Centre for Actuarial Studies

Department of Economics

Master of Actuarial Science
Students’ Guide 2014

17 February 2014
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1. Introduction

The Centre for Actuarial Studies has produced this guide to assist students undertaking the Master of Actuarial Science degree. The guide is intended to provide information on various questions that you may have as you complete your studies, as well as give you some general information about the assistance available to you.

The guide is set out in a number of sections. A short description of each section is set out below, while the various issues that are addressed can be quickly accessed by use of the contents page.

2. Course Planning

This section includes details about the subjects you should take as part of your degree.

3. Actuarial Subjects

There are a number of issues that are specifically related to the subjects offered by the Centre for Actuarial Studies. These are outlined in this section.

4. Other Issues

This section covers miscellaneous issues that you may find important, such as how to find out about potential employment opportunities, where you can seek assistance if you are struggling to cope with your course and what the Actuarial Students’ Society does.

5. Qualifying as an Actuary

This section provides an overview of how to qualify as a Fellow or Associate of the Actuaries Institute. It includes information about how subjects offered as part of your degree correspond with subjects required by the Actuaries Institute and how exemptions can be obtained from Actuaries Institute subjects. Details on how to join the Actuaries Institute are also contained in this section.

6. Staff of the Centre for Actuarial Studies

Centre staff contact details are included in this section, as well as their pictures.

We hope you find this guide useful and informative. It is current at February 2013 and may be updated from time-to-time. If you have any suggestions about how the guide can be improved, please pass them to the staff at the Centre for Actuarial Studies.

You should note that while this guide is intended to provide information to you, it is not a legal document and does not replace or override the guidelines and information set out in official University publications.

The Centre for Actuarial Studies is not responsible for any actions taken by you on the basis of information set out in this document. You should refer to official University publications and information tools for complete up-to-date information and direction.
2. Course Planning

General Issues

What are the criteria for completing the Master of Actuarial Science?

You require 200 points to complete the Master of Actuarial Science degree. Most university subjects are worth 12.5 points. The Master of Actuarial Science degree has eight core subjects (100 points) and eight elective subjects.

Introduction

The following advice is based on the assumption that a student wishes to obtain as many exemptions as possible from the professional exams of the Actuaries Institute. What you actually study will depend on your previous studies.

The eight core subjects together with eight electives specified later cover material for all the Part I subjects of the Actuaries Institute. There are three elective subjects which cover the Part II subjects of the Actuaries Institute. Permission to enrol in these subjects is required from the Program Director, and these subjects may not be taken in the first year of the degree.

First Year

For students who have previously studied Probability and Statistics, it is recommended that you study the following subjects:

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<th>First Year With Previous Prob &amp; Stats</th>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ACTL90001 Mathematics of Finance I</td>
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<tr>
<td>ACTL90006 Life Insurance Models I</td>
</tr>
<tr>
<td>Elective</td>
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<tr>
<td>Elective</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>ACTL90002 Mathematics of Finance II</td>
</tr>
<tr>
<td>ACTL90007 Life Insurance Models II</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
</tr>
</tbody>
</table>

For students who have not previously studied Probability and Statistics, it is recommended that you study the following subjects:
First Year Without Previous Prob & Stats

First Semester
- MAST20004 Probability
- ACTL90001 Mathematics of Finance I
  Elective
- Elective

Second Semester
- MAST20005 Statistics
- ACTL90002 Mathematics of Finance II
  Elective
  Elective

Second Year

For students who did not study MAST20004 and MAST20005 in their first year, it is recommended that you study the following subjects:

Second Year Without MAST20004 and MAST20005 in First Year

First Semester
- ACTL90003 Mathematics of Finance III
- ACTL90004 Insurance Risk Models
  Elective
  Elective

Second Semester
- ACTL90005 Life Contingencies
- ACTL90008 Statistical Techniques in Insurance
  Elective
  Elective

For students who did study MAST20004 and MAST20005 in their first year, it is recommended that you study the following subjects:
The ACTL subjects in the above course plans are the eight core subjects.

