DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of Mathematics and Statistics
STAT 1060/MATH 1060
Introductory Statistics for Science and Health Sciences
May 6- June 24, 2019

Instructor(s): *Jing Zhang*   *jingzhang@dal.ca*   *Rowe 5119*

Lectures: *Monday and Wednesday 1805-2055*   *LSC 242*

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Course Description

This course gives an introduction to the basic concepts of statistics through extensive use of examples. The topics include experimental design, descriptive statistics, simple linear regression and the basics of statistical inference. Students will learn to use the statistical package MINITAB.

Course Prerequisites

Academic or advanced Grade 12 Mathematics (or pre-calculus) or equivalent

Course Objectives/Learning Outcomes

By the end of the course students will be able to:
1. Discuss basic statistical vocabulary and concepts
2. Identify and distinguish the contexts that can be analyzed using the statistical methods
3. Distinguish contexts that call for techniques beyond the scope of the course
4. Write clear statements (inference) supporting your interpretations of data analysis
5. Test one population proportion
6. Test one population mean
7. Compare two populations' means
8. Test linear regression of two quantitative variables

Course Material

1. The course text is STATS: Data and Models, 2nd Canadian Ed.by Richard D. DeVeauxet. al.
2. Minitab (or any other equivalent) software.
3. You will also need a scientific calculator with natural log and exponential functions.

Course Assessment

There will be one mid-term exam of two hours duration and a final exam of three hours.

Assignments 20%

Midterm 35%

Final 45%

Other course requirements

Assignments

1. There are 9 assignments to be completed online at LON-CAPA website.
2. Each assignment has a specific opening and closing time which is shown on the website. You may only access an assignment between its opening and closing times, all answers must be entered into LON-CAPA and submitted during that time frame. Un-submitted answers are not read by LON-CAPA.
3. Within the time frame for each assignment, students may open and close the assignment as often as they like. Remember to submit your answers.
4. Assignments will be marked electronically by LON-CAPA after their closing date/time has arrived. Answers will be posted after the assignment closes.
5. Assignments are to be done independently. If we suspect any students of copying assignments from another student or with the help of someone else, we are required to report the incident as an academic integrity offense. For more information, please read

https://www.dal.ca/dept/university_secretariat/academic-integrity.html

How to Login to LON-CAPA

1. In your web browser, go to http://capa.mathstat.dal.ca.
2. You will be prompted to enter a username and password. By default, your username is your Dalhousie NetID and your password is your banner number (your Dalhousie student number that starts with B00). Your full banner number must be entered, that is: the upper-case letter B, followed by two zeros, then followed by 6 digits.
3. You then have to select a role for the course you wish to enter. Most likely, you will have only one choice: a student user role for the course titled "Stat 1060". Click on the Select button next to that choice.
4. You will be directed to the home page of the course. Navigation is easiest by using the tabs in the top blue bar. The Contents tab is where the assignments will be posted.
5. For increased security and convenience, you should change the default password. Click on the Main Menu tab in the top blue bar, then click on Set my user preferences and then click on Password. Enter the current (default) password and enter (twice) your new password.

Conversion of numerical grades to Final Letter Grades follows the <u>Dalhousie Common Grade Scale</u>

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

Course Policies

Exams:

1. There will be a total of 2 exams (1 midterm and 1 final exam)
2. The exams will be closed-book with one page (double sided) of notes allowed.
3. The schedules for the exams are:

Midterm: May 29, 2019

Final exam: June 24, 2019

Illness:

If a student does not feel well (due to illness) a day before the midterm or on the midterm's day, he/she should contact me, or the department secretary (494-6909), and show me a doctor note (not a nurse note).

Failure to do so may result in a grade of zero. A doctor's certificate of your illness must be provided to me.

Course Content

Week	Topics	Chapter
1	Displaying and Summarizing Quantitative Data Understanding and Comparing Distributions	Ch. 3, 4
2	The Standard Deviation as a Ruler and Normal Model From Randomness to Probability	Ch. 5, 12
3	Probability Rules Random Variables (Sections 14.1-14.3)	Ch. 13, 14
4	Random Variables (Section 14.4) Sampling Distribution Models Confidence Intervals for Proportions	Ch. 14, 15 and 16
5	Testing Hypotheses about Proportions More about Tests Inferences About Means	Ch. 17, 18 and 20
6	Comparing Means Paired Samples Scatterplots, Association and Correlation	Ch. 21, 22 and 6
7	Linear Regression Inference for Regression	Ch. 7, 24