

Faculty of Science Course Syllabus
Department of Mathematics and Statistics

Online Stat 1060

*Course title: Introductory Statistics for Science and Health Sciences
Summer 2019*

Instructor(s): *Dr. Ammar Sarhan* *ammar.sarhan@dal.ca* *Chase 105*

Lectures: *Online*

Laboratories: *NA*

Tutorials: *NA*

Course Description

This course gives an introduction to the basic concepts of statistics through examples. The topics include descriptive statistics, probability, random variables, correlation between two quantitative variables, simple linear regression and the basics of statistical inference for a single population proportion/mean and of the difference in two population means. Students will use a statistical package.

Course Prerequisites

Math 12

Course Objectives/Learning Outcomes

By the end of the course students will be able to:

- *Discuss basic statistical vocabulary and concepts*
- *Identify and distinguish the contexts that can be analyzed using the statistical methods*
- *Distinguish contexts that call for techniques beyond the scope of the course*
- *Write clear statements (inference) supporting your interpretations of data analysis*
- *Test one population proportion*
- *Test one population mean*
- *Compare two populations means*
- *Test linear regression of two quantitative variables*

Course Materials

- *Required textbook: STATS: Data and Models, 2nd Canadian Ed. by Richard D. De Veaux et. al – I would not force students to buy it, however they will need to have access to the book for their own readings. Also, there is online access code (sarhan35185) which is also optional.*
- *Minitab (it is available for free throughout Dal)*
- *Brightspace and Capa – On Brightspace, we post all lecture notes, explanations, help to do assignments, and some videos; We use Capa for the assignments.*

Course Assessment

Component	Weight (% of final grade)	Date
<i>Final Exam 1:</i>	45%,	May 29, 2019
<i>Final Exam 2:</i>	45%,	June 25, 2019
<i>Assignments:</i>	10%,	<i>below is the assignments schedule</i>

Assignments Schedule

Assignment	Open-Close Dates	Assignment	Open-Close Dates
1	May 6 – 12	6	May 27 – June 9
2	May 6 – 12 – optional	7	May 27 – June 16
3	May 6 – 19	8	May 27 – 16
4	May 6 – 19	9	May 27 – 23
5	May 6 – 26		

Other course requirements

There will be bonus points up to 5% for those who will be active on the discussion boards answering questions correctly.

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

*There is no makeup for any assignment under any circumstances. I may provide a makeup for one of the two exams due to illness if student provides a sick note from a **doctor** (NOT a NURSE), describes the case clearly, and contacts me or one of the TAs at least 24 hours before the exam's time. I will not provide two makeups for the two exams for the same student.*

I DO NOT USE the Student Declaration of Absence form for missed academic requirement in this course.

Students can discuss any problem even those belong to the assignments throughout the discussion board.

I do not use plagiarism software in this course.

Course Content

Week	Date	Topic	Chapter
1	May 6 - 10	Displaying and Summarizing Quantitative Data Understanding and Comparing Distributions	3 4
2	May 13 - 17	The Standard Deviation as a Ruler and Normal Model From Randomness to Probability	5 12
3	May 20 - 24	Probability Rules Random Variables (sections 14.1 - 14.3)	13 14
4	May 27	Random Variables (section 14.4)	14
THE END OF EXAM 1 MATERIAL			
	May 29 - 3	Sampling Distribution Models Confidence Intervals for Proportions	15 16
4	May 29	Exam 1 – Time: 10:00 am - noon, Atlantic Time	
5	June 3 - 7	Testing Hypotheses about Proportions More about Tests Inferences About Means	17 18 20
6	June 10 - 14	Comparing Means Paired Samples Scatterplots, Association, and Correlation	21 22 6
7	June 17 - 21	Linear Regression Inference for regression	7 24
8	June 25	Exam 2 – Time: 10:00 am - noon, Atlantic Time	

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

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

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

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

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>