Dr. Childs and Dr. Viveros

Stats 3Y3 Course Outline

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Course Information

Instructors

Dr. Aaron Childs (office BSB-113)
Office Hours: Tuesday 9:30-10:20, Wednesday 2:30-3:20, Friday 9:30-10:20
Extension: 23426
email: childsa@mcmaster.ca

Dr. Roman Viveros (office BSB-205)
Office Hours: Tuesday 1:30-3:30 PM, Thursday 9:30-10:30 AM, Friday 9:30-10:20 AM
Extension: 23425
email: rviveros@icarus.math.mcmaster.ca

Lectures

- Section 1 (Dr. Viveros): PC/155 on Monday, Wednesday 11:30 AM and Friday 1:30 PM.
- Section 2 (Dr. Childs): PC/155 on Monday 12:30 PM, Tuesday 1:30 PM and Thursday 12:30 PM.

Textbook

"Probability and Statistics for Engineering and the Sciences," Fourth Edition, by Jay L. Devore, Duxbury Press, 1995.

Material to be Covered

- Probability (Chapter 2).
- Discrete random variables and probability distributions (Chapter 3).
- Continuous random variables and probability distributions (Sections 4.1, 4.2, 4.3 & 4.4).
- Joint Probability distributions and random samples (Sections 5.1, 5.2, 5.3 & 5.4).
- Point estimation (Chapter 6).
- Confidence intervals based on single samples (Sections 7.1, 7.2 & 7.3).
- Test of hypotheses based on single samples (Sections 8.1, 8.2, 8.3 & 8.4).
- The two-sample t-test and confidence intervals (Section 9.2).
- Simple linear regression and correlation (Sections 12.1, 12.2, 12.3, 12.4 & 12.5).

Homework Assignments

- There will be six assignments, each containing between 6 and 9 problems.
- Make sure to write your name (clearly!), your student number and your tutorial number on each assignment.
- You are required to write well-organized and readable solutions.
- For due dates and times refer to the calendar or the assignment page.

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 on reserve.

Tests

- There will be two one-hour tests.
- Details (e.g., material the test will cover, exam locations, etc.) will be given in class.
- McMaster standard calculator Casio fx-991 is allowed.
- For test dates and times, refer to the calendar.
- It is essential that you bring your McMaster ID card to both tests.
- All necessary tables will be provided with the test paper.
- Some formulas will be given on Test #2.

Final Examination

- As scheduled by the Registrar.
- Details (e.g., material the final exam will cover, final examination locations, etc.) will be given in class.
- McMaster standard calculator Casio fx-991 is allowed.
- It is essential that you bring your McMaster ID card to the final exam.
- Some formulas and all necessary tables will be provided with the exam paper.

Course Evaluation

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

For students in good standing, other weights might be considered. If this is the case, the final mark will be computed using this weighting and the new weighting(s). The final score for a particular student will be the better of the two methods of evaluation.

In case of Difficulty/Problems

- Contact your instructor as soon as possible. Failing that, contact the Associate Dean's Office in GS-116.
- 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 Centre for Student Development can help.

Senate Policy Statements

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

Objectives of the Course

- To learn how to model and quantify variability in observed data.
- To learn now to draw inferences from data subject to variability.
- To provide engineering students with the basic concepts of probability.
- To teach students how to model variability in a variety of applied engineering problems.
- To introduce students to the basic statistical methods to draw inferences from observed data.
- To apply statistical methods to analyze different types of engineering data.

Calendar

Thursday September 9: Classes Start.

BLOCK 1: September 9-22 - **Sections:** 2.1, 2.2, 2.3, 2.4, 2.5, 3.1
Assignment #1 - Due Date: 12:00 Noon on Friday September 24

BLOCK 2: September 23 - October 6 - **Sections:** 3.2, 3.3, 3.4, 3.5, 3.6, 4.1
Assignment #2 - Due Date: 12:00 Noon on Friday October 8

Midterm #1: Wednesday October 13, 6:30-8:00 PM.

BLOCK 3: October 7-20 - **Sections:** 4.2, 4.3, 4.4, 5.1, 5.2
Assignment #3 - Due Date: 12:00 Noon on Friday October 22

BLOCK 4: October 21 - November 3 - **Sections:** 5.3, 5.4, 6.1, 6.2, 7.1, 7.2
Assignment #4 - Due Date: 12:00 Noon on Friday November 5

Midterm #2: Wednesday November 10, 6:30-8:00 PM.

BLOCK 5: November 4-17 - **Sections:** 7.3, 8.1, 8.2, 8.3, 8.4
Assignment #5 - Due Date: 12:00 Noon on Friday November 19

BLOCK 6: November 18 - December 1 - **Sections:** 9.2, 12.1, 12.2, 12.3, 12.4, 12.5
Assignment #6 - Due Date: 12:00 Noon on Friday December 3

Final Exam: To be Announced

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