Electives that count for exemptions are:

ACCT90004 Accounting for Decision Making (taught both semesters; no pre-requisites)
FNCE90060 Financial Management (taught both semesters; no pre-requisites)
FNCE90018 Corporate Financial Policy (taught both semesters; pre-requisite is FNCE90060)

ECON90015 Managerial Economics (taught both semesters; no pre-requisites)
ECON90032 Macroeconomics for Managers (taught in semester 1; no pre-requisites)
ECON90047 Macroeconomics 2 (taught in semester 1; pre-requisite is ECON90032)

3. Actuarial Subjects

There are a number of issues that are specifically related to the subjects offered by the Centre for Actuarial Studies. Information about these is set out below.

Syllabus

The subjects offered by the Centre for Actuarial Studies are set out in the University Handbook – see


Assessment

How are the actuarial subjects assessed?

Like most University subjects, actuarial subjects are assessed by the lecturer in charge in accordance with the criteria set out in the University Handbook.
All subjects are currently assessed by an end of semester examination, and most subjects also have a mid-semester examination and assignments forming part of the assessment.

Grades (and marks) are set by the lecturer in charge and scrutinised by all Centre Staff at an examiners’ meeting before results are released.

Are marks for all students standardised?

Marks in each subject are not adjusted to fit a specified distribution. This means that if all students achieve a standard of H1, then all students will receive this grade. Likewise, if no student achieves the performance required for an H1 grade, this grade will not be awarded.

What can I do if I do not agree with the final grade that I receive?

If you have concerns with your assessment in a particular subject, you can request to view your exam paper. Such a request should be made as soon as you know the result.

To do this, you need to complete a form detailing the reasons why you wish to view your paper. This form is available on the Economics Department web site after the end of each semester. Staff will arrange a time for you to view your paper.

You should note, however, that the University has issued a directive to staff that a mark should not change unless an answer has not been marked or marks have been incorrectly added. Viewing an exam script is not an opportunity to argue for more marks. It is simply an opportunity to receive high level feedback about your performance.

Can I apply for special consideration?

If your circumstances are such that you are unable to sit an examination or if you believe that your performance has been affected by some significant event, you can apply for special consideration.

To apply for special consideration, you must complete the application online through your Student Portal at https://my.unimelb.edu.au and return the Health Professional Report (HPR) Form.

Before completing an online application students should read the Special Consideration information available at https://mbs.unimelb.edu.au/students/services/special_consideration.

There are time limits involved in submitting an application for Special Consideration and you should contact the GSBE Student Centre immediately if you believe that such an application is warranted. If you are awarded a special exam, you will have to sit this exam at very short notice within the supplementary exam period.
Resources

What resources are available to me to assist my study program?

Each lecturer will outline resources that are available for specific subjects. These will include prescribed texts and recommended reading lists. Items such as tutorial questions, past examination papers and popular reading materials may also be available on reserve at the Giblin Eunson Library, depending on the lecturer in charge.

From a general perspective, actuarial texts are available in the Baillieu Library and in the Giblin Eunson Library under the Dewey code 368. Actuarial journals are maintained in the Giblin Eunson Library. Textbooks can be purchased from the Co-op Bookshop in the Ballieu Library.

The Centre for Actuarial Studies home page on the internet is also a useful resource, with links to relevant websites. The website address is

http://fbe.unimelb.edu.au/economics/ACT.

What computer resources are used in Actuarial Studies?

Packages used in actuarial subjects include Excel and the R Project for Statistical Computing. Access to the internet is also available via the University computer network.

Where are the computer laboratories and what are their hours of operation?

GSBE students have access to the Graduate Computing Laboratory, Level 4, The Spot, and to the FBE Student Open Access Computing Space in 233 Bouverie St. Opening hours are subject to change. Updated information about opening hours is available at http://fbe.unimelb.edu.au/students/facilities.

Where are the libraries?

The Giblin Eunson Library is located on the ground floor of the FBE building, 111 Barry St.

