

MC-COMACSC Master of Commerce (Actuarial Science)

Year and Campus:	2015 - Parkville
CRICOS Code:	080607F
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	200 credit points taken over 24 months full time. This course is available as full or part time.
Coordinator:	Professor David Dickson
Contact:	<p>MBS @ Berkeley Street Level 4, 198 Berkeley Street Telephone: +61 3 8344 1670</p> <p>Online Enquiries (https://nexus.unimelb.edu.au/OnlineEnquiryForm.aspx?campaigncode=CMP-01278-SZ4C00&cssurl=https://nexus.unimelb.edu.au/cssfiles/gsbe.css&redirecturl=http://www.gsbe.unimelb.edu.au/contactus/nexus/mas.html)</p> <p>Web: www.mbs.unimelb.edu.au (http://www.gsbe.unimelb.edu.au/)</p>
Course Overview:	<p>The Master of Commerce (Actuarial Science) provides business/commerce graduates who already have actuarial knowledge with further advanced studies in actuarial science. The program offers comprehensive training in a specialised field and provides research experience through research projects. Graduates of the degree will have gained the knowledge to complete the associateship of the Institute of Actuaries Australia and may gain exemptions from almost all of its requirements if they do well. With a broad grounding in quantitative techniques in insurance and financial risk modelling, graduates of this program will be well positioned to pursue a professional career in the actuarial domain and related fields. The Master of Commerce (Actuarial Science) also provides a pathway to a PhD in actuarial studies.</p>
Learning Outcomes:	<p>1. Learning Goal</p> <p>Graduates of this degree will be critical thinkers in relation to actuarial studies and related disciplines.</p> <p>Learning objectives to achieve this goal</p> <p>On successful completion of this degree students will be able to:</p> <ul style="list-style-type: none"> # Describe, explain and criticize the fundamental theories of actuarial science as they apply in life insurance, general insurance and superannuation; # Assess the suitability of actuarial, financial and economic models in solving actuarial problems; and # Interpret and critically evaluate articles in the actuarial research literature. <p>2. Learning Goal</p> <p>Graduates of this degree will be analytical in the application of actuarial theory, knowledge, principles, techniques and data.</p> <p>Learning objectives to achieve this goal</p> <p>On successful completion of this degree students will be able to:</p> <ul style="list-style-type: none"> # Analyse actuarial data using advanced statistical techniques; # Calculate quantities such as premiums, reserves and superannuation contribution rates using actuarial techniques; # Compute prices and risk numbers for financial derivatives; and # Analyse real and hypothetical problems in insurance and superannuation. <p>3. Learning Goal</p> <p>Graduates of this degree will be problem solvers capable of explaining, applying and critically evaluating the use of actuarial models, particularly in relation to insurance and superannuation.</p> <p>Learning objectives to achieve this goal</p>

	<p>On successful completion of this degree students will be able to:</p> <ul style="list-style-type: none"> # Describe the core areas of actuarial practice and relate to those areas actuarial principles, theories and models; # Implement pricing models for actuarial and derivative contracts; # Analyse and evaluate options in business decision making; and # Critically analyse business decision making problems and apply relevant models and theories to generate effective solutions. 																																																						
Course Structure & Available Subjects:	<p>The degree is designed to be completed in two years of full time study and requires completion of 200 points, comprised of 125 points of core actuarial subjects and 75 points of elective subjects. This program is available for semester 1 entry only.</p>																																																						
Subject Options:	<p>Core subjects</p> <p>All students must take ONE of the following two subjects twice, over two consecutive semesters:</p> <table border="1" data-bbox="389 663 1485 869"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ACTL90012 Actuarial Science Research Report</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90013 Actuarial Studies Projects</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>Students must take an additional 100 points of (constrained choice) core actuarial subjects, selected from the following subjects:</p> <table border="1" data-bbox="389 949 1485 1554"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ACTL90003 Mathematics of Finance III</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ACTL90004 Insurance Risk