More difficult problems involving options will still appear in ACST305.)

3. **Exemptions – Information for those majoring in actuarial studies**
The unit ACST200 corresponds to the professional subject CT1. You require a grade of Credit or better in this unit to receive the exemption.
4. **ACST200 Web Site**

The ACST200 web site uses software called WebCT. To access this web site go to http://online.mq.edu.au/student/ and use the “login” link on that page. This leads you to a page called “MyWebCT” which lists all Macquarie University WebCT sites to which you have access.

If you did not understand the above, you can obtain training on how to use a web browser by contacting the Information Technology Training Unit on Level 1 of the Library. 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.

When you first login, you should follow the link labelled “Technical Information” and read all the information there, including the “Information Technology Security Policy & Rules” and the “Information Technology Conditions Of Use Rules.” This technical information mentions a number of “plugins” that may be required. Of those listed, in this unit you will only need Acrobat Reader.

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

The web site contains:

- Tutorial and assignment solutions.
- Past exams papers.
- Assessable quizzes.
- A discussion area.

The discussion area is divided into topics. When you view the contents of a topic, you will initially see a list of the “threads” in that topic. Click on the green triangle pointing to the right. This will display the messages in that thread. Now read the first posting in the “administration” topic. This gives further hints about the use of the discussion area.

4.1. **Frequently asked questions**

“Why are there typographical errors in the solutions on the web site, (and in the notes)?”

Because I’m an actuary, not a typist. If I stopped creating more practice questions and stopped improving the notes, I’d also stop creating new typographical errors. Would you prefer that?

5. **ACSTINFO Web site**

Your “MyWebCT” page should also show that you have access to the ACSTINFO site.

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 web site regularly. You should not assume that information posted there will also be repeated in lectures.

6. **Unit Workload**

Macquarie University used to publish a guideline that a competent well-prepared student should expect to spend, on average over the semester, about 4 hours per week per credit point on their university studies. This is a 4 credit point unit, so this implies you might spend about 16 hours per week on this unit, including class time.

When surveys showed that on average students weren’t spending this long on their studies, the University reduced the guideline from 4 hours per week to 3 hours per week. The logical basis for this decision is unclear, since it seems that there is no evidence that the subset of students who
obtained reasonable results were working less than 4 hours per week per credit point. You should note that the content of this unit was not arbitrarily reduced by 25% when the guideline was changed and grading standards have not be weakened, so it is probably appropriate to continue using the old guideline.

7. Unit Objectives – Learning outcomes
By the end of the unit you should be able to demonstrate competence in the range of techniques described in the unit notes and lectures. Ideally you will be able to demonstrate an understanding of the techniques rather than simply demonstrating the ability to rote learn formulae without understanding. You should also be able to demonstrate ethical behaviour by complying with examination rules and by not colluding on assessment tasks.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students’ generic skills in a range of areas. One of the aims of this unit is that students develop their problem-solving skills.

8. Prerequisites & Assumed Knowledge
If you do not satisfy the prerequisites and have not had the prerequisites waived then you should withdraw from this unit as soon as possible. If you do not, you will be automatically withdrawn from the unit, possibly after the HECS census date.

The prerequisite includes ACST101(Cr). Students will be assumed to be proficient with the entire maths of finance content of that unit. If necessary, you should carry out suitable revision of that material.

The prerequisite also includes MATH133(P) or MATH136(P), and the prerequisites for those units include certain levels of high school mathematics. While it is difficult to list all the mathematical skills students will require for this unit, Topic 1 of the unit notes includes a brief summary of items students will require but often seem to forget. If necessary, you should revise these items.

While there is no formal Statistics prerequisite on this unit, there is a small amount of assumed knowledge of random variables in one topic. If you are studying STAT272 concurrently with ACST200, (or have previously passed STAT272) you should have no difficulties.

Students are assumed to be able to construct simple spreadsheets. While Excel is the spreadsheet package available in the library computing labs, students may use whichever package they choose.

9. Administration Issues
Most academics have become academics because they enjoy discussing their area of expertise, rather than because they enjoy carrying out tedious administration. For example, you will find that while the lecturer enjoys arguing about mathematics of finance issues with you during classes and in the discussion area of the ACST200 web site, he gains no pleasure from reciting sections of the unit outline to students who were not willing to read it for themselves.

Since it has become clear that not all students believe the above point, the lecturer has decided to stress its importance by implementing a 1 mark penalty for the offence of pestering him with administration questions which have already been answered in the unit outline.

