POPH90120 Linear Models

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 online/distance. Distance
Time Commitment:	Contact Hours: None Total Time Commitment: 8-12 hours total study time per week
Prerequisites:	-

Subject	Study Period Commencement:	Credit Points:
POPH90016 Epidemiology	Semester 1, Semester 2	12.50
POPH90015 Mathematics B'Ground for Biostatistics	Not offered 2010	12.50
POPH90017 Principles of Statistical Inference	Semester 1, Semester 2	12.50
POPH90148 Probability and Distribution Theory	Semester 1, Semester 2	12.50

Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	None
Coordinator:	Prof John Carlin
Contact:	Professor John Carlin, University of Melbourne Professor Andrew Forbes, Monash University Biostatistics Collaboration of Australia OR Academic Programs Office Melbourne School of Population Health Tel: +61 3 8344 9339 Fax: +61 3 8344 0824 Email: sph-gradinfo@unimelb.edu.au
Subject Overview:	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.
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.
Assessment:	Two case study assignments to be submitted during semester worth 35% and 40% respectively (approx 12 hours work each). Submission of selected practical exercises throughout the

	semester worth 20% in total (approx 10 hrs of work)Contribution to online quizzes worth 5% (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. *Applied Linear Statistical Models*. 5th edition. McGraw-Hill/Irwin 2005. ISBN 978-0-07-310874-2
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.
Related Course(s):	Master of Biostatistics Postgraduate Certificate in Biostatistics Postgraduate Diploma in Biostatistics