

557: MATHEMATICAL STATISTICS II

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Office Hours : Tuesday 12:00-13:30
Thursday 12:00-13:30
Other appointments available if necessary

Textbook : *Statistical Inference* (2nd Ed) by G. Casella and R. L. Berger.
Evaluation : Bi-Weekly Coursework Assignments (25 %)
Mid Term (25 %)
Final (50 %)

TARGET SYLLABUS

- 1 Data Reduction and Summary
 - 1.1 Sufficiency and Ancillarity
 - 1.2 The Likelihood Principle
- 2 Point Estimation
 - 2.1 Methods of Finding Estimators
 - 2.2 Methods of Evaluating Estimators
- 3 Hypothesis Testing
 - 3.1 Objectives
 - 3.2 Test Construction
 - 3.3 Test Evaluation
- 4 Interval Estimation
 - 4.1 Methods of Finding Interval Estimators
 - 4.2 Methods of Evaluating Interval Estimators
- 5 Asymptotic Considerations
 - 5.1 Point Estimation
 - 5.2 Robustness
 - 5.3 Hypothesis Testing
 - 5.4 Interval Estimation
- 6 The Linear Model
 - 6.1 Analysis of Variance
 - 6.2 Linear Regression
 - 6.3 Beyond the Standard Linear Model: Generalized Linear and Mixed Models.
- 7 Inference Paradigms: Comparing Frequentist and Bayesian Approaches

EVALUATION: DETAILS

Please note that the method of evaluation for this class will be **on the following basis only**:

Coursework Assignments	Bi-Weekly Beginning Thursday 17th January 2008 Hand-in 24th January, 5pm deadline
Mid-Term	1.5 hours Tuesday 19th February 2008 In class Closed book
Final	3 hours April 14th-30th 2008 (exact date to be confirmed) Venue to be confirmed Closed book

Final mark for course[‡]: the larger of

25 % Coursework + 25 % Mid-Term + 50 % Final

and

25 % Coursework + 75 % Final

NOTES:

‡ There will no opportunity for a make-up Mid-Term if this examination is missed, and no make-up work in place of any aspect of the course assessment.

ACADEMIC INTEGRITY

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see

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for more information).

David A. Stephens.
January 3, 2008