

# ACTL90015 Mathematics of Finance IV

<b>Credit Points:</b>	12.5						
<b>Level:</b>	9 (Graduate/Postgraduate)						
<b>Dates &amp; Locations:</b>	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.						
<b>Time Commitment:</b>	Contact Hours: Three hours of lectures and/or tutorials per week. Total Time Commitment: 100 hours						
<b>Prerequisites:</b>	ACTL90003 Mathematics of Finance III <table border="1"> <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> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ACTL90003 Mathematics of Finance III	Semester 1	12.50
Subject	Study Period Commencement:	Credit Points:					
ACTL90003 Mathematics of Finance III	Semester 1	12.50					
<b>Corequisites:</b>	None						
<b>Recommended Background Knowledge:</b>	None						
<b>Non Allowed Subjects:</b>	ACTL40008 Advanced Financial Mathematics II <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ACTL40008 Advanced Financial Mathematics II</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ACTL40008 Advanced Financial Mathematics II	Semester 2	12.50
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ACTL40008 Advanced Financial Mathematics II	Semester 2	12.50					
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.&lt;/p&gt;         &lt;p&gt;It is University 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 University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt; </p>						
<b>Coordinator:</b>	Prof Mark Joshi						
<b>Contact:</b>	<a href="mailto:mjoshi@unimelb.edu.au">mjoshi@unimelb.edu.au</a> (mailto:mjoshi@unimelb.edu.au)						
<b>Subject Overview:</b>	This subject will consider the following topics: No-arbitrage pricing in continuous-time models. Completeness. Fundamental Theorem of Asset Pricing. Applications of martingales. Multidimensional Brownian motion in asset price models. Other asset price models. Pricing of path-dependent options. Computation methods.						
<b>Learning Outcomes:</b>	On successful completion of this subject, students should: <ul style="list-style-type: none"> <li># know how to derive the Black-Scholes formula;</li> <li># be familiar with the behaviour and computation of option prices;</li> <li># be able to apply multidimensional Brownian motion in finance and insurance;</li> <li># know some of the alternatives to Brownian motion in securities modelling;</li> <li># be able to apply those techniques to actuarial problems.</li> </ul>						

<b>Assessment:</b>	A 50-minute mid-semester test (20%) A 1000 word assignment due during the first half of semester (10%) A 2-hour end-of-semester examination (70%)
<b>Prescribed Texts:</b>	You will be advised of prescribed texts by your lecturer.
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>On successful completion of this subject students should have enhanced their skills in:</p> <ul style="list-style-type: none"> <li># High level of development: written communication; problem solving; statistical reasoning; application of theory to practice; interpretation and analysis; critical thinking.</li> <li># Some level of development: synthesis of data and other information; evaluation of data and other information.</li> </ul>
<b>Related Course(s):</b>	Master of Commerce (Actuarial Science)