

POPH90120 Linear Models

Credit Points:	12.50															
Level:	9 (Graduate/Postgraduate)															
Dates & Locations:	2013, 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:	- <table border="1" data-bbox="387 573 1485 891"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>POPH90016 Epidemiology</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>POPH90015 Mathematics Background for Biostatistics</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>POPH90017 Principles of Statistical Inference</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>POPH90148 Probability and Distribution Theory</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	POPH90016 Epidemiology	Not offered 2013	12.50	POPH90015 Mathematics Background for Biostatistics	Semester 2	12.50	POPH90017 Principles of Statistical Inference	Semester 1	12.50	POPH90148 Probability and Distribution Theory	Not offered 2013	12.50
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Corequisites:	None															
Recommended Background Knowledge:	None															
Non Allowed Subjects:	None															
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website.															
Coordinator:	Prof John Carlin															
Contact:	Professor John Carlin, Melbourne School of Population Health, University of Melbourne Professor Andrew Forbes, Monash University Biostatistics Collaboration of Australia Email: bca@ctc.usyd.edu.au Website: www.bca.edu.au 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. <i>Applied Linear Statistical Models</i> . 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