

McMaster University
Department of Mathematics and Statistics
MFM 704 – Statistics of Financial Data

Instructor: Aaron Childs
Office: Hamilton Hall 213
E-mail: childsa@mcmaster.ca
Office Hours: Tuesday 1:30pm-2:20pm, Thursday 3:30pm-4:20pm, Friday 1:30pm-2:20pm

COURSE INFORMATION

Lectures: Monday 2:00pm-4:00pm and Thursday 1:25pm-2:15pm in HH/410

Major Topics: Distribution theory, point estimation, interval estimation, hypothesis testing, Bayesian inference, linear regression, time series, classification, and clustering (if time permits)

Textbooks: **Primary References:** *Introduction to Mathematical Statistics, Seventh Edition*, by Hogg, McKean, and Craig, Prentice Hall.
Statistical Inference, Second Edition, by Casella and Berger, Duxbury.

Other References:

Applied Multivariate Statistical Analysis, Sixth Edition, by Johnson and Wichern, published by Prentice Hall.
Applied Regression Analysis, Third Edition by Draper and Smith, Wiley.
Linear Models in Statistics, by Rencher, Wiley.
Introduction to Time Series and Forecasting, Second Edition, by Brockwell and Davis, published by Springer-Verlag.
An Introduction to Statistical Learning: with Applications in R, by James, Whitten, Hastie, and Tibshirani, published by Springer

Background Material: *A first Course in Probability, Ninth Edition*, by Sheldon Ross, Pearson.

Future Material: *Statistical Models and Methods for Financial Markets*, by Lai and Xing, Springer.
The Elements of Statistical Learning: Data Mining, Inference, and Prediction, Second Edition, by Hastie, Tibshirani, and Friedman, Springer

Assignments: There will be six assignments, all due at 12:00noon (in the lockers next to HH/105), on the following dates:

Assignment #1: Thursday, September 20
Assignment #2: Thursday, October 4
Assignment #3: Thursday, October 25
Assignment #4: Thursday, November 8
Assignment #5: Thursday, November 22
Assignment #6: Thursday, December 6

Tests: The tests will be on the following dates:

Test #1: Thursday, October 18 in class
Test #2: Thursday, November 15 in class

Course Evaluation:	Assignments:	20%
	Test 1:	20%
	Test 2:	20%
	Final Exam:	40%

Policy Note: The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

Academic Honesty: Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at

<http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf> The following illustrates only three forms of academic dishonesty: 1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained. 2. Improper collaboration in group work. 3. Copying or using unauthorized aids in tests and examinations.

Accommodation of Students With Disabilities: Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University's Academic Accommodation of Students with Disabilities policy.

RISO Policy: Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students requiring a RISO accommodation should submit their request to their Faculty Office normally within 10 working days of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.