Dear Students

Welcome to ACTL1001 Actuarial Studies and Commerce. This course introduces various aspects of actuarial studies and its relationship with the concepts of probability, financial mathematics, accounting, and economics. These concepts are further combined and used to analyse risk and risk management systems, and we will also explore their applications to actuarial practice.

This course outline has details of the course requirements, course aims and learning outcomes, content, teaching methods, assessment tasks, texts and readings, and expectations. Please read it carefully and thoroughly, as it will be assumed that you are familiar with the contents.

If you have any questions about the course at any time then please contact me.

I hope you find the course challenging and interesting, and look forward to guiding your learning throughout the duration of the course.

Dr Bernard Wong
# TABLE OF CONTENTS

1. **COURSE STAFF**
   1.1 Communication with Staff

2. **COURSE DETAILS**
   2.1 Teaching Times and Locations
   2.2 Units of Credit
   2.3 Summary of Course, Aims & Relationship to other Courses
   2.4 Student Learning Outcomes
       Graduate Attributes

3. **LEARNING AND TEACHING ACTIVITIES**
   3.1 Approaches to Learning and Teaching in the Course
   3.2 Learning Activities and Teaching Strategies

4. **ASSESSMENT**
   4.1 Formal Requirements
   4.2 Assessment Details
       4.2.1 Class Tests 1 and 2
       4.2.2 Group Assignment
       4.2.3 Final Exam
   4.3 Assignment Submission Procedure
   4.4 Late Submission

5. **ACADEMIC HONESTY AND PLAGIARISM**
   School of Actuarial Studies Policy on Plagiarism

6. **COURSE RESOURCES**
   Textbook
   Course WebCT Vista

7. **COURSE EVALUATION AND DEVELOPMENT**

8. **STUDENT RESPONSIBILITIES AND CONDUCT**
   Special Consideration and Supplementary Examinations

9. **ADDITIONAL STUDENT RESOURCES AND SUPPORT**

10. **COURSE SCHEDULE**
1. COURSE STAFF

The Course Coordinator of this course is Dr Bernard Wong:

<table>
<thead>
<tr>
<th>Staff</th>
<th>E-mail</th>
<th>Room</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Bernard Wong</td>
<td><a href="mailto:bernard.wong@unsw.edu.au">bernard.wong@unsw.edu.au</a></td>
<td>Quad 2076</td>
<td>9385 2827</td>
</tr>
</tbody>
</table>

He is responsible for course administration, teaching and final assessment of the course.

Tutors for this course are:

<table>
<thead>
<tr>
<th>Staff</th>
<th>E-mail</th>
<th>Room</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Sun</td>
<td><a href="mailto:david.sun@unsw.edu.au">david.sun@unsw.edu.au</a></td>
<td>Quad 2082A</td>
<td>9385 8005</td>
</tr>
<tr>
<td>Gary Nelson</td>
<td><a href="mailto:gary.nelson@unsw.edu.au">gary.nelson@unsw.edu.au</a></td>
<td>Quad 2082A</td>
<td>9385 8005</td>
</tr>
<tr>
<td>Andrew Ngai</td>
<td><a href="mailto:andrew.ngai@unsw.edu.au">andrew.ngai@unsw.edu.au</a></td>
<td>Quad 2082A</td>
<td>9385 8005</td>
</tr>
</tbody>
</table>

They are responsible for the tutorials and grading of tests and assignment assessment tasks.

1.1 Communication with Staff

If students have questions about the material covered in lectures then consult the Course Lecturer. Bernard will normally be available for consultation on Mondays during teaching session from 3 to 5pm in Quad 2076. For tutorial problems or other problems with assignments and course material students should consult the tutor. For administrative matters related to the course including enrolment, tutorial enrolment, assessment, special consideration, and the course web site, students should consult the Course Coordinator or the School Administrator.

Emails can be used to make appointments during consultation hours and for other administrative purposes.

For administrative matters related to the course including enrolment, assessment, special consideration, and the course web site, students should consult the Course Coordinator or the School Administrator Bindya Subba.

