ACST8041

Actuarial Control Cycle 2

The aim of the Actuarial Control Cycle is to provide students with an understanding of underlying actuarial principles that may be applied to a range of problems and issues in commercial and business environments. Students are expected to develop a holistic approach to practical problem solving, and develop a level of judgement and professional skills required to successfully apply actuarial principles. The syllabus relates to actuarial practice both in the financial services and in other industries. Examples will be drawn from traditional and non-traditional areas to illustrate and establish the underlying actuarial principles in a problem based learning approach, using case studies and business-based examples.

This subject, in conjunction with ACST4031/8040 and ACST4033/8033, provides the opportunity for exemption from the Part II academic requirements of the Actuaries Institute. Such exemption depends on the grades attained over all three subjects.

<table>
<thead>
<tr>
<th>Mode of Delivery</th>
<th>On campus</th>
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</thead>
<tbody>
<tr>
<td>Prerequisites</td>
<td>STAT3038 or STAT6045</td>
</tr>
<tr>
<td>Incompatible Courses</td>
<td>ACST4032</td>
</tr>
<tr>
<td>Co-taught Courses</td>
<td>ACST4032</td>
</tr>
<tr>
<td>Course Convener:</td>
<td>Dr Jananie William</td>
</tr>
<tr>
<td>Phone:</td>
<td>02 6125 7311</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:Jananie.william@anu.edu">Jananie.william@anu.edu</a></td>
</tr>
<tr>
<td>Office hours for student consultation:</td>
<td>Friday 10am – 12 noon or by email appointment</td>
</tr>
<tr>
<td>Research Interests</td>
<td>Prior to coming to ANU, Jananie worked as an actuarial consultant in various general insurance roles in Australia and the UK. Prior to this she worked in investment advisory for superannuation funds. She is interested in using actuarial techniques to solve complex problems in a number of non-traditional areas including public health, public policy and human services.</td>
</tr>
<tr>
<td>Lecturer</td>
<td>William Lim</td>
</tr>
<tr>
<td>Phone:</td>
<td>TBC</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:William.Lim@anu.edu.au">William.Lim@anu.edu.au</a></td>
</tr>
<tr>
<td>Office hours for student consultation:</td>
<td>Monday 3-5pm or by email appointment</td>
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COURSE OVERVIEW

Learning Outcomes
Upon successful completion of the requirements for this course, students will be able to:
• Monitor and assess experience
• Determine an appropriate assumption set
• Apply relevant approaches and techniques to the valuation of liabilities
• Measure, report and manage solvency
• Understand the methods and implications of various approaches to profit measurement
• Understand the calculation of appraisal values
• Apply appropriate techniques to the pricing of products and contracts; and
• Manage the business and respond to the experience

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
<th>Date for Return of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online quiz (optional)</td>
<td>0%</td>
<td>Friday 1st September</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Assignment 1</td>
<td>7.5%</td>
<td>3pm Friday 1st September</td>
<td>Friday 22nd September</td>
</tr>
<tr>
<td>3. Mid-semester Exam (redeemable)</td>
<td>20%</td>
<td>Week 6</td>
<td>TBA</td>
</tr>
<tr>
<td>4. Assignment 2</td>
<td>7.5%</td>
<td>3pm Friday 13th October</td>
<td>Friday 27th October</td>
</tr>
<tr>
<td>5. Final Exam</td>
<td>65%</td>
<td>TBA</td>
<td>TBA</td>
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Research-Led Teaching
This course covers the relevant parts of the Actuaries Institute Part II syllabus. It will be informed by practical examples and case studies of relevance to professional and research issues currently faced by the profession.

There will also be several guest speakers throughout the course. These speakers have many years of experience and professional practice and their presentations will address key aspects of part II learning outcomes.

Feedback
Staff Feedback
Students will be given feedback in the following forms in this course:
• Following the mid-semester examination, feedback will be given to the whole class about the general performance on the exam.
• In addition, students will have an opportunity to look over their script-book following both the mid-semester and final examinations.
• Students will also have the opportunity to speak with the lecturer and seek comments from the lecturer about their individual performance in the assignments.