The Baillieu Library is adjacent to the Arts West building. Library opening hours change over time and are different during non-teaching periods; current opening hours are posted on http://library.unimelb.edu.au/hours.

Prizes and Scholarships

Are there any scholarships available for actuarial students?

The Faculty of Business and Economics offers some scholarship assistance to students with good academic records. These are awarded independently of the Centre for Actuarial Studies. For more details, please refer to:
4. Other Issues

Calculators in Exams

The Centre’s policy on calculators in exams is the same as the profession’s policy. You may only use one of the following calculators in actuarial exams (including mid-semester exams):

- Casio FX82 (with or without any suffix)
- Casio FX83 (with or without any suffix)
- Casio FX85 (with or without any suffix)
- Sharp EL531 (with or without any suffix)
- Texas Instruments BA II Plus (with or without any suffix)
- Texas Instruments TI-30 (with or without any suffix)

The Centre takes this policy very seriously. Any student found to be in breach of this policy will be disciplined.

Potential Employment

Vacation Work

A number of employers offer vacation work to students over the summer break. These short term jobs can lead to offers of full time employment in the longer term.

You can approach firms directly to see if they have any openings for you on either a vacation or full time work basis. A list of potential employers can be obtained from the Actuarial Students’ Society (see page 8).

Employment on Graduation

Actuaries work with a number of employers, including:

- consulting firms
- life insurance companies
- general insurance companies
- health insurance companies
- investment companies
- merchant banks
- stockbrokers
- governments
- universities
Job opportunities with employers seeking graduates may be announced during lectures.

The Actuarial Students’ Society organises a number of functions to facilitate meetings between students and actuaries (see page 15) and these are also a valuable source of job opportunities.

You can find job listings on the Faculty of Business and Economics’ Business Careers Online:


Guidance and Assistance

You may need some help with a number of issues throughout your studies. You may be having some problems in planning your course or you may wish to discuss career opportunities. You may simply be falling behind in your studies due to circumstances beyond your control and you may need someone to talk to.

Student Counselling

The University provides a student counselling service located at Level 2, 138 Cardigan Street in Carlton. The contact number is (03) 8344 6927 or see


Language Skills

If English is not your first language, you may require some assistance to ensure that your written work is grammatically correct. The English as a Second Language (ESL) program can provide you with assistance in this area.

Go to


Actuarial Students’ Society

The Actuarial Students’ Society is a student body which operates independently of the Centre for Actuarial Studies. The major aim of the Society is to bring the students closer to the actuarial community. They organise a variety of functions with practicing actuaries working in business, including guest lectures, formal luncheons and the annual “Contact Night”. These functions provide a great opportunity for students to meet potential employers and can lead to job opportunities.

The Society’s other major objective is to create an enjoyable sociable atmosphere for actuarial students via BBQs, pizza nights, movie nights and an end of year party. Their events are announced to students in class, and their website is

Keeping Up To Date

It is important that you use your university email account and check it regularly.

5. Qualifying as an Actuary

How do I qualify as an Actuary?

Completing the Master of Actuarial Science degree will not mean that you are qualified as an actuary. Rather, you will have some actuarial skills and may be part way through the qualification process. An actuary is a professional, and the governing body of the profession sets the criteria necessary to qualify as an actuary.

The requirements to qualify as an actuary depend on which professional body you join, e.g. Australian, British or American. However, all professional bodies generally require you to complete two types of examination: core examinations that equip you with the basic skill set that you need to be an actuary; and practical examinations where you are required to apply these skills and use judgment in a specific practical environment.

To qualify as a Fellow of the Actuaries Institute (FIAA), you must complete three areas of study.

Part I: Subjects CT1 – CT8

The Actuaries Institute requires you to complete eight core subjects which cover the basic skills required by an actuary.

These eight subjects correspond to subjects taught at the University of Melbourne. If you perform sufficiently well, you will be recommended for exemption from the subjects offered by the Actuaries Institute (see here).

The subjects may also be completed via a correspondence course with the Institute and Faculty of Actuaries in the UK. These are particularly relevant if you do not achieve an exemption while completing your degree.