10. Questions?
This is a large class.

The disadvantage of this is that the teaching staff do not have time to provide private consultations to all the students in this unit. To give consultations to only some students would give them an
unfair advantage. Instead, ask your questions during classes or in the discussion area, so that your colleagues can all hear or read your question and the response.

The advantage of this being a large class is that if everyone contributes to the discussion area and shares their ideas, shares their mistakes and shares the questions they invent themselves, you can collectively generate a large quantity of useful material.

However, be aware of the prerequisite material. In this unit we do not be spend time answering ACST101 questions for students who are inadequately prepared to study ACST200.

Do not email me with questions about the course material. Use the discussion area. Administrative questions can be sent to me via the mail tool on the web site, provided you are sure the question is not already answered in this unit outline.

11. Tutorials
Tutorials will commence in the first week of lectures.

Please ignore the tute location that appears on the timetable you received when you enrolled or when you implemented a “Change of Program”. New tute lists are being prepared. The new lists will be available in the downloads section of the unit’s web site around Wednesday of week 1.

Tutorial solutions will become available on the unit’s web site at the end of the tutorial.

12. Weekly Assignments
Solutions to assignments will be available on the ACST200 web site at the start of the next week’s teaching. It is recommended that you:

(a) Make a serious attempt at each assignment over the weekend.

(b) Bring your solutions to the first lecture in the following week and swap them with another student. (Try to swap with a different student each week so that you are exposed to a variety of styles.)

(c) Correct this other student’s assignment using the model solutions and return them to that student at the Thursday lecture along with any helpful comments you can offer. Most weeks you can discuss any issues arising from this process at the Thursday lecture, since the lecture material seldom uses the entire time available.

13. Textbooks
The prescribed reading is the “ACST200 Unit Notes”, which most of you have already purchased from the University Co-Op Bookshop.

The following is a list of all textbooks I am aware of that cover material from this unit, with their Macquarie University call numbers. Several of these books have been used as prescribed texts for this unit in the past. However, feedback from students was that (with the exception of the “Knox, Zima, Brown” textbook from ACST101) none of these books gave good value for money. Hence we no longer prescribe a textbook for this unit.

- Broverman, Samuel. "Mathematics of Investment & Credit" Mad River Books. (e-mail: retail@actexmadriver.com) HG4515.3.B76/1996


Course notes for the UK courses may be purchased from ActEd. (http://www.acted.com.au/)

13.1. Frequently asked questions
"Can you recommend any other books?"

No. If I knew of any other books, I’d have put them in the above list.

"Why are these book so expensive?"

Because the actuarial profession is small and so there are no economies of scale. Unfortunately, if you plan to continue in the actuarial profession, you’ll have to get used to textbooks being expensive.

14. 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. 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 in the appropriate range for that grade indicating your approximate position amongst students assigned that grade. This standardised mark is not your raw mark.

The following table gives an indication of the relative weighting of the assessment components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Examination</td>
<td>90%</td>
</tr>
</tbody>
</table>

Note also the penalties mentioned above under the heading “Administration Issues”.

When you work as a professional, whether as an actuary or in any other profession, if you misunderstand a concept you may provide incorrect advice to a client, possibly with severe financial consequences for your client and yourself. However, if you realise that you have no understanding of a concept you would refrain from giving advice on it until you have filled the gaps in your knowledge. That is, misunderstandings are more dangerous than a lack of knowledge.

The grading philosophy and marking scales adopted in this unit reflect the above situation. While correct and relevant statements earn marks, errors which indicate serious misunderstandings result in the deduction of marks. If your answers reveal that your misunderstandings are very severe or numerous, you might earn a negative mark for a question.

14.1. There are no quotas!

You are not competing against your colleagues for some limited number of good grades. You are competing against objective standards. Thus it is not in your interests to withhold your knowledge.
from your colleagues. If you all share your knowledge and assist each other you can all get better results.

14.2. Frequently asked question
“So what proportion of the class can you give exemptions to?”

Please reread the previous section. The only upper limit on this proportion is 100%.

15. Quizzes
There are 7 quizzes to complete, relating to the first 7 topics. Note that we sometimes cover 2 topics in a week, so sometimes you will need to complete 2 quizzes in a week. The quizzes are accessible on the ACST200 web site. They use the same system used in ACST101.