Models</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ACTL90009 Actuarial Practice and Control III</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90010 Actuarial Practice And Control I</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ACTL90011 Actuarial Practice and Control II</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90012 Actuarial Science Research Report</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90013 Actuarial Studies Projects</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90014 Insurance Risk Models II</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>ACTL90015 Mathematics of Finance IV</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>* Students must enrol in ACTL90013 Actuarial Studies Projects or ACTL90012 Actuarial Science Research Report twice, in two consecutive semesters.</p> <p>Elective subjects</p> <p>Students must take 75 points of elective subjects, selected from the following subjects and core actuarial subject:</p> <table border="1" data-bbox="389 1749 1485 2063"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ECOM90010 Bayesian Econometrics</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>FNCE40003 Numerical Techniques in Finance</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>MAST90045 Systems Modelling and Simulation</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>MAST90051 Mathematics of Risk</td> <td>Not offered 2015</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ACTL90012 Actuarial Science Research Report	Semester 1, Semester 2	12.50	ACTL90013 Actuarial Studies Projects	Semester 1, Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	ACTL90003 Mathematics of Finance III	Semester 1	12.50	ACTL90004 Insurance Risk Models	Semester 1	12.50	ACTL90009 Actuarial Practice and Control III	Semester 1, Semester 2	12.50	ACTL90010 Actuarial Practice And Control I	Semester 1	12.50	ACTL90011 Actuarial Practice and Control II	Semester 2	12.50	ACTL90012 Actuarial Science Research Report	Semester 1, Semester 2	12.50	ACTL90013 Actuarial Studies Projects	Semester 1, Semester 2	12.50	ACTL90014 Insurance Risk Models II	Semester 2	12.50	ACTL90015 Mathematics of Finance IV	Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	ECOM90010 Bayesian Econometrics	Semester 2	12.50	FNCE40003 Numerical Techniques in Finance	Semester 1	12.50	MAST90045 Systems Modelling and Simulation	Semester 1	12.50	MAST90051 Mathematics of Risk	Not offered 2015	12.50
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	MULT90014 Business Risk Management	July, Semester 1	12.50
	Plus other Masters level electives in economics, finance or mathematics, as approved by the Academic Program Director.		
Entry Requirements:	<p>1. In order to be considered for entry, applicants must have completed:</p> <ul style="list-style-type: none"> # an undergraduate or postgraduate degree in actuarial science or similar with a weighted average mark of at least H2A (75%); # the Graduate Records Examination (GRE), unless the applicant has completed an undergraduate degree in Australia or New Zealand or met one of the approved conditions for GRE exemption; and # a personal statement outlining why they wish to be considered for the course. Meeting these requirements does not guarantee selection. <p>2. In ranking applications, the Selection Committee will consider:</p> <ul style="list-style-type: none"> # prior academic performance; and # the GRE score unless the applicant has completed an undergraduate degree in Australia or New Zealand or met one of the approved conditions for GRE exemption; and # the personal statement. <p>3. The Selection Committee may seek further information to clarify any aspect of an application in accordance with the Admission and Selection into Course Policy.</p> <p>4. The minimum English language requirements for this course are Band 6.5 (http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements) .</p> <p>Notes:</p> <ol style="list-style-type: none"> 1 Applicants with an honours degree in actuarial science with a weighted average mark of at least H2A (75%), or a relevant postgraduate degree with a weighted average mark of at least H2A (75%) who have completed subjects which satisfy the prerequisites for the second year subjects in the Master of Commerce (Actuarial Science) may be awarded up to 100 points of credit into the Master of Commerce (Actuarial Science). 2 Students enrolled in the Master of Commerce (Actuarial Science) who are either unable, or who choose not to continue with their studies, may be eligible to exit with a Graduate Diploma in Commerce (Actuarial Science). The diploma is available as an exit award only. Please refer to the Graduate Diploma in Commerce (Actuarial Science) Handbook entry for further details of the course requirements. 		