Part I subjects are the same as the Core Technical (CT) Subjects CT1-CT8 from the UK.

Part II: The Control Cycle

The aim of this part of the qualification is to introduce a generalised actuarial approach to a range of commercial problems. It introduces areas of practice and provides an insight into how actuarial techniques can be used in non-traditional fields. Part II comprises of

- Part IIA – The Actuarial Control Cycle
- Part IIB – Investment and Asset Modeling

Some of these subjects may be available to Master of Actuarial Science students.

A high enough average mark must be achieved in university exams in order to obtain an exemption from Part II (see exemptions below).
Part III: Specialist Subjects

Part III is examined directly by the Actuaries Institute and is not currently taught at universities. You must complete four modules. There are two compulsory modules in Investments or Enterprise Risk Management and in Commercial Actuarial Practice. There are two further modules in one of the following areas: Life Insurance, General Insurance, Global Retirement Income Systems, Investment Management and Finance. It is possible that other practice areas will be added over the coming years. More details may be found on Actuaries Institute’s website: http://www.actuaries.asn.au/studying-with-the-institute/part-iii.

Is the FIAA qualification recognised in other countries?

The FIAA qualification is recognised by the Institute and Faculty of Actuaries in the UK after 12 months residence and practice in the UK. Other countries/regions such as Hong Kong, Malaysia and New Zealand also recognise the FIAA qualification in most areas of practice.

The USA has slightly different rules but if you are an FIAA, you can automatically become an Associate of the Society of Actuaries.

What is an Associate of the Actuaries Institute?

You become an Associate of the Actuaries Institute (AIAA) once you complete Parts I and II of the Australian course, a professionalism course and have three years of professional experience. This qualification is not recognised overseas. Once you become an Associate, you are entitled to call yourself an actuary.

How does Part I correspond with international courses?

Part I is equivalent to the Core Technical subjects CT1-CT8 studied in the UK. Hence, completion of Part I in Australia means that you have completed the first eight subjects offered by the Institute and Faculty of Actuaries in the UK.

There are also similarities between the course offered by the Society of Actuaries in the USA and Part I of the Australian course. You can apply for exemptions from some of the Society of Actuaries’ subjects if you have completed some or all of Part I. This is part of the “mutual recognition” agreements between actuarial organizations. More details may be found at


Exemptions

What are the exemption subjects and what level is required?

If you complete certain subjects at the University of Melbourne, and achieve a sufficiently high standard, you will be recommended for exemption from the corresponding subjects of
the Actuaries Institute. The table below sets out the correspondence between University subjects and Actuaries Institute subjects.

The standard required for exemption is an average mark of 73 or better in subjects taught outside the Centre, *i.e.* subjects with a prefix that is not ACTL. There is a minimum requirement of a mark of 50 or better in each subject.

For subjects taught in the Centre, exemptions are based on overall exam performance (*i.e.* on both mid-semester and end of semester exams). Students who are awarded a university grade of H1 or H2A usually obtain exemptions, while students who are awarded H3, P or N usually do not. It is quite common for students who are awarded H2B to obtain exemption, but this is not always the case.

If in a subject you do not obtain the mark needed to achieve exemption from professional exams then you do not need to repeat the subject. As long as you achieve a P grade or above the subject will still be credited towards your degree, but you will not receive exemption from the professional exam.