Student Feedback
ANU is committed to the demonstration of educational excellence and regularly seeks feedback from students. One of the key formal ways students have to provide feedback is through Student Experience of Learning Support (SELS) surveys. The feedback given in these surveys is anonymous and provides the Colleges, University Education Committee and Academic Board with opportunities to recognise excellent teaching, and opportunities for improvement.


**Policies**

ANU has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and implement them. You can find the University's education policies and an explanatory glossary at: [http://policies.anu.edu.au/](http://policies.anu.edu.au/)

Students are expected to have read the Academic Misconduct Rule before the commencement of their course.

Other key policies include:

- Student Assessment (Coursework)
- Student Surveys and Evaluations

**Required Resources**

**Additional course costs**

The prescribed textbook for the course is “Understanding Actuarial Management: the actuarial control cycle”. It is recommended that students purchase this textbook. A copy of the text is available for viewing in the 2 hour section of Chifley Library.

**Examination material or equipment**

For both the mid-semester and final exam, you will be permitted to bring in a calculator, an English dictionary if required, the Course Textbook, plus 2 double sided A4 sheets of paper with your own notes written on them. Further information will be provided to students in lecture time and on Wattle.

**Recommended Resources**

Students will be required to supply a calculator. In addition, in various weeks of this course, we will be using Excel spreadsheets in class to demonstrate various aspects of the course. This will require you to work on these spreadsheets in class, so bringing your own laptop to those classes is essential. This spreadsheet work also serves as preparation for some parts of the final exam, which will be held in computer labs and will involve some questions being based on spreadsheet work. If you do not have access to a laptop for those classes, please see the course convener as soon as possible.

The prescribed textbook for this course is 'Understanding Actuarial Management: the actuarial control cycle', second edition (2010), issued by the Institute of Actuaries of Australia and the Society of Actuaries.

This textbook is available from the University Co-op bookstore, or directly from the Actuaries Institute at [http://www.actuaries.asn.au/knowledge-bank/book-shop](http://www.actuaries.asn.au/knowledge-bank/book-shop). A copy of the text is also available for viewing in the 2 hour section of Chifley Library.
Other reading and reference material will be made available on Wattle throughout the semester.

### COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Summary of Activities</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>1</td>
<td>Experience Analysis (UAM Ch 17)</td>
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<tr>
<td>2</td>
<td>Experience Analysis</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Experience Analysis</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Assumption Setting (UAM Ch 10)</td>
<td>Online quiz available</td>
</tr>
<tr>
<td>5</td>
<td>Liabilities (UAM Ch 12)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Solvency (UAM Ch 15)</td>
<td>Assignment 1 Due</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mid-semester Exam (TBA)</td>
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<tr>
<td>7</td>
<td>Solvency</td>
<td></td>
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<tr>
<td>8</td>
<td>Profit (UAM Ch 16)</td>
<td></td>
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<tr>
<td>9</td>
<td>Appraisal values (UAM Ch 16)</td>
<td></td>
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<tr>
<td>10</td>
<td>Pricing (UAM Ch 13)</td>
<td>Assignment 2 Due</td>
</tr>
<tr>
<td>11</td>
<td>Pricing</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Manage the Business (UAM Ch 18)</td>
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<tr>
<td></td>
<td>Examination period</td>
<td>Final Exam (TBA)</td>
</tr>
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### ASSESSMENT REQUIREMENTS

As a further academic integrity control, students may be selected for a 15 minute individual oral examination of their written assessment submissions.

Any student identified, either during the current semester or in retrospect, as having used ghost writing services will be investigated under the University’s Academic Misconduct Rule.

**Assessment Tasks**

**Assessment Task 1: Online quiz (optional)**

Details of task:

An online quiz will be available for students to complete from Week 4 to Week 6. This is for their own learning on the first two topics of the course and is not assessable.

