POPH90123 Longitudinal and Correlated Data

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 1, 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
POPH90120 Linear Models	Semester 2	12.50
POPH90121 Categorical Data & GLMs	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 Andrew Forbes, Monash University Professor John Carlin, University of Melbourne 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:	Topics covered: Paired data; the effect of non-independence on comparisons within and between clusters of observations; methods for continuous outcomes: normal mixed effects (hierarchical or multilevel) models and generalised estimating equations (GEE); role and limitations of repeated measures ANOVA; methods for discrete data: GEE and generalized linear mixed models (GLMM); methods for count data.
Objectives:	To enable students to apply appropriate methods to the analysis of data arising from longitudinal (repeated measures) epidemiological or clinical studies, and from studies with other forms of clustering (cluster sample surveys, cluster randomised trials, family studies) that will produce non-exchangeable outcomes.

Assessment:	Two written assignments to be submitted during semester worth 40% each (approx 12 hours work each) Four practical exercises due throughout the semester worth 5% each (approx 6 hrs work each)
Prescribed Texts:	None Recommended Text:Fitzmaurice G, Laird N, Ware J. Applied Longitudinal Analysis. John Wiley and Sons, 2004. (ISBN 978-0-471-21487-8)Resources Provided to Students: Printed course notes and assignment material by mail, email, and online interaction facilities. Special Computer Requirements: Stata and SAS statistical software
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:	-
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