

SPRING 2019 - STAT 460 D100

BAYESIAN STATISTICS (3)*Class Number: 3452 Delivery Method: In Person***COURSE TIMES + LOCATION:**Tu 11:30 AM – 1:20 PM
WMC 2533, BurnabyTh 11:30 AM – 12:20 PM
WMC 3220, Burnaby**EXAM TIMES + LOCATION:**Apr 16, 2019
12:00 PM – 3:00 PM
AQ 5037, Burnaby**INSTRUCTOR:**Tim Swartz
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Office: SC-K10539**PREREQUISITES:**

STAT 330 and 350.

Description

CALENDAR DESCRIPTION:

The Bayesian approach to statistics is an alternative and increasingly popular way of quantifying uncertainty in the presence of data. This course considers comparative statistical inference, prior distributions, Bayesian computation, and applications. Quantitative.

COURSE DETAILS:**Course Outline:****1. The basics:**the Bayesian paradigm
comparative statistical inference**2. Priors:**conjugate priors
prior elicitation
reference priors
improper priors
discrete mass priors**3. Computations:**quadrature
importance sampling
Markov chain Monte Carlo**4. Other topics as time permits:**testing via Bayes factors
interval and point estimation
elementary decision theory
hierarchical models
Dirichlet process**5. Applications**

Grading

Participation	15%
Assignments	20%
Midterm	20%
Final Exam	45%

NOTES:

Above grading is subject to change.

Materials

RECOMMENDED READING:

-Bayes and Empirical Bayes Methods for Data Analysis (Carlin & Louis)

-Bayesian Data Analysis (Gelman, Carlin, Stern & Rubin)

DEPARTMENT UNDERGRADUATE NOTES:**Students with Disabilities:**

Students requiring accommodations as a result of disability must contact the Centre for Accessible Learning 778-782-3112 or csdo@sfu.ca

Tutor Requests:

Students looking for a Tutor should visit <http://www.stat.sfu.ca/teaching/need-a-tutor-.html>. We accept no responsibility for the consequences of any actions taken related to tutors.

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