Bindya Subba
Actuarial Studies Office (Room 2058, 2nd Floor Quadrangle Building)
Telephone: 9385 1886
Fax: 9385 1883
E-mail: b.subba@unsw.edu.au

2. COURSE DETAILS

2.1 Teaching Times and Locations

This course will consist of 2 hours of lectures and a 1 hour tutorial per week.
Lectures:
Lectures will be held on:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>1200–1400</td>
<td>Central Lecture Block 8</td>
</tr>
</tbody>
</table>

Tutorials:
Tutorials will start in Week 2. Tutorial times are as follows:

<table>
<thead>
<tr>
<th>Section</th>
<th>Time</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>M14A</td>
<td>Mon 14:00 - 15:00</td>
<td>Mathews 123</td>
</tr>
<tr>
<td>M14B</td>
<td>Mon 14:00 - 15:00</td>
<td>Quad 1042</td>
</tr>
<tr>
<td>M15A</td>
<td>Mon 15:00 - 16:00</td>
<td>Quad 1042</td>
</tr>
<tr>
<td>M15B</td>
<td>Mon 15:00 - 16:00</td>
<td>Mathews 130</td>
</tr>
<tr>
<td>W15A</td>
<td>Wed 15:00 - 16:00</td>
<td>Quad 1042</td>
</tr>
<tr>
<td>W15B</td>
<td>Wed 15:00 - 16:00</td>
<td>Quad G042</td>
</tr>
<tr>
<td>W16A</td>
<td>Wed 16:00 - 17:00</td>
<td>Quad G042</td>
</tr>
<tr>
<td>W16B</td>
<td>Wed 16:00 - 17:00</td>
<td>Quad 1042</td>
</tr>
</tbody>
</table>

Students are expected to attend their allocated tutorials, and attendance will be recorded.

Timetables and locations are correct at time of printing. A full timetable of lectures and topics is provided later in this course study guide. Any alterations to the lecture times or locations will be advised in lectures or via the course WWW page – https://vista.elearning.unsw.edu.au/webct/logonDisplay.dowebct

Students should consult the WebCT Vista site on a regular basis, since assignment questions and other Course materials will be placed there. The web address is: http://vista.elearning.unsw.edu.au

Peer-Assisted-Support-Scheme (PASS):
In addition, an actuarial PASS program will be available to enhance student learning in this course. It is highly recommended that you attend these sessions.

2.2 Units of Credit
Each course is 6 UOC.

2.3 Summary of Course, Aims & Relationship to other Courses
This course lays the foundation for your future actuarial studies at university. It covers the basic probability, demography, economics, and accounting that you need to understand this fascinating discipline. In addition, we present a basic treatment of the three major traditional practice areas (life insurance, general insurance and superannuation).

In second year and third year you will deepen and consolidate your knowledge of these areas. In each of your future actuarial courses, at some stage, your lecturer will say, ‘You covered this in ACTL1001’. And, indeed, you will have.
The assumed knowledge for ACTL1001 is completion of MATH1151 and enrolment in MATH1251 in Session 2 2009.

2.4 Student Learning Outcomes

At the end of the course the student will have be able to:

1. [LO1] Demonstrate an understanding of the foundations of actuarial studies and to explain how statistics, mathematics, demography, economics, accounting, and finance are used in actuarial studies. This includes the ability to

   i. Explain how basic principles of probability can be applied in actuarial studies

   ii. Understand the basic principles of the life table and survival models

   iii. Understand and apply basic compound interest to simple problems in actuarial studies

   iv. Explain how risk is quantified using economic principles

   v. Explain the relationship between accounting and actuarial approaches to liability valuation

2. [LO2] Demonstrate an understanding of actuarial principles and techniques underlying risk management and financial security systems, as well as its applications to core actuarial practice areas. This includes the ability to

   i. Explain and outline the main products and techniques of actuarial analysis in life insurance

   ii. Explain and outline the main products and techniques of actuarial analysis in non-life insurance

3. [LO3] Use effective presentation, discussion, and report writing skills.


