

## 800-101 Critical Thinking With Data

<b>Credit Points:</b>	12.500
<b>Level:</b>	Undergraduate
<b>Dates &amp; Locations:</b>	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus. Semester 2, - Taught on campus. Lecture, tutorial, on-line materials.
<b>Time Commitment:</b>	Contact Hours: 36 one-hour lectures (three per week), 12 one-hour tutorials (one per week). Total Time Commitment: 120 hours.
<b>Prerequisites:</b>	None
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<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>	Dr Andrew Robinson
<b>Subject Overview:</b>	<p>This subject teaches students to become critical users of data-based evidence. Future journalists, political scientists, sociologists, lawyers, health professionals, psychologists, environmental scientists, business people, engineers, scientists and teachers will develop skills in identifying the strengths and weaknesses of arguments and reports based on quantitative evidence, and learn to evaluate reasoning that uses probabilistic ideas.</p> <p>Data-based evidence is found in the media, in academic research and in many aspects of everyday life. The subject examines ways of judging the quality of quantitative information, and the strength of conclusions drawn from it, including concerns in establishing causality. It discusses how variability may be characterised and modelled in a wide variety of settings including public opinion, health, sport, legal disputes, and the environment. It covers good and bad ways of examining evidence in data. The subject deals with judging the likelihood of events, common pitfalls in thinking about probability, measuring risk in medical contexts and quantifying uncertainty in conclusions. It describes how data-based evidence can contribute to the accumulation of knowledge.</p>
<b>Assessment:</b>	Written work totalling 3000 words comprising five tutorial assignments (totalling 1000 words, due during semester, 20%) and one 2000 word assignment due after mid-semester (25%), weekly on-line quizzes (5%), a 2-hour written examination in the examination period (50%).
<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># Bachelor of Arts</li> <li># Bachelor of Biomedicine</li> <li># Bachelor of Commerce</li> <li># Bachelor of Environments</li> <li># Bachelor of Music</li> </ul>

	<p># Bachelor of Science # Bachelor of Engineering</p> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<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>	Students with a breadth of knowledge across disciplines must be able to understand and critically evaluate the methodologies and research findings based on data. <i>Critical Thinking With Data</i> aims to provide students with these critical thinking skills. It will be important for any student wishing to develop generic research and problem-solving skills. The subject will expose students to the application of data-based evidence across a range of disciplines, and contribute to their developing interdisciplinary understanding.
<b>Related Course(s):</b>	Bachelor of Information Systems