Overview

After describing the fundamentals of Bayesian inference, this course will examine the specification of prior and posterior distributions, Bayesian decision theoretic concepts, the ideas behind Bayesian hypothesis tests, model choice and model averaging, and evaluate the capabilities of several common model types, such as hierarchical and mixture models. An important part of Bayesian inference is the requirement to numerically evaluate complex integrals on a routine basis. Accordingly this course will also introduce 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. Pre-requisites: 24 units of level III mathematics or a degree in a numerate discipline or permission of the Head of Department.
**Faculty**  
Faculty of Science

**School**  
School of Mathematics & Statistics

**Study Level**  
Postgraduate

**Offering Terms**  
Term 3

**Campus**  
Kensington

**Delivery Mode**  
Fully on-site

**Indicative contact hours**  
4

**Timetable**  
Visit timetable website for details
Equivalent Courses

MATH3871 6 UOC
Bayesian Inference and Computation
Course Outline

To access course outline, please visit:

MATH5960 Course Outline
### Fees

**Commonwealth Supported Students**  $1170  
**Domestic Students**  $3900  
**International Students**  $5400  

**DISCLAIMER**

Please note that the University reserves the right to vary student fees in line with relevant legislation. This fee information is provided as a guide and more specific information about fees, including fee policy, can be found on the fee website.

For advice about fees for courses with a fee displayed as "Not Applicable", including some Work Experience and UNSW Canberra at ADFA courses, please contact the relevant Faculty.

Where a Commonwealth Supported Students fee is displayed, it does not guarantee such places are available.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
© UNSW Sydney (CRICOS Provider No.: 00098G), 2019. The information contained in this Handbook is indicative only. While every effort is made to keep this information up-to-date, the University reserves the right to discontinue or vary arrangements, programs and courses at any time without notice and at its discretion. While the University will try to avoid or minimise any inconvenience, changes may also be made to programs, courses and staff after enrolment. The University may also set limits on the number of students in a course.

Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179