620-374 Sampling and Forecasting

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (three per week) and up to 12 practice classes (1 per week) Total Time Commitment: 120 hours
Prerequisites:	620-202
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	Dr O Jones
Subject Overview:	This subject covers a range of important and generally applicable statistical methods. Students should develop the ability to employ these methods to implement a range of practically useful statistical analyses. The following three topics will be covered: # sample surveys: simple random sampling; stratified sampling - optimal allocation, post-stratification; cluster sampling; ratio estimation; # time series and forecasting: patterns in time series; simple methods for exploratory data analysis; smoothing techniques; decomposition, trends and seasonal variation; simple forecasting methods; models for time series: stationarity, autocorrelation, ARMA processes; estimation and model fitting; and # re-sampling methods: jack-knife and the bootstrap; and use of the bootstrap for exploring the sampling distribution of an estimator.
Assessment:	Up to 50 pages of written assignments during the semester (20%); a 3-hour written examination in the examination period (80%).
Prescribed Texts:	None
Breadth Options:	This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008. This subject or an equivalent will be available as breadth in the future. Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available. 2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Notes:	This subject is available for science credit to students enrolled in the BSc (pre-2008 degree only), BASc or a combined BSc course.
Related Course(s):	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences

	Bachelor of Science