<table>
<thead>
<tr>
<th>Institute Subject</th>
<th>University Subject</th>
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<tbody>
<tr>
<td><strong>Part I</strong></td>
<td></td>
</tr>
<tr>
<td>CT 1 Financial Mathematics</td>
<td>ACTL90001 Mathematics of Finance I</td>
</tr>
<tr>
<td>CT 2 Finance and Financial Reporting</td>
<td>ACTL90007 Life Insurance Models II</td>
</tr>
<tr>
<td>CT 3 Probability and Mathematical Statistics</td>
<td>MAST20004 Probability</td>
</tr>
<tr>
<td>CT 4 Modelling</td>
<td>MAST20005 Statistics</td>
</tr>
<tr>
<td>CT 5 Contingencies</td>
<td>ACTL90005 Life Contingencies</td>
</tr>
<tr>
<td>CT 6 Statistical Methods</td>
<td>ACTL90008 Statistical Techniques in Insurance</td>
</tr>
<tr>
<td>CT 7 Economics</td>
<td>ACTL90004 Insurance Risk Models</td>
</tr>
<tr>
<td>CT 8 Financial Economics</td>
<td>ACTL90010 Actuarial Practice and Control I</td>
</tr>
<tr>
<td><strong>Part II</strong></td>
<td></td>
</tr>
<tr>
<td>Part II A: The Actuarial Control Cycle</td>
<td>ACTL90007 Life Insurance Models II</td>
</tr>
<tr>
<td>Part II B: Investment and Asset Modeling</td>
<td>ACTL90009 Actuarial Practice and Control III</td>
</tr>
</tbody>
</table>
What happens if my marks are less than those needed for an exemption?

If you miss the required marks in exemption subjects, you will not be recommended for an exemption. If you wish to try again for a Part I subject, we suggest you take the professional exam. Part II subjects are available from the Centre for Actuarial Studies as distance education subjects.

To take a Part I professional exam, you must be a member of the Actuaries Institute (see below) or a member of the UK Institute and Faculty. You do not need to be a member of the UK body if you are a member of the Actuaries Institute. More information is available from:


How do I receive my exemptions?

On completion of your degree, you should send two standard letters to the Centre. The first should set out details of which exemptions you believe you have achieved. The second should be addressed to the Actuaries Institute, but sent to the Centre for endorsement. These standard letters can be downloaded from the Centre’s website. Note that the Centre has produced Exemption Lists for subjects taught within the Centre, and these should be quoted in your application. These lists are available on the Centre’s website:

http://fbe.unimelb.edu.au/economics/ACT/courses/exemption_information

You must pay the appropriate exemption fees to the Actuaries Institute, and must take up exemptions within two years of them being offered by the Actuaries Institute, otherwise the offer will lapse. You can wait until graduating before applying for exemptions.

If you wish to receive exemptions from other actuarial professional bodies, you need to write to them directly.

The Actuaries Institute

The Actuaries Institute (formerly known as the Institute of Actuaries of Australia) is the body that governs the conduct of the actuarial profession in Australia. Among other things, it sets professional standards and a code of conduct by which all actuaries must abide, as well as setting the syllabus for qualification as an actuary.

Who can join the Actuaries Institute?

Anyone undertaking the actuarial program can join the Actuaries Institute. The application form may be found at:

http://www.actuaries.asn.au/becoming-an-actuary/becoming-a-member/becoming-a-student-member
Your membership entitles you to such items as the Australian Actuarial Journal, the Actuary Australia magazine and employment opportunities that are distributed via the Actuaries Institute.

**When should I join the Actuaries Institute?**

We would suggest that you delay until the second year of your degree a decision about joining the Actuaries Institute. There are two advantages in joining as a student. Firstly, the joining fee and annual subscription are less if you join as a full time student than if you wait until you finish your degree. Secondly, and more importantly, joining gives you access to the regular notices of employment opportunities that are distributed to members of the Actuaries Institute.

**Further Information**

Further information about the Actuaries Institute can be found on their website: [http://www.actuaries.asn.au](http://www.actuaries.asn.au).

You can contact the Actuaries Institute in Sydney by email at: actuaries@actuaries.asn.au

Further information about the Institute of Actuaries and the Faculty of Actuaries can be found at [http://www.actuaries.org.uk](http://www.actuaries.org.uk).

All questions regarding these professional bodies, for example regarding exam dates, should be directed to the professional body and not to the Centre.

**6. Staff of the Centre for Actuarial Studies**

**Contact Details**

The Centre for Actuarial Studies is located on the third floor of the Faculty of Business and Economics Building at the University of Melbourne.

**General enquiries:**
- Telephone: (03) 8344 5289, (03) 8344 5355
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