Graduate Attributes

The Australian School of Business has as its core graduate attributes the development throughout a program of an awareness of and ability to:

- Think critically [GA1]
- Communicate [GA2]
- Work in teams [GA3]
- Have an appreciation of relevant social and global issues [GA4]
- In-depth engagement with relevant disciplinary knowledge [GA5]
- Professional skills [GA6]

This course contributes to your development of the following Australian School of Business Graduate Attributes, which are the qualities, skills and understanding we want you to have by the completion of your degree. Learning Outcomes 1–2 aim to enhance your capacity for critical thinking and problem solving (GA1,5), in the relevant social, ethical and global context (GA4), and with the engagement of professionalism (GA6). Learning Outcome 3 develops your written and verbal communication skills (GA2) and Learning Outcome 4 develops your teamwork (GA3) and communication (GA2) skills.
3. LEARNING AND TEACHING ACTIVITIES

3.1 Approaches to Learning and Teaching in the Course
The course textbooks, lectures and assessment tasks are designed to provide a framework for your learning. Every student has a different approach to learning. How much time you spend on reading in preparation for lectures, completing assessment tasks, reviewing course objectives, deepening your understanding and preparing for final examinations will depend on your learning approach. Lectures will generally cover the main concepts and issues and will not necessarily cover all the details of the course readings or texts. It is expected that you have read the reading material for the lecture in advance. Students who are successful in this course take an active approach to learning.

3.2 Learning Activities and Teaching Strategies
The course involves four key components – the lecture, discussion, tutorials, and your private study. Each lecture will provide a short overview of topic at hand and will then focus on explaining the difficult concepts and issues. The role of the lecture is to help you understand the context of the topic as well as work through the difficult points. We will be using active learning strategies where discussion and examples form a significant component of your learning experience in lectures.

Your private study is the most important component of this course. Weekly readings, tutorial exercises, solving problems from the text and your own topic summaries form the basis of an excellent private study regime. Keeping up to date is very important and each week builds on the prior weeks so it is important that you get your study regime organised quickly.

4. ASSESSMENT

4.1 Formal Requirements
In order to pass the course students must complete and submit all components of assessment at or before the due times. Late assessment submissions will not be marked. It is important that students be punctual and reliable when submitting assessments. This is an important workplace requirement and students need to ensure they meet deadlines.

4.2 Assessment Details
The summary table below provides an overview of the assessment tasks and relative weighting:

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Weighting</th>
<th>Learning Outcomes Assessed</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Test 1</td>
<td>11%</td>
<td>LO1, LO2</td>
<td>20 August</td>
</tr>
<tr>
<td>Class Test 2</td>
<td>11%</td>
<td>LO1, LO2</td>
<td>17 September</td>
</tr>
<tr>
<td>Group Assignment</td>
<td>8%</td>
<td>LO1, LO2, LO3, LO4</td>
<td>22 September</td>
</tr>
<tr>
<td>Final Examination</td>
<td>70%</td>
<td>LO1, LO2, LO3</td>
<td>TBA</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2.1 Class Tests 1 and 2

Technical skills are important in practice and this course provides foundation technical skills that will be useful throughout your working life.

In order to assess your understanding of the technical skills covered in the course aims there will be two 45-minute class tests during the session. Each test will be worth 11% of the total assessment for the course. The tests will be closed book.

Normal examination rules apply to the conduct of class tests. Calculators will be allowed in the class tests and the final examination but a clear indication of all of the steps involved in your calculations must be shown. The University will not supply calculators to students for use in examinations where the provision of calculators has not been requested by the course examiner. It is the student's responsibility to be familiar with the rules governing the conduct of examinations.

The class tests require written responses, with students earning marks for correct explanations of the main concepts and issues examined in each question. Marks for calculation questions will be granted on mathematical working as well as part marks for incorrect responses with correct method and reasoning. They test not only your knowledge of the material, but also the depth of your understanding of it.

The dates for these tests are:

| Class Test 1 | Thursday 20 August | 5:00 p.m. |
| Class Test 2 | Thursday 17 September | 5:00 p.m. |

The tests will be held in XXXXX.

4.2.2 Group Assignment

Assignments are intended to develop your ability to concisely and coherently present your ideas. The practical application of the course concepts to business problems is an important skill employers require and this course aims to provide at least some introductory exposure to this. Writing skills for technical material are also important. To development your teamwork skills assignments will be of a group form, where teams of two students combine their skills to tackle a practical problem applying the techniques learned in this course. This will provide students with an opportunity to also develop communication and teamwork skills.

The assignment will be assessed on both technical accuracy, practical application and how well it is written and the quality of the assignment presentation.

