



COURSE OUTLINE

1. **Course:** STAT 217, Introduction to Statistics II - Winter 2021

Lecture 01: MWF 09:00 - 09:50 - Online

Instructor	Email	Phone	Office	Hours
Scott Robison	sarobiso@ucalgary.ca	N/A	MS 590	Please address your questions to the discussion boards or D2L->Communication->Zoom for the office hour links

Lecture 02: TR 09:30 - 10:45 - Online

Instructor	Email	Phone	Office	Hours
Scott Robison	sarobiso@ucalgary.ca	N/A	MS 590	Please address your questions to the discussion boards or D2L->Communication->Zoom for the office hour links

Lecture 03: TR 12:30 - 13:45 - Online

Instructor	Email	Phone	Office	Hours
Scott Robison	sarobiso@ucalgary.ca	N/A	MS 590	Please address your questions to the discussion boards or D2L->Communication->Zoom for the office hour links

Online Delivery Details:

This course does not follow a scheduled meeting pattern.

Course Materials including: readings, notebooks, videos, and R-Studio software code etc. will be posted via the D2L course website. Although, students are **not** required to be online simultaneously (synchronously) it will be required that students view/complete all scheduled course components on the same day that they are assigned (reference the D2L calendar for details).

Asking Questions: many students will have additional questions, especially regarding assignment problems or course content. These questions should be asked on the relevant **Discussion Boards** on D2L, where Instructors, TA's, and peers can contribute and curate answer(s) to these questions centralizing, reducing duplication, and improving answer consistency.

Conversations of a personal or private nature may be conducted through email, and we will make every effort to respond in a timely manner within one working day. We ask for your patience, professionalism, and respect during communication.

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence.

Course Site:

D2L: STAT 217 L01-(Winter 2021)-Introduction to Statistics II

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s):

Statistics 213.

Antirequisite(s):

Credit for Statistics 217 and either Statistics 205 or 327 will not be allowed. Not available to students who have previous credit for one of Statistics 321 or Engineering 319 or are concurrently enrolled in Statistics 321 or Engineering 319.

3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Assignments (5) (Assignment scores will be taken out of 95%; meaning that scores $\geq 95\%$ will be recorded as 100%; eg. 57% will be recorded as $57/95=60\%$, this is to account for any assignment rounding errors. No further rounding adjustments will be made.)	25%	Assignment 1: Week 5, Feb. 7 Assignment 2: Week 7, Feb. 28 Assignment 3: Week 9, Mar. 14 Assignment 4: Week 12, Apr. 4 Assignment 5: Week 13, Apr. 11
Lab Exercises (*best 6 of 8 will count)	5%	**written weekly (starting Jan. 26) via webwork (48 hour window to complete an expected 25 min. assessment)
Lab Quizzes (*best 6 of 8 will count)	20%	**written weekly (starting Jan. 26) via webwork (48 hour window to complete an expected 25 min. assessment)
Term Exams (3)	40% (divided in 3)	***written via webwork (24 hour given to complete an expected ~50-100 min assessment) Test 1: Week 5, Feb. 10 Test 2: Week 8, Mar. 17 Test 3: Week 12, Apr. 14

*If a Quiz(zes) or Lab Exercise(s) is/are missing they will count as the assessment(s) that do not count. If more than 2 (respectively) are unaccounted for, scores of 0% will be inputted in as the assessment(s) that do count.

**The Quizzes and Lab Exercises will be available the whole registered lab calendar 24hr. day (eg. the start of a Tuesday 12:00am till the end of a Wednesday 11:59pm).

***If these dates cannot work for you please arrange (sarobiso@ucalgary.ca) an alternate time to write these exams prior (at least one week) to the date(s) in question. Of course, valid reasons will be accommodated, however, simple matters of preference will not be accommodated.

Flex	10%	2/3 of the 10%; (6.66%) from the best of the 3 Term tests 1/3 of the 10%; (3.33%) from the second best Term test
------	-----	---

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	75%	70 %	65 %	60%	55%	54.99 %	50 %

Any course components that are **late or missing will be given a score of 0%.**

The grade will be calculated as stipulated above, any/all requests to have **alternate grade weighting or assignments will be denied.**

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

It is **your** job to communicate clearly with your instructor **before** (if possible) or **directly after (<48 hours) crisis or extenuating circumstance has occurred**. Simply missing or not being aware of time (time zones) is not a valid justification. This includes: any **course conflicts** or **work schedules** etc.

5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

6. **Course Materials:**

This term we will not adopt any textbook. Please review the posted and provided uploaded D2L content. **Readings, notebooks, videos, and R-Studio software code etc. will be posted via the D2L course website.**

Any material that is posted of the D2L website is under copyright protection, students are not permitted to redistribute any of the material they find there to anyone not in this semester's class.

Any material that is posted on D2L is subject to be taken down within two weeks of the posted date, so do not use D2L as your digital storage space. Do not expect that you will have access to the D2L page beyond the End of Classes date (Apr. 15, 2021). Download any material you would like to your personal devices before they are removed from the website.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. **Examination Policy:**

Exams are to be written via Webwork, only one submission per assessment will be permitted.

Students should also read the Calendar, [Section G](#), on Examinations.

8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

9. **Writing Across The Curriculum Statement:**

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. **Human Studies Statement:**

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. **Reappraisal Of Grades:**

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. **Non-academic grounds are not relevant for grade reappraisals**. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the

- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. **Other Important Information For Students:**

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (syva@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
Student Academic Misconduct [Policy](#) and [Procedure