

Bayesian Inference

Conchi Ausín and Mike Wiper
Department of Statistics
Universidad Carlos III de Madrid

Master in Business Administration and Quantitative Methods
Master in Mathematical Engineering



Objective



Thomas Bayes (?)

The aim of this course is to introduce the modern approach to Bayesian statistics, emphasizing the computational aspects and the differences between the classical and Bayesian approaches. The course includes Bayesian solutions to real problems.

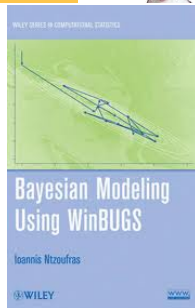
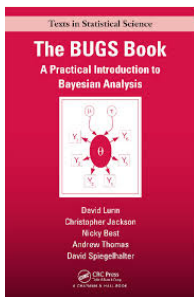
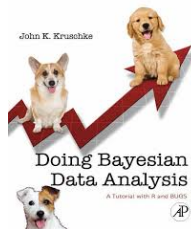
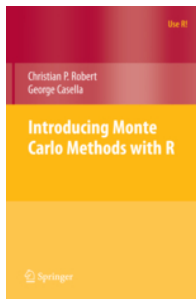
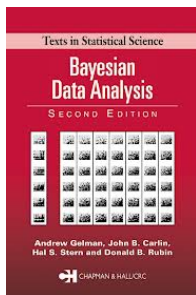
Course outline

- Bayesian basics
- Conjugate models
- Bayesian computation
- Regression and hierarchical models
- Model selection

You can find all materials on the course web page

http://www.est.uc3m.es/BayesUC3M/teaching/bayes_master.html

Recommended reading



More references

- Box, G.E., Tiao, G.C., (1992) *Bayesian Inference in Statistical Analysis*. Wiley.
- Bernardo, J.M., Smith., A.F.M. (1994) *Bayesian Theory*. Wiley.
- Lee, P.M., (2004) *Bayesian Statistics: An Introduction*. Wiley.
- Gamerman, D., Lopes, H.F., (2006) *MCMC - Stochastic Simulation for Bayesian Inference*. Chapman & Hall. <http://www.dme.ufrj.br/mcmc>.
- Albert, J. *Bayesian Computation with R*. Springer.