

Dr. Childs and Dr. Viveros

Arts & Science 2R06 Course Outline

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Instructors

Dr. <u>Aaron Childs</u> (Term 1)

Office: BSB/113 Office Hours: Tuesday, Thursday, and Friday 9:30-10:20, Monday 2:30-3:20, Wednesday 2:30-3:20 Extension: 23426 email: childsa@mcmaster.ca

Dr. <u>Roman Viveros</u> (Term 2) Office: BSB/205 Office Hours: Tuesday 1:30-3:30 PM, Wednesday & Thursday 9:30-11:00 AM Extension: 23425 email: <u>rviveros@icarus.math.mcmaster.ca</u>

Lectures/Tutorials/Labs

- Lectures: CNH/106 on Tuesday, Thursday, and Friday 8:30-9:20.
- Lab 1 (Term 2 only): Wednesday 3:30-4:20 in BSB/241
- Lab 2 (Term 2 only): Wednesday 4:30-5:20 in BSB/241
- Labs are mainly for assistance with the computer work to be done in MINITAB. This room is near the Computing Lab located in BSB/245.
- Tutorial 1: Friday 1:30-2:20 in UH/112
- Tutorial 2: Thursday 10:30-11:20 in LS/B130A

Textbook

- (Required) "Probability and Statistics for Engineering and the Sciences," Fifth Edition, by Jay L. Devore, Duxbury Press, 2000.
- (Optional) Student Solutions Manual
- Reference Book (Term 1): "A First Course in Probability", Fifth Edition by Sheldon Ross. Published by Prentice Hall

Material to be Covered

Term 1

- Probability (Chapter 2).
- Discrete random variables and probability distributions (Chapter 3).
- Continuous random variables and probability distributions (Chapter 4).
- Joint Probability distributions and random samples (Chapter 5).
- Each chapter in term 1 will be supplemented with additional topics as time permits **Term 2**
- Point estimation (Chapter 6).
- Confidence intervals from single samples (Chapter 7).
- Test of hypotheses based from single samples (Chapter 8).
- Confidence intervals from two samples (Chapter 9).
- The analysis of variance (Chapter 10).
- Simple linear regression (Chapter 12).
- Goodness-of-fit and the analysis of categorical data (Chapter 14).

Objectives of the Course

- To learn how to model and quantify variability in observed data.
- To learn how to draw inferences from data subject to variability.
- To provide arts and science students with the basic concepts of probability.
- To introduce students to the basic statistical methods to draw inferences from observed data.
- To apply statistical methods to analyze data from many sources.

Homework Assignments

- There will be six assignments each term.
- Make sure to write your complete name and your student number on each assignment.
- You are required to write well-organized and readable solutions.
- After your assignments are marked they will be returned to you, approximately one week after the due date.
- Copies of solutions to assignments will be available in Thode Library.

- Homework is to be handed in before 4:00PM in the lockers in the basement of Burke Science
- Due dates:

Assignment #1: Tuesday, September 26 Assignment #2: Tuesday, October 10 Assignment #3: Tuesday, October 24 Assignment #4: Tuesday, November 7 Assignment #5: Tuesday, November 21 Assignment #6: Tuesday, December 5

Term 2

- Homework is to be handed in before 4:00PM in the lockers in the basement of Burke Science
- Due dates:

Assignment #1: Wednesday, January 17 Assignment #2: Wednesday, January 31 Assignment #3: Wednesday, February 14 Assignment #4: Wednesday, March 7 Assignment #5: Wednesday, March 21 Assignment #6: Wednesday, April 4

Tests

- There will be 3 tests.
- Details (e.g., material the tests will cover) will be announced in class.
- Only the McMaster standard calculator Casio fx-991 is allowed.
- Copies of solutions to tests will be available in Thode Library.
- Test dates:

Test #1: Monday, October 16 at 7:00PM Test #2: Monday, November 13 at 7:00PM Test #3: Wednesday February 28 at 7:00PM

Project

A year project performed by groups of 2 to 3 students in a topic related to the course. The students are encouraged to pick a topic they are excited about. A typed report will be submitted at the end of the course. The due date for the report is Friday April 6, 2001. If your topic deals mostly with probability, the report will be marked by Dr. Childs. More details to be announced in class.

Library

Copies of solutions to assignments and tests will be available at the reserve desk in Thode Library. There is also a copy of the textbook and solutions manual on reserve.

Course Evaluation

• Term 1:

Homework	10%
Test #1	20%
Test #2	20%
December Exam	50%

• Term 2:

Homework	10%
Test #3	30%
April Exam	60%

• Your year-end mark will be calculated as follows:

Term 1	45%
Term 2	45%
Project	10%

Recommendations

- In case of difficulty/problems, contact your instructor or T.A. as soon as possible. Failing that, contact the Arts and Science Program Office in C/105.
- Keep a copy of any paper/document that is handed in for grading.
- If you miss work, it is your responsibility to speak with your professor as soon as possible.
- Students must exercise their own judgement to decide whether to seek and provide documentation to support requests for special consideration.

In case of Difficulty/Problems

- If you have concerns about preparing for tests and examinations, improving your study habits, giving class presentations, or mastering English as a second language, the <u>Centre for Student Development</u> can be of great help!
- Also, if you are a student with a disability, you are encouraged to contact the <u>Centre for Student</u> <u>Development</u> as early in the term as possible so that special arrangements can be made.
- The CSD is located in Hamilton Hall Room 409 and the phone number is (905) 525-9140, ext. 24711.
- Please contact their office and make an appointment with one of the Programme Coordinators to discuss your needs.

Senate Policy Statements

- Your attention is drawn to the following documents: <u>Statement on Academic Ethics</u> <u>Senate Resolutions on Academic Dishonesty</u>
- Any student who infringes one of these resolutions will be treated according to the published policy.

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