

Statistical Modelling (Elective)

Credit Value:	10
Course Organiser:	Dr Niall Anderson
Course Instructor(s):	Dr Niall Anderson / Dr Linda Williams
Time:	Semester 2 Weeks 1-5 Monday 11.10am-13.00, Thursday 9:00-10:50
Short course description:	This course describes the main principles of statistical modelling and introduces logistic regression for modelling binary outcome variables in epidemiological studies.
Course prerequisites:	Statistics & Analysis
Aim:	To introduce students to the principles and practice of statistical modelling, and to provide training and experience in applying these appropriately to data using statistical software via logistic regression as the main exemplar.
Learning objectives:	<ul style="list-style-type: none">• Show knowledge of and ability to select and interpret results of suitable analytical approaches to statistical modelling.• Show knowledge of approaches to exploring interactions and confounding.• Understand the principles of good practice in model building and validation.• Demonstrate an understanding of the interpretation of logistic regression analyses.• Undertake logistic regression analyses appropriately using statistical software. <p>Methods to be covered include:</p> <ul style="list-style-type: none">• stratified contingency tables and Mantel-Haenzsel Odds Ratios,• binary logistic regression,• conditional logistic regression,• methods for assessing appropriate formats for including explanatory variables,• variable selection methods,• diagnostic methods.
Teaching methods:	Lectures, class exercises, tutorial & computing practicals
Assessment:	Assignment comprising data report.