DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES
UNIVERSITY OF TORONTO MISSISSAUGA

STA220H5F LEC0101
The Practice of Statistics I
Course Outline - Fall 2019

Class Location & Time	Mon, 12:00 PM - 01:00 PM CC 3150 Wed, 12:00 PM - 01:00 PM CC 3150
Instructor	Olga Fraser
Office Location	DH3035
Office Hours	Friday 10 - 12
Telephone	9058285329
E-mail Address	olga.fraser@utoronto.ca
Course Web Site	Canvas

Course Description

An introductory course in statistical concepts and methods, emphasizing exploratory data analysis for univariate and bivariate data, sampling and experimental designs, basis probability models, estimation and tests of hypothesis in one-sample and comparative two-sample studies. A statistical computing package is used but no prior computing experience is assumed. [24L, 12T]

Exclusion: STA215H5, STA218H5, STA256H5, STA257H5, STA220H1, STAB22H3; ECO220Y5, ECO227Y5; PSY201H5; PSYB07H3; SOC350H5 (SCI)
Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

STATISTICS by McClave and Sincich, 13th edition

Assessment and Deadlines

Type	Description	Due Date	Weight
Quiz	Best 8 out of 9 weekly quizzes	On-going	10%
Term Test	Term Test 1	2019-10-09	20%
Term Test	Term Test 2	2019-11-20	20%
Final Exam		TBA	45%
Other		On-going	5%
		Total	100%

More Details for Assessment and Deadlines

Tutorials start September 18

There is a fifty minute tutorial each week. During the first part of the tutorial the Teaching Assistant will discuss topics related to the weekly assignment and answer questions about the assigned exercises. A quiz based on the assigned exercises will be held during the last part of the tutorial.

Quizzes are closed book. There will be nine quizzes. The lowest of the nine quiz marks will be dropped.

Quizzes must be written in the tutorial in which the student is registered.

Penalties for Lateness

There are no makeup quizzes

Procedures and Rules

Missed Term Work

If a term test is missed notify your lecturer by email as soon as possible and no later than within 6 days of the missed test. If illness is cited as the reason you must obtain a U of T Verification of Student Illness or Injury Form must which shows that you were examined and diagnosed at the time of illness and on the date of the test, or by the day after at the latest. Students must also record their absence on ACORN on the day of the missed test or by the day after at the latest.
A makeup test will be held one week after the original test. You will be advised of the time and location of this test when your email is received. A completed Verification of Student Illness or Injury Form and a printed copy of the ACORN declaration must be submitted to the lecturer prior to writing the makeup test.

The first missed quiz is the one that is dropped.
If illness is cited as the reason you must obtain a U of T Verification of Student Illness or Injury Form must which shows that you were examined and diagnosed at the time of illness and on the date of the test, or by the day after at the latest. Students must also record their absence on ACORN on the day of the missed quiz or by the day after at the latest.
If two quizzes are missed you will require the two completed Verification of Student Illness or Injury Forms and the two printed ACORN declarations in order to have your mark adjusted. These must be submitted to the lecturer before the last day of class.

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file anonline petition **within 72 hours of the missed examination**. Original supporting documentation must also be submitted to the Office of the Registrar **within 72 hours of the missed exam**. Late petitions will **NOT** be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of $70 is required for each examination approved.

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration:	3 hours
Aids Permitted:	Non-Programmable Calculators 2 page(s) of double-sided Letter (8-1/2 x 11) sheet

Additional Information

LECTURE SCHEDULE

LECTURE	TOPIC	SECTION
1	Introduction to Statistical thinking.	1.1-1.6
2	Graphs for qualitative data. Graphs for quantitative data: Stem and leaf displays	2.1 2.2

3	Frequency tables, histograms, dotplots.	2.2
4	Measures of the centre: sample mean, median, mode Measures of variability: range, variance, standard deviation	2.3 2.4
5	Empirical Rule, Chebyshev's Theorem Measures of position: percentiles, quartiles, z-scores Box plots	2.5 2.6 2.7
6	Bivariate data Probability: Sample space, Outcomes, Events	2.8 3.1
7	Compound events Rules for calculating probability	3.2 3.3, 3.4
8	Conditional probability Multiplicative rule, Independence	3.5 3.6
9	Discrete random variables and probability distributions Expected value and variance	4.1- 4.2 4.3
10	Binomial distribution with applications Hypergeometric distribution	4.4 4.6
11	Continuous random variables Uniform distribution	5.1 5.2
12	Normal distribution Checking for normality	5.3 5.4
13	Normal approximation for a binomial Exponential distribution	5.5 5.6
14	Sampling distributions and their properties	6.1, 6.2
15	Central limit theorem with applications	6.3
16	Estimation Confidence intervals for means	7.1 7.2, 7.3
17	Confidence interval for a proportion Sample size Confidence intervals for the variance	7.4 7.5 7.6

18	Elements of a hypothesis test and p-values Hypothesis tests for the mean using z	8.1- 8.3 8.4
19	Hypothesis tests for the mean using t distribution Hypothesis tests for proportion Inference for the variance and the chi-square distribution	8.5 8.6 8.8
20	Theory of hypothesis tests, type II errors and power Target parameters Comparing two population means independent sampling	8.7 9.1 9.2
21	Comparing two population means: paired experiments Inference for two proportions	9.3 9.4
22	Inference for two variances and the F-distribution Review	9.6

Last Date to drop course from Academic Record and GPA is November 7, 2019.