

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

Instructor: [Dr. Brad McNeney](#)

Prerequisite:

Statistics 830 or permission of the instructor

Textbook:

Required:

Numerical Analysis for Statisticians (2nd ed.), by K. Lange, published by Springer, 2010;

Supplementary:

Numerical Optimization (2nd ed.), by J. Nocedal and S.J. Wright, published by Springer-Verlag, 2006;

Introducing Monte Carlo Methods with R. By C. Robert and G. Casella, published by Springer, 2010

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An introduction to computational methods in applied statistics. Topics can include: the bootstrap, Markov Chain Monte Carlo, EM algorithm, as well as optimization and matrix decompositions. Statistical applications will include frequentist and Bayesian model estimation, as well as inference for complex models. The theoretical motivation and