Value: 0%

Due date: Friday 1st September 3:00pm (Week 6)

**Assessment Task 2: Assignment 1**
Details of task:
Assignment 1 will cover the first two topics of the course.
Value: 7.5%
Due date: Friday 1\textsuperscript{st} September 3:00pm (Week 6)

**Assessment Task 3: Mid-semester Exam (redeemable)**

Details of task:
Mid-semester exams are redeemable and optional for this course. No deferred mid-semester examinations will be offered, instead the weighting will be moved to the final exam. For the exam, you will be permitted to bring in a calculator, an English dictionary if required, the Course Textbook, plus 2 double sided A4 sheets of paper with your own notes written on them. Further details relating to the exam will be provided closer to the scheduled date.
Value: 20%
Date: Specific date to be advised.

**Assessment Task 4: Assignment 2**

Details of task:
Assignment 2 will cover topics 3 and 4.
Value: 7.5%
Due date: Friday 13\textsuperscript{th} October 3:00pm (Week 10)

**Assessment Task 5: Final Exam**

Details of task:
The final examination is compulsory and will be conducted in computer labs, that is, the student is allowed to use Microsoft Excel to answer some questions, but the answers must be recorded in the script books provided. The Excel spreadsheets will not be marked. For the exam, you will be permitted to bring in a calculator, an English dictionary if required, the Course Textbook, plus 2 double sided A4 sheets of paper with your own notes written on them. Further details relating to the exam will be provided closer to the scheduled date.
Value: 65% or 85% depending on results of other redeemable assessment tasks.
Date: Specific date to be advised.

**Examination(s)**
The course includes formal examination through a mid-semester and final examination as described above.

**Assignment submission**

**Hard Copy Submission:** All assignments must be submitted to the School Office on level 4 of the CBE building and must include a cover sheet. Email and fax submissions are not acceptable. You must keep a copy of assessment materials submitted for your records. Assignments must include the cover sheet available on Wattle. Please keep a copy of tasks completed for your records.

**Extensions and penalties**
Extensions and late submission of assessment pieces are covered by the Student Assessment (Coursework) Policy and Procedure.

The Course Convener may grant extensions for assessment pieces that are not examinations or take-home examinations. If you need an extension, you must request it in writing on or before the due date. If you have documented and appropriate medical evidence that demonstrates you were not able to request an extension on or before the due date, you may be able to request it after the due date.

No submission of assessment tasks without an extension after the due date will be permitted. If an assessment task is not submitted by the due date, a mark of 0 will be awarded.

Returning assignments
Marked assignments will be returned as soon as they are marked, at the next available lecture time, or you will be able to collect them from the School Office on level 4 of the CBE building.

Resubmission of assignments
Students will not be permitted to resubmit assignments.

Referencing requirements
Accepted academic practice for referencing sources that you use in presentations can be found via the links on the Wattle site, under the file named “ANU and College Policies, Program Information, Student Support Services and Assessment”. For a more interactive guide on what this is all about, please see http://library.acadiau.ca/tutorials/plagiarism/.

Scaling
Your final mark for the course will be based on the raw marks allocated for each of your assessment items. However, your final mark may not be the same number as produced by that formula, as marks may be scaled. Any scaling applied will preserve the rank order of raw marks (i.e. if your raw mark exceeds that of another student, then your scaled mark will exceed the scaled mark of that student), and may be either up or down.

Privacy Notice
The ANU has made a number of third party, online, databases available for students to use. Use of each online database is conditional on student end users first agreeing to the database licensor’s terms of service and/or privacy policy. Students should read these carefully.

In some cases student end users will be required to register an account with the database licensor and submit personal information, including their: first name; last name; ANU email address; and other information.

In cases where student end users are asked to submit ‘content’ to a database, such as an assignment or short answers, the database licensor may only use the student’s ‘content’ in accordance with the terms of service – including any (copyright) licence the student grants to the database licensor.

Any personal information or content a student submits may be stored by the licensor, potentially offshore, and will be used to process the database service in accordance with the licensors terms of service and/or privacy policy.

If any student chooses not to agree to the database licensor’s terms of service or privacy policy, the student will not be able to access and use the database. In these circumstances
students should contact their lecturer to enquire about alternative arrangements that are available.

**SUPPORT FOR STUDENTS**

The University offers a number of support services for students. Information on these is available online from [http://students.anu.edu.au/studentlife/](http://students.anu.edu.au/studentlife/)