Core Participation Requirements:	<p>The Faculty of Business and Economics welcomes applications from students with disabilities. It is University and Faculty policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the Faculty's programs. The BCom and Masters degrees of the Faculty of Business and Economics equip graduates with the knowledge and technical skills necessary to understand and participate in the modern business world. The degrees include the following academic requirements for study: (1) The ability to explain and evaluate concepts, theories, institutional arrangements and operations of modern mixed economies; (2) The ability to critically evaluate the economy, commerce and business in the broader social and political context; (3) The ability to explain and apply concepts across a range of commerce and business disciplines in solving business and policy problems; and (4) The ability to contribute positively to the development of organisations and society in relation to business, government and the commercial professions. All students of the Faculty's courses must possess intellectual, ethical, and emotional capabilities required to participate in the full curriculum and to achieve the levels of competence required by the Faculty. Candidates for the BCom degree and for FBE Masters degrees must have abilities and skills in communication; in conceptual, integrative, and quantitative dimensions; and in behavioural and social dimensions. I. Communication: The student must be able to communicate effectively and efficiently in oral and/or written form. A student must have the ability to clearly and independently communicate knowledge and application of a discipline, principles or practices during assessment tasks, and in some discipline streams. II. Intellectual#Conceptual, Integrative and Quantitative Abilities: The student is expected to have the ability to develop problem#solving skills and demonstrate the ability to establish study plans and priorities. These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving requires all of these intellectual abilities. Students should also have the ability to comprehend complex disciplinary and cross disciplinary information related to the BCom and Masters degrees. III. Behavioural and Social Attributes: A student must possess behavioural and social attributes that enable them to participate in a complex learning environment and the emotional health required for full utilisation of his/</p>		

	<p>her intellectual abilities. Students are required to take responsibility for their own participation and learning. They also contribute to the learning of other students in collaborative learning environments, demonstrating interpersonal skills and an understanding of the needs of other students. Assessment may include the outcomes of tasks completed in collaboration with other students. Integrity, concern for others, interpersonal skills, interest, and motivation are all personal qualities that are deemed necessary for students enrolled in FBE courses. Students who feel their disability will prevent them from participating in tasks involving the inherent academic requirements of the BCom and FBE Masters courses are encouraged to contact the Disability Liaison Unit. Adjustments can be provided to minimise the impact of a disability, but students should participate in the course in an independent manner.</p>
Graduate Attributes:	<p>On successful completion of this degree graduates will be: Receptive to alternate ideas through a review of the literature and through class participation and assessment; Ethical in their approach to research and work practices; Skilled in the use, critical evaluation and testing of actuarial models; Adept in statistical reasoning through completion of core quantitative subjects in the degree; Practiced at problem solving through their understanding of financial, statistical and actuarial techniques; Experienced in working effectively with computer software for the analysis of data; Adept at retrieval, summary and interpretation of actuarial and financial information through class exercises and assessment; Able to apply and synthesise mathematical, statistical, financial and actuarial theory, models and evidence to a variety of financial and insurance issues; Independent and effective in communication of ideas; and Able to collaborate and be effective in team work.</p>
Professional Accreditation:	<p>Students can take all of the relevant subjects covering Part II of the Actuaries Institute qualification as part of this degree.</p>
Generic Skills:	<p>On successful completion of this degree students should have enhanced their skills in:</p> <ul style="list-style-type: none"> # Synthesizing ideas, theories and data in developing solutions to actuarial problems; # Critical evaluation of evidence in support of an argument or proposition; # Recognizing when mathematical analysis is appropriate and when it is inappropriate; # Problem solving in actuarial practice through the application of appropriate theories, principles and data; # Teamwork through collaborative exercises in seminars, workshops and assessment; # The use of software packages applicable to actuarial and statistical modelling; # The implementation of models as software; # Written communication of actuarial ideas, theories and solutions to peers and the wider community; and # Research including the retrieval of information from a variety of sources.
Notes:	<p>Duration</p> <p>Full-time students will take four subjects per semester for four semesters (approximately 24 months). Part-time students will usually enrol for eight semesters taking two subjects per semester. This program is available for semester 1 entry only.</p> <p>Graduate Diploma in Commerce (Actuarial Science)</p> <p>Students enrolled in the Master of Commerce (Actuarial Science) who are either unable, or who choose not to continue with their studies, may be eligible to exit with a Graduate Diploma in Commerce (Actuarial Science). Please note that the diploma is available as an exit award only. Please refer to the Graduate Diploma in Commerce (Actuarial Science) Handbook entry for further details of the course requirements.</p>