

## 800-101 Critical Thinking With Data

<b>Credit Points:</b>	12.50
<b>Level:</b>	1 (Undergraduate)
<b>Dates &amp; Locations:</b>	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Lectures, practice classes, on-line materials.
<b>Time Commitment:</b>	Contact Hours: 36 one-hour lectures (three per week), 12 one-hour practice classes (one per week) Total Time Commitment: 120 hours total time commitment.
<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>	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
<b>Coordinator:</b>	Dr Andrew Peter 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>Objectives:</b>	.
<b>Assessment:</b>	Written work totalling 2000 words comprising four tutorial assignments (totalling 800 words, due during semester, 20%) and one 1200 word assignment due after mid-semester (15%), a group project related to the 1200 word assignment (10%), on-line assessment (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># <b><u>Bachelor of Arts</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/D09">https://handbook.unimelb.edu.au/view/2009/D09</a>)</li> <li># <b><u>Bachelor of Biomedicine</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/J07">https://handbook.unimelb.edu.au/view/2009/J07</a>)</li> <li># <b><u>Bachelor of Commerce</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/F04">https://handbook.unimelb.edu.au/view/2009/F04</a>)</li> <li># <b><u>Bachelor of Environments</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/A04">https://handbook.unimelb.edu.au/view/2009/A04</a>)</li> <li># <b><u>Bachelor of Music</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/M05">https://handbook.unimelb.edu.au/view/2009/M05</a>)</li> <li># <b><u>Bachelor of Science</u></b> (<a href="https://handbook.unimelb.edu.au/view/2009/R01">https://handbook.unimelb.edu.au/view/2009/R01</a>)</li> </ul>

	<p># <b>Bachelor of Engineering</b> (<a href="https://handbook.unimelb.edu.au/view/2009/355-AA">https://handbook.unimelb.edu.au/view/2009/355-AA</a>)</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.