Roughly speaking, quizzes must be completed in a 6 day period immediately following the relevant tutorial. The exact deadlines will be shown on the web site. With respect to the deadlines, please be aware of the department policy on use of computers, shown later in this document.

You will not be able to attempt any assessable quizzes unless you have satisfactorily completed the Certification Quiz.

For the assessable quizzes, you will not be able to view your results until after the deadline for submitting the quiz has passed. (For the practice quiz, you can view your results immediately, otherwise it wouldn’t be useful practice.)

When completing the quizzes, you may refer to any notes, textbooks or other non-human resources, but you must not seek assistance from anyone or offer assistance to any other students. Your results for a quiz become available when the deadline for completing the quiz has passed. You should not discuss the quiz with anyone (even with fellow students who claim they have already submitted the assignment) until the deadline has passed. You must not ask other students to explain what the question means. You must make your own interpretation of the question. Note that a breach of any of these requirements constitutes a failure to satisfy one of the unit objectives and so would result in a fail grade being awarded.

While the final exam may contain multiple choice questions similar to some of the quiz questions, you should not regard the quizzes as indicative of the full range of multiple choice questions that can appear in the exam. The WebCT software is fairly restrictive in respect of the complexity of the formula that we can input for determining the correct answer, so most of the quiz questions involve relatively simple calculations. Also, in the exam there may be several multiple choice questions about a single complex scenario, and this is something we can’t easily achieve within the quizzes.

15.1. Frequently asked questions
“I’ve submitted my quiz and I’ve just realised I made a mistake in one of the questions. Can you change my answer?”

No. Would you expect to be allowed to change your answer to an exam question after the exam was over?

“I forgot to do the quiz and the deadline has passed. Can I have another chance?”

No. It is your responsibility to complete the quiz before the deadline.

“I was unable to do the quiz due to illness. What happens?”

Read the section below labelled “Special Consideration”.

“It won’t let me into the assessable quizzes.”

That’s not a question, but did you complete the Certification Quiz?
"I just submitted the quiz but it isn’t showing my mark. Why not?"

You can’t view your mark until after the deadline for completing the quiz.

16. Exam
The exam will be a three-hour paper with ten minutes reading time.

16.1. Exam Rules
The University’s examination rules apply to the conduct of the exam. These rules are set out under the heading “Rules governing student’s conduct in examinations” on page 40 of the 2004 Handbook of Undergraduate Studies. Students are responsible for familiarising themselves with these rules.

16.2. Material in Exam
You may not bring any notes or dictionaries into the exam. The exam will include multiple choice questions. You should bring several 2B pencils and an eraser. You will be provided with a table of the normal distribution.

Calculators are allowed in the exam but for written answer questions a clear indication of the steps involved in every calculation must be shown. Calculators 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 exam, and the make/model may be recorded.

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.

16.3. Dates
The University Examination period in first semester 2005 is from Wednesday 15 June to Wednesday 29 June.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The 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.

http://www.timetables.mq.edu.au/exam

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at http://www.reg.mq.edu.au/Forms/APSCon.pdf

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, that is the final day of the official examination period.

16.4. Frequently asked question
"In the exam, can you ask us to derive formulae?"

Of course. Unless a derivation is specifically flagged as non-examinable – such as the moments of the lognormal distribution – it is examinable. Actuaries are not people who mindlessly apply
formulae from textbooks without understanding why they work. Actuaries are skilled professionals who understand why techniques work, and who thus recognise when they’ve encountered a scenario where the standard formulae won’t work. Thus you may also encounter variations on the standard derivations, such as questions which ask you to consider whether a particular formula can be adjusted to cope with a slightly different scenario.

After the exam is over, there are frequently questions such as:

"I’ve just realised I forgot to cross out some wrong working. Can you please ignore it?" "I just realised I crossed out something which was right. Can you please mark it?" "I’ve just realised I misread a question. Can you please mark my answer assuming the question had instead been ...?"

"Can you mark something that I wrote on the blank left page of the answer book?"

No. You are expected to answer the question that was asked. You are assessed solely on the answers as they stand at the end of the exam time, not on how you subsequently decide you would have liked them to look. As explained on the front of the answer booklet, only the answers written on the ruled right hand pages of the answer books are marked.

17. Special Consideration
If the quality of your work in this unit is adversely affected by illness, accident or other form of (unavoidable disruption, you should acquaint yourself with the special consideration provisions in Bachelor Degree Rules 7(3) and 9 which appear in the current year’s Handbook of Undergraduate Studies.

