

# ECON90053 Mathematics for Economists

<b>Credit Points:</b>	12.5											
<b>Level:</b>	9 (Graduate/Postgraduate)											
<b>Dates &amp; Locations:</b>	2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. Semester 2, Parkville - Taught on campus.											
<b>Time Commitment:</b>	Contact Hours: One 90 minute lecture and one 90 minute workshop per week Total Time Commitment: Not available											
<b>Prerequisites:</b>	One of the following subjects:											
	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ECON40001 Advanced Microeconomics</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ECON90002 Microeconomics</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	ECON40001 Advanced Microeconomics	Semester 1	12.50	ECON90002 Microeconomics	Semester 1	12.50
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ECON40001 Advanced Microeconomics	Semester 1	12.50										
ECON90002 Microeconomics	Semester 1	12.50										
<b>Corequisites:</b>	None											
<b>Recommended Background Knowledge:</b>	Prior exposure to real analysis is desirable.											
<b>Non Allowed Subjects:</b>	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ECON40017 Mathematics for Economists</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	ECON40017 Mathematics for Economists	Semester 2	12.50			
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ECON40017 Mathematics for Economists	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>	Ms Svetlana Danilkina											
<b>Contact:</b>	<a href="mailto:sdanilki@unimelb.edu.au">sdanilki@unimelb.edu.au</a> (mailto:sdanilki@unimelb.edu.au)											
<b>Subject Overview:</b>	This subject introduces students to the use of advanced mathematics in economics. After reviewing basic concepts we will study in detail some of the classic existence proofs in game theory and general equilibrium theory. Students will be expected to solve problems and generate proofs, and will be assessed on this.											
<b>Learning Outcomes:</b>	<p>On successful completion of this subject students should be able to understand the definitions and fundamental concepts of linear algebra, vector calculus, and real analysis as they relate to studies in advanced economics. They should be able to use these tools to:</p> <ul style="list-style-type: none"> <li># prove relevant optimisation theorems;</li> <li># set up and solve optimal control problems;</li> <li># set up and solve dynamic programming problems.</li> </ul>											

<b>Assessment:</b>	5 assignments consisting of problems and exercises, due weeks 2, 4, 6, 8 and 10 (80%) A two-hour final examination (20%)
<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>High level of development:</p> <ul style="list-style-type: none"> <li># problem solving;</li> <li># interpretation and analysis;</li> <li># critical thinking.</li> </ul> <p>Moderate level of development:</p> <ul style="list-style-type: none"> <li># oral communication;</li> <li># written communication;</li> <li># collaborative learning;</li> <li># team work;</li> <li># application of theory to practice;</li> <li># receptiveness to alternative ideas.</li> </ul> <p>Some level of development:</p> <ul style="list-style-type: none"> <li># synthesis of data and other information;</li> <li># evaluation of data and other information;</li> <li># use of computer software;</li> <li># accessing data and other information from a range of sources.</li> </ul>
<b>Related Course(s):</b>	Doctor of Philosophy - Business and Economics Master of Commerce (Finance)