

Faculty of Science Course Syllabus
Department of *Mathematics and Statistics*
STAT 1060/MATH 1060
Introductory Statistics for Science and Health Sciences
Winter 2019

Instructor(s): Dr. Ammar Sarhan (coordinator) ammar.sarhan@dal.ca Chase 105
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Lectures: Section 01: TR 1305-1425 McCain Aud-1 Sarhan A. (P) Carson S.
Section 02: MW 13:35 - 14:25 McCain Aud-1 Sarhan A. (P) Carson S.
 F 16:35 - 17:25 McCain Aud-1
Section 03: MWF 10:35-11:25 McCain Aud-1 Sarhan A. (P) Bielawski J.
Section 04: MWF 14:35-15:25 McCain Aud-1 Sarhan A. (P) Bielawski J.

Tutorials: 6/ 1hr each

Submit course syllabus to your Depart office for posting on the Dept website prior to the start of term
Submit requests for final exam exemptions to the Dean's office at least 2 weeks prior to the start of term

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

At the end of this course, students should 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 interpretations of data analysis.
5. Do statistical inference on one population proportion
6. Do statistical inference on a single population mean
7. Comparing two population means
8. Investigate the association between two quantitative variables.

Course Materials

- *Textbook:* Stats: Data and Models, 2nd Canadian Edition DeVeaux, Velleman, Bock, Vukov and Wong. (Pearson Canada).
- MINITAB 18
- A scientific calculator with natural log and exponential functions.
- Course websites: OWL and LON-CAPA

Course Assessment

NOTE: An exemption is required if you are not planning to hold a final exam scheduled by the Registrar's Office for the final exam period. Submit your syllabus along with your request (**and reason for the request**) to the Assistant Dean (scieasst@dal.ca) at least 2 weeks prior to the start of classes.

Component	Weight (% of final grade)	Date
One quiz 5%,		March 11-14
Exam 1 35%,		March 8, 7:30-9:30 pm
Exam 2 35%		(Scheduled by Registrar)

Assignments: 20%

Assignment	Due date	Assignment	Due date
1	Jan 20	6	March 3
2	Jan 27	7	March 17
3	Feb 3	8	March 24
4	Feb 10	9	April 8
5	Feb 18		

Nine best assignment scores will be used to compute the assignment portion of the course grade.

Other course requirements: Five tutorial assessments, 1% each

Tutorial assessment 1, 1%, Jan 21-24
 Tutorial assessment 2, 1%, Jan 28- 31
 Tutorial assessment 3, 1%, Feb 4-7
 Tutorial assessment 4, 1%, Feb 11-14
 Tutorial assessment 5, 1%, Feb 25- 28

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

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

Late work with a good documented excuse may be accepted, provided the solutions have not yet been posted and/or discussed in class, and no assignments have been returned.
 Non-attendance at the midterm test, without a valid documented excuse as determined by the professor, will result in a mark of 0.

Course Content

Week	Date	Topic
1	Jan 7-11	Displaying and Summarizing Quantitative Data
2	Jan 14-18	Understanding and Comparing Distributions
3	Jan 21-25	The standard deviation as a ruler
4	Jan 28-31	Understanding Randomness Experiments and Observational Studies

		<i>From Randomness to Probability</i>
5	<i>Feb 4-8</i>	<i>Random Variables Probability Rules</i>
6	<i>Feb 11-15</i>	<i>Probability Model (Normal and Binomial)</i>
8	<i>Feb 25-Mar 1</i>	<i>Sampling Distribution Models Confidence Intervals for Proportions</i>
9	<i>Mar 4-8</i>	<i>Testing Hypotheses About Proportions</i>
10	<i>Mar 11-15</i>	<i>Inferences About Means</i>
11	<i>Mar 18-22</i>	<i>Comparing Means Paired Samples</i>
12	<i>Mar 25-29</i>	<i>Scatterplots, Association, and Correlation</i>
13&14	<i>Apr 1- Apr 8</i>	<i>Linear Regression Inferences for Regression</i>

ACCOMMODATION POLICY FOR STUDENTS

Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie's Student Accommodation Policy can be accessed here:

http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Advising and Access Services Centre (AASC)** prior to or at the outset of the regular academic year. More information and the **Request for Accommodation** form are available at www.dal.ca/access.

ACADEMIC INTEGRITY

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (<http://academicintegrity.dal.ca>) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie's **Policy on Intellectual Honesty** and **Faculty Discipline Procedures** is available here:

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

STUDENT CODE OF CONDUCT

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

"The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect



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- the integrity and proper functioning of the academic and non – academic programs and activities of the University or its faculties, schools or departments;
- the peaceful and safe enjoyment of University facilities by other members of the University and the public;
- the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University's premises;
- the property of the University or its members.”

The full text of the code can be found here:

http://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

SERVICES AVAILABLE TO STUDENTS

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

Service	Support Provided	Location	Contact
General Academic Advising	Help with <ul style="list-style-type: none"> - understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or other difficulties 	Killam Library Ground floor Rm G28 Bissett Centre for Academic Success	In person: Killam Library Rm G28 By appointment: <ul style="list-style-type: none"> - e-mail: advising@dal.ca - Phone: (902) 494-3077 - Book online through MyDal
Dalhousie Libraries	Help to find books and articles for assignments Help with citing sources in the text of your paper and preparation of bibliography	Killam Library Ground floor Librarian offices	In person: Service Point (Ground floor) By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time: http://dal.beta.libguides.com/sb.php?subject_id=34328
Studying for Success (SFS)	Help to develop essential study skills through small group workshops or one-on-one coaching sessions Match to a tutor for help in course-specific content (for a reasonable fee)	Killam Library 3rd floor Coordinator Rm 3104 Study Coaches Rm 3103	To make an appointment: <ul style="list-style-type: none"> - Visit main office (Killam Library main floor, Rm G28) - Call (902) 494-3077 - email Coordinator at: sfs@dal.ca or - Simply drop in to see us during posted office hours All information can be found on our website: www.dal.ca/sfs
Writing Centre	Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) <ul style="list-style-type: none"> - Learn to integrate source material into your own work appropriately - Learn about disciplinary writing from a peer or staff member in your field 	Killam Library Ground floor Learning Commons & Rm G25	To make an appointment: <ul style="list-style-type: none"> - Visit the Centre (Rm G25) and book an appointment - Call (902) 494-1963 - email writingcentre@dal.ca - Book online through MyDal We are open six days a week See our website: writingcentre.dal.ca