

505-940 Linear Models

Credit Points:	12.500
Level:	Graduate/Postgraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus. Distance
Time Commitment:	Contact Hours: None Total Time Commitment: 8-12 hours total study time per week
Prerequisites:	505-106 Epidemiology 505-105 Mathematics Background for Biostatistics 505-107 Principles of Statistical Inference 505-975 Probability and Distribution Theory
Corequisites:	None
Recommended Background Knowledge:	None
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:	Biostatistics Collaboration of Australia
Subject Overview:	<p>The method of least squares; regression models and related statistical inference; flexible nonparametric regression; analysis of covariance to adjust for confounding; multiple regression with matrix algebra; model construction and interpretation (use of dummy variables, parameterisation, interaction and transformations); model checking and diagnostics; regression to the mean; handling of baseline values; the analysis of variance; variance components and random effects.</p> <p>Objectives: To enable students to apply methods based on linear models to biostatistical data analysis, with proper attention to underlying assumptions and a major emphasis on the practical interpretation and communication of results.</p>
Assessment:	Two case study assignments to be submitted during semester worth 40% each (approx 12 hours work each). Submission of selected practical exercises throughout the semester worth 16% in total (approx 8 hrs of work) Contribution to online discussions worth 4% (approx 6 hrs of work)
Prescribed Texts:	Resources Provided to Students: Printed course notes and assignments by mail, email, and online interaction. Special Computer Requirements: Stata statistical software
Recommended Texts:	Kutner MH, Nachtsheim CJ, Neter J, Li W. <i>Applied Linear Statistical Models</i> . 5 th edition. McGraw-Hill/Irwin 2005. ISBN 0072386886 or 007310874X (version with CD)
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:	Independent problem solving, facility with abstract reasoning, clarity of written expression, sound communication of technical concepts
Links to further information:	http://www.sph.unimelb.edu.au
Notes:	This subject is not available in the Master of Public Health. Subject Coordinator: Prof John Carlin, University of Melbourne 9345 6363 and Assoc Prof Andrew Forbes, Monash University
Related Course(s):	Master of Biostatistics Postgraduate Certificate in Biostatistics Postgraduate Diploma in Biostatistics