

505-941 Categorical Data & GLMs

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 per week
Prerequisites:	505-105 Mathematics Background for Biostatistics 505-106 Epidemiology 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>Description: Introduction to and revision of conventional methods for contingency tables especially in epidemiology: odds ratios and relative risks, chi-squared tests for independence, Mantel-Haenszel methods for stratified tables, and methods for paired data. The exponential family of distributions; generalized linear models (GLMs), and parameter estimation for GLMs. Inference for GLMs – including the use of score, Wald and deviance statistics for confidence intervals and hypothesis tests, and residuals. Binary variables and logistic regression models – including methods for assessing model adequacy. Nominal and ordinal logistic regression for categorical response variables with more than two categories. Count data, Poisson regression and log-linear models.</p> <p>Subject Objectives: To enable students to use generalised linear models (GLMs) and other methods to analyse categorical data with proper attention to the underlying assumptions. There is an emphasis on the practical interpretation and communication of results to colleagues and clients who may not be statisticians.</p>
Assessment:	Two written assignments due before the end of semester worth 20% each (approx 8 hours work each). Six practical exercises due throughout the semester worth 9% each (approx 6 hrs work each) Contribution to online discussions worth 6% (approx 6 hrs work)
Prescribed Texts:	None Special Computer Requirements: Stata statistical software Resources Provided to Students: Printed course notes and assignment material will be provided to students by mail (including electronic media).
Recommended Texts:	None
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. Level: 500
Links to further information:	http://www.sph.unimelb.edu.au
Notes:	This subject is not available in the Master of Public Health. Subject Coordinator: Mr Mark Jones, University of Queensland
Related Course(s):	Master of Biostatistics Postgraduate Certificate in Biostatistics Postgraduate Diploma in Biostatistics