COURSE DETAIL

BAYESIAN INFERENCE AND COMPUTATION

Country
Australia

Host Institution
University of New South Wales

Program(s)
University of New South Wales

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Statistics Mathematics

UCEAP Course Number
171

UCEAP Course Suffix

UCEAP Official Title
BAYESIAN INFERENCE AND COMPUTATION

UCEAP Transcript Title
BAYESIAN INF & COMP

UCEAP Quarter Units
6.00

UCEAP Semester Units
4.00

Course Description

This course examines the fundamentals of Bayesian inference, including the specification of prior and posterior distributions, Bayesian decision theoretic concepts, the ideas behind Bayesian hypothesis tests, model choice and model averaging, the capabilities of several common model types, such as hierarchical and mixture models. It also looks at the ideas behind Monte Carlo integration, importance sampling, rejection sampling, Markov chain Monte Carlo samplers such as the Gibbs sampler and the Metropolis-Hastings algorithm, and use of the WinBuGS posterior simulation software.

Language(s) of Instruction
English

Host Institution Course Number
MATH3871

Host Institution Course Title
BAYESIAN INFERENCE AND COMPUTATION

Host Institution Campus
New South Wales

Host Institution Faculty

Host Institution Degree

Host Institution Department

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