ECOM40002 Bayesian Econometrics

Credit Points:	12.5
Level:	4 (Undergraduate)
Dates & Locations:	This subject is not offered in 2015.
Time Commitment:	Contact Hours: Two 1.5-hour lectures per week (Semester 2) Total Time Commitment: Not available
Prerequisites:	Admission into BH-COM or BH-ARTS (Economics) and

Subject	Study Period Commencement:	Credit Points:
ECOM40006 Econometric Techniques	Semester 1	12.50

Corequisites:	None
Recommended Background Knowledge:	Please refer to Prerequisites and Corequisites.
Non Allowed Subjects:	Students may not gain credit for both **ECOM40002 Bayesian Econometrics (../../view/current/ ecom40002)** and **ECOM90010 Bayesian Econometrics (../../view/current/ecom90010)** .
Core Participation Requirements:	For the purposes of considering requests 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 for 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: http://www.services.unimelb.edu.au/disability/
Contact:	**ljacobi@unimelb.edu.au (mailto:ljacobi@unimelb.edu.au)**
Subject Overview:	The overall aim of this subject is to introduce students to the essential concepts and techniques/ tools used in Bayesian inference and to apply Bayesian inference to a number of econometric models. Basic concepts and tools introduced include joint, conditional and marginal probability distributions, prior, posterior and predictive distributions, marginal likelihood and Bayes theorem. Key tools and techniques introduced include Markov chain Monte Carlo (MCMC) techniques, such as the Gibbs and Metropolis Hastings algorithms, for model estimation and model comparison and the estimation of integrals via simulation methods. Throughout the course we will implement Bayesian estimation for various models such as the traditional regression model, panel models and limited dependent variable models using the Matlab programming environment.
Learning Outcomes:	On successful completion of this subject students should be able to: # Explain the concepts of joint, conditional and marginal probability density functions and their relevance for Bayesian inference; # Derive posterior density functions for common econometric models including the traditional regression model, discrete outcome models and panel models; # Explain the relevance of Markov chain Monte Carlo techniques for Bayesian inference; # Program Gibbs samplers and Metropolis-Hastings algorithms for a number of models including the traditional regression model, discrete outcome and panel models; # Interpret results from Bayesian inference; # Estimate marginal likelihoods for model comparison
Assessment:	A 2-hour end-of-semester examination (60%) and up to three assignments totalling 5000 words due between weeks 6 and 12 (40%).

Prescribed Texts:	You will be advised of prescribed texts by your lecturer.
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:	# High level of development: evaluation of data and other information; synthesis of data and other information; critical thinking; interpretation and analysis; use of computer software; statistical reasoning; problem solving; collaborative learning; written communication; oral communication. # Moderate level of development: receptiveness to alternative ideas; application of theory to practice. # Some level of development: accessing data and other information from a range of sources.