The assignment availability and due dates are:

<table>
<thead>
<tr>
<th>Available Date</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, 1 September, 4pm.</td>
<td>Tuesday, 22 September, 4pm.</td>
</tr>
</tbody>
</table>

Assignments will be posted on the course WebCT vista site on the above available date. Assignments are due at 4:00pm on the due date. Assignments are to be submitted in the assignment box outside Quad 2059, near the Actuarial Studies School office.
The School of Actuarial Studies has a policy of grading late assignments with a zero mark. Punctual submission of work is required in order to satisfy the requirements of the course. The assignment may be marked at the discretion of the course coordinator if there is a valid reason for late submission and used in cases where your final overall results are marginal.

4.2.3 Final exam
The final examination will be a two-hour written paper. The examination will aim to assess the achievement of the learning outcomes of the course including the course aims. The examination will assess critical analysis and problem solving skills as well as written communication skills.

4.3 Assignment Submission Procedure
Assignments must be placed in the box provided outside Quad 2059, Level 2 Quadrangle Building, near the Actuarial Studies Office. A cover sheet must accompany these assignments. A copy of the cover sheet is available from the course WebCT site. Additional copies of the cover sheet can be obtained outside Quad 2059.

**Please note that it is School policy that late assignments will not be marked.**

Remember to keep a copy of all work submitted for assessment and to keep returned marked assignments.

4.4 Late Submission
The School of Actuarial Studies has a policy of grading late assignments with a zero mark. We believe this policy fosters development of ASB Graduate Attribute 6. Punctual submission of work is required in order to satisfy the requirements of the course. The assignment may be marked at the discretion of the course co-ordinator if there is a valid reason for late submission and used in cases where your final overall results are marginal.

5. Academic Honesty and Plagiarism
The University regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism. For UNSW policies, penalties and information to help you avoid plagiarism see: [http://www.lc.unsw.edu.au/plagiarism/index.html](http://www.lc.unsw.edu.au/plagiarism/index.html) as well as the guidelines in the online ELISE tutorial for all new UNSW students: [http://info.library.unsw.edu.au/skills/tutorials/InfoSkills/index.htm](http://info.library.unsw.edu.au/skills/tutorials/InfoSkills/index.htm).

To see if you understand plagiarism, do this short quiz: [http://www.lc.unsw.edu.au/plagiarism/plagquiz.html](http://www.lc.unsw.edu.au/plagiarism/plagquiz.html)

For information on how to acknowledge your sources and reference correctly, see: [http://www.lc.unsw.edu.au/onlib/ref.html](http://www.lc.unsw.edu.au/onlib/ref.html)

School of Actuarial Studies Policy on Plagiarism
The School of Actuarial Studies views any form of plagiarism as unacceptable. The School follows University Procedures in the event of any student plagiarism. In cases of plagiarism for in session assessment the minimum penalty all students involved can expect is to receive a mark of zero for the particular assessment item. The Head of School will be informed, and the School will also keep a record of student Plagiarism cases. Students should familiarise themselves with the University Policy and Procedures and ensure they have consulted The Learning Centre web site so that they are aware of and understand the concepts and practices of academic honesty and plagiarism.

6. COURSE RESOURCES

Textbook
The following book will be the main required text reference for the course:


Course WebCT Vista
This course will use WebCT Vista for communication with students. The WebCT Vista site for this course will contain the course outline, lecture notes, assessment information, and any notices relevant to this course. It is important that you visit the site regularly to see any notices posted there by the course coordinator. The site can be accessed from the WebCT Vista log-in page at: http://vista.elearning.unsw.edu.au/.

7. COURSE EVALUATION AND DEVELOPMENT

Each year feedback is sought from students about the courses offered in the School and continual improvements are made based on this feedback. In this course, we will seek your feedback through the Catei forms and you are welcome to pass comments to the Course Coordinator at any time. As a result of student feedback in the 2008 offering of this course, in 2009 we have altered the assessment timetable forward to earlier parts of the session. We will also move to a lagged tutorial format where tutorial classes follow 1 week behind the lecture material.

8. STUDENT RESPONSIBILITIES AND CONDUCT

Students are expected to be familiar with and adhere to university policies in relation to class attendance and general conduct and behaviour, including maintaining a safe, respectful environment; and to understand their obligations in relation to workload, assessment and keeping informed.

