

600-615 Thinking and Reasoning with Data

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 36 hours comprising 1 one-hour lecture per week and 1 two-hour computer laboratory session. Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	
Non Allowed Subjects:	None
Core Participation Requirements:	<p><p>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.</p> <p>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: http://services.unimelb.edu.au/disability</p></p>
Coordinator:	Dr Andrew Peter Robinson
Subject Overview:	<p>What conclusion can be drawn from a pool of data? How can a scientist draw meaningful conclusions while not overreaching? How can modelling help the scientist interpret data? This subject will address these questions by teaching students critical thinking and data analysis skills. After completing this subject students will understand the basic principles of sampling and experimental design, how the results of statistical analyses are reported, the statistical thinking behind common statistical procedures and will be able to carry out a range of standard statistical techniques.</p>
Objectives:	<p>After completing this subject students should understand:</p> <ul style="list-style-type: none"> # the principles of sampling and experimental design; # how the results of statistical analyses are reported; # the statistical thinking behind common statistical procedures and be able to carry out many standard; and # statistical techniques.
Assessment:	Up to 50 pages of written assignments (50%: three assignments worth 10%, 20% and 20% due early, mid and late in semester), a 2-hour written examination (50%, in the examination period).
Prescribed Texts:	To be advised.
Recommended Texts:	To be advised.
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees

Generic Skills:	<p>At the completion of this subject, students should gain the following generic skills:</p> <ul style="list-style-type: none"> # problem-solving skills (especially through tutorial exercises and assignments) including engaging with unfamiliar problems and identifying relevant strategies; # analytical skills including the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of the analysis; # the ability to work in a team, through interactions with other students.
Notes:	<p>It is expected that students have previously attended an introductory statistics subject or be otherwise familiar with elementary statistics.</p>
Related Majors/Minors/ Specialisations:	<p>R05 PB Master of Science (Biotechnology) R05 PE Master of Science (Environmental Science) R05 PM Master of Science (Management Science) R05 PN Master of Science (Nanotechnology) R05 RA Master of Science - Geography (not offered until 2010) R05 RB Master of Science - Botany R05 RC Master of Science - Chemistry R05 RG Master of Sciences - Genetics R05 RH Master of Science - Biomedical and Health Sciences R05 RI Master of Science - Information Systems R05 RP Master of Science - Physics R05 RZ Master of Science - Zoology</p>