MAST90044 Thinking and Reasoning with Data

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours comprising two 1-hour lectures per week and one 2-hour computer laboratory session per week. Total Time Commitment: 170 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	It is expected that students have previously attended an introductory statistics subject or be otherwise familiar with elementary statistics.
Non Allowed Subjects:	Students who have completed any of the following may not enrol in this subject for credit

Subject	Study Period Commencement:	Credit Points:
MAST20005 Statistics	Semester 2	12.50
MAST90007 Statistics for Research Workers	July	12.50
MAST90058 Elements of Statistics	Semester 2	12.50

Students who have completed MAST10010 Data Analysis 1 or MAST10011 Experimental Design and Data Analysis must obtain subject coordinator’s approval before enrolling in this subject

Core Participation Requirements:	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. 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
Coordinator:	Dr Owen Jones
Contact:	Email: **odjones@unimelb.edu.au (mailto:odjones@unimelb.edu.au)**
Subject Overview:	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.
Learning Outcomes:	After completing this subject students should understand: # 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 statistical techniques.
Assessment:	Up to 30 pages of written assignments (50%: three assignments worth 15%, 15% 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:	At the completion of this subject, students should gain the following generic skills: # 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.
Related Course(s):	Master of Biomedical Science Master of Science (Biomedical and Health Sciences) Master of Science (Botany) Master of Science (Computer Science) Master of Science (Earth Sciences) Master of Science (Geography) Master of Science (Information Systems) Master of Science (Physics) Master of Science (Vision Science) Master of Science (Zoology)
Related Majors/Minors/ Specialisations:	Environmental Science Environmental Science Integrated Water Catchment Management Integrated Water Catchment Management Tailored Specialisation Tailored Specialisation