POPH90120 Linear Models

Credit Points:	12.5		
Level:	9 (Graduate/Postgraduate)		
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught online/distance. Semester 2, Parkville - Taught online/distance. This subject is only available to students who are currently enrolled in the Graduate Diploma or Master of Biostatistics and whose enrolment in that course commenced prior to 2016.		
Time Commitment:	Contact Hours: None Total Time Commitment: 170 hours		
Prerequisites:	POPH90017 may be taken concurrently.		
	Subject	Study Period Commencement:	Credit Points:
	POPH90016 Epidemiology	Semester 1, Semester 2	12.50
	POPH90015 Mathematics Background for Biostatistics	Semester 1, Semester 2	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:			
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:	Assoc Prof Julie Simpson		
Contact:	julieas@unimelb.edu.au (mailto:julieas@unimelb.edu.au) Melbourne School of Population and Global Health OR Currently enrolled students: # General information: https://ask.unimelb.edu.au (https://ask.unimelb.edu.au) # Email: enquiries-STEM@unimelb.edu.au (mailto:enquiries-STEM@unimelb.edu.au) Future Students: # Further Information: http://mspgh.unimelb.edu.au/ (http://mspgh.unimelb.edu.au/) # Email: Online Form (http://mspgh.unimelb.edu.au/study/degrees/master-of-public-health/overview)		
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.	
Learning Outcomes:	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:	2 x written assignments (requiring approx 10 hours of work each) due in week 7 & 8 (30% each) 4 x practical exercises (approximately 3 hours of work each) including brief online quizzes due throughout the semester (10% each)	
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):	Graduate Certificate in Biostatistics Postgraduate Diploma in Biostatistics	