Applications for special consideration in respect of a quiz 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 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 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.htm

Note that in respect of the final examination special consideration can only be granted if your (previous performance in the unit, as assessed by the quizzes, has been satisfactory. Also, if in respect of this unit you are found guilty of breaching any of the examination rules, the Information Technology Security Policy & Rules or the Information Technology Usage Rules you will automatically be regarded as having unsatisfactory performance for the purposes of determining eligibility for special consideration.

18. Spreadsheets
Many of the problems you encounter in this unit can also be solved using a spreadsheet. Using a spreadsheet to verify your solutions to tutorial exercises and assignment questions may improve your understanding. If you have a portable computer or organiser with a spreadsheet package, you may find it useful to bring it to tutorials.

Microsoft Excel is available in many computer laboratories on campus, but we do not advocate the use of any particular spreadsheet package. If you are considering buying a spreadsheet package, you might also like to consider free options such as Open Office, which can be downloaded from http://www.openoffice.org.
Exam questions may ask you for a general description of how you would go about solving a problem if a spreadsheet was available, but since we don’t mandate a particular package, we can’t ask for details about precisely how to achieve some task in Excel. For example, we may ask questions requiring general answers like “I would enter the coupon rate in one cell and the yield in another. In a third cell I would calculate the price using the formula … . Then I would use the ‘goal seek’ tool, telling it to vary the number in the yield cell so as the make the number in the price cell $120.” But we couldn’t ask you where in the Excel menus the “Goal Seek” tool is hidden. In fact this tool has different names in different spreadsheet packages, so your answer would be quite acceptable if you referred to “the solver tool” or “the back-solver” rather than “Goal Seek”.

If formulae are required, it is quite acceptable to state them in the normal mathematical notation such as \( \frac{\sqrt{a}}{b} \). You are not expected to write them in a “spreadsheet notation” such as SQRT(A1)*C1*D1/B1, since such details can also vary by package.

19. Mistakes? No problem!

Mistakes are a healthy part of the learning process. You can learn a lot from mistakes. The more mistakes you understand during the learning process, the fewer you’re likely to make during the exam. Understanding why a particular method is wrong is often as enlightening as knowing the right method.

Please post your incorrect solutions to the discussion area and challenge your colleagues to find the errors or write them up on the board during tutorials. It doesn’t matter whether you’ve found the error yet yourself or not. It doesn’t matter whether you made the error accidentally or deliberately concocted a plausible but incorrect solution. Either way, it’s still useful to share errors with the class.

20. Student Support Services

Macquarie University provides a range of Academic Student Support Services. Details of these services can accessed at http://www.student.mq.edu.au.

21. Class Etiquette

Mobile phones and other non-silent devices should be turned off during classes. Offenders may be awarded unpleasant demerits, such as cleaning used overhead projector slides.

Unfortunately it appears that some students have difficulty arriving at the Monday 9:05am lecture on time. If you are late, take a seat in the back two rows of the centre block or the back three rows of the side blocks. If you are on time, leave these rows vacant.

22. Department Policy on Computers

Point I of the following policy is particularly relevant to the WebCT quizzes.

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 (e.g., 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.

23. Cheating and Plagiarism

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the Handbook of Undergraduate Studies or on the web at: http://www.student.mq.edu.au/plagiarism/

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

24. Other Miscellaneous Frequently Asked Questions

“How should I study this unit?”

I don’t know. Different people think differently. You’re the person who has been using your brain for about 2 decades. You are the expert on how your brain works most efficiently.

“What’s the capital of North Dakota?”

Bismarck. And can we please get back to the topic of ACST200?

“Will the ACST200 exam be as much fun as was paper 2 of the ACST211 exam?”

Probably not. ACST200 exams tend to spend more time on relatively routine questions. Well-prepared students seem to describe them as “pleasant” or “non-threatening” rather than “fun”. Students who aren’t well-prepared often describe them as “too long”, but from the marker’s point of view it looks like these students spend a lot of time trying to discover weird methods for solving routine problems for which efficient methods were demonstrated in lecture examples, tute exercises or assignment questions.

“Did you make up any of the frequently asked questions, (apart from this one)?”

Surprisingly, no. But the one about North Dakota couldn’t honestly be described as frequent.

Jim Farmer
Unit Coordinator/Lecturer