

MAST90058 Elements of Statistics

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours: 3 x one-hour lectures per week, 1 x one-hour tutorials per week, and 1 x one-hour computer laboratory classes per week. Total Time Commitment: 120 hours
Prerequisites:	620-504 Elements of Probability or 620-201 Probability or 620-205 Probability for Statistics or equivalent.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Students who have taken second year level subjects in Statistics or its equivalent may not take this subject.
Core Participation Requirements:	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.
Coordinator:	Prof Richard Huggins
Contact:	.
Subject Overview:	The analysis of data arising in Bioinformatics and Biostatistics requires the use of sophisticated statistical techniques and computing packages. This subject introduces the theory underlying modern statistical inference and statistical computation. Both classical and Bayesian statistical methods are developed and many standard statistical methods are included as applications of a common theory. This subject is co-taught with 620-202 Statistics.
Objectives:	Students completing this subject should be familiar with the basic ideas of estimation and hypothesis testing and be able to carry out many standard statistical procedures using a statistical computing package. Students should develop the ability to fit probability models to data by both estimating and testing hypotheses about model parameters.
Assessment:	30 pages of written assignments due during the semester (20%); a 45-minute computer laboratory test held mid-semester (10%); a 3-hour written examination in the examination period (70%).
Prescribed Texts:	Hogg and Tanis, Probability and Statistical Inference. Seventh Edition, Prentice Hall, 2005.
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:	These include: <ul style="list-style-type: none"> # problem-solving skills: the ability to engage with unfamiliar problems and identify relevant solution strategies; # analytical skills: the ability to construct and express logical arguments and to work in abstract or general terms to increase the clarity and efficiency of analysis; # collaborative skills: the ability to work in a team; # time management skills: the ability to meet regular deadlines while balancing competing commitments.

become familiar with a major statistical computing package.