Special Consideration and Supplementary Examinations
You must submit all assignments and attend all examinations scheduled for your course. You should seek assistance early if you suffer illness or misadventure that affects your course progress. For advice on UNSW policies and procedures for granting special consideration and supplementary exams, see: ‘UNSW Policy and Process for Special Consideration’:
https://my.unsw.edu.au/student/atoz/SpecialConsideration.html

Students may be required to sit for an oral or written supplementary examination. Any supplementary examination date will be advised to students after the final examination. In general, a supplementary examination will only be offered to a student who has been prevented from taking the Final Examination, who has been placed at a serious disadvantage during the examination, and whose circumstances have improved considerably in the period since the relevant examination was held. Failure to attend a supplementary examination, if you have been granted one, will result in forfeiture of any additional assessment granted to you. Satisfactory performance in any course assessment is required in order to be granted a supplementary examination.

STUDENTS SHOULD NOTE THAT SPECIAL CONSIDERATION WILL NOT BE GRANTED UNLESS PERFORMANCE AND ATTENDANCE AT LECTURES IS SATISFACTORY. THIS WILL USUALLY MEAN THAT YOU WILL HAVE TO PASS ALL ASSESSMENT TASKS IN ORDER FOR ANY SPECIAL CONSIDERATION TO BE GIVEN.

9. ADDITIONAL STUDENT RESOURCES AND SUPPORT
The University and the ASB provide a wide range of support services for students, including:

- **ASB Education Development Unit (EDU)** ([www.business.unsw.edu.au/edu](http://www.business.unsw.edu.au/edu))
  Academic writing, study skills and maths support specifically for ASB students. Services include workshops, online and printed resources, and individual consultations. EDU Office: Room GO7, Ground Floor, ASB Building (opposite Student Centre); Ph: 9385 5584; Email: edu@unsw.edu.au

- **UNSW Learning Centre** ([www.lc.unsw.edu.au](http://www.lc.unsw.edu.au))
  Academic skills support services, including workshops and resources, for all UNSW students. See website for details.

- **Library training and search support services**: [http://info.library.unsw.edu.au](http://info.library.unsw.edu.au)

- **UNSW IT Service Desk**: Technical support for problems logging in to websites, downloading documents etc. Library, Level 2; Ph: 9385 1333. Website: [www.its.unsw.edu.au/support/support_home.html](http://www.its.unsw.edu.au/support/support_home.html).

- **UNSW Counselling Service** ([http://www.counselling.unsw.edu.au](http://www.counselling.unsw.edu.au))
  Free, confidential service for problems of a personal or academic nature; and workshops on study issues such as ‘Coping with Stress’ and ‘Procrastination’. Office: Level 2, Quadrangle East Wing; Ph: 9385 5418.

- **Student Equity & Disabilities Unit** ([http://www.studentequity.unsw.edu.au](http://www.studentequity.unsw.edu.au))
  Advice regarding equity and diversity issues, and support for students who have a disability or disadvantage that interferes with their learning. Office: Ground Floor, John Goodsell Building; Ph: 9385 4734.
### 10. Course Schedule

This timetable is tentative and may change. Revisions will be advised as they occur through the course web site.

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20-Jul</td>
<td>Introduction; Games of Chance</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>27-Jul</td>
<td>Games of Chance</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3-Aug</td>
<td>Demography</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10-Aug</td>
<td>High Finance</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>17-Aug</td>
<td>High Finance; Actuarial Management and Accounting</td>
<td>Test 1: 20/8</td>
</tr>
<tr>
<td>6</td>
<td>24-Aug</td>
<td>Actuarial Management and Accounting</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>31-Aug</td>
<td>Economics of Risk</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Mid Semester Break</strong></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>14-Sep</td>
<td>Risk Management and Financial Security Systems</td>
<td>Test 2: 17/9</td>
</tr>
<tr>
<td>9</td>
<td>21-Sep</td>
<td>Actuarial Applications - Life Insurance</td>
<td>Assignment Due 22/9</td>
</tr>
<tr>
<td>10</td>
<td>28-Sep</td>
<td>Actuarial Applications - General Insurance</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>5-Oct</td>
<td></td>
<td><em>Labour Day Holiday</em></td>
</tr>
<tr>
<td>12</td>
<td>12-Oct</td>
<td>Actuarial Applications - General Insurance, Social Security; Regulation and Professional Ethics</td>
<td></td>
</tr>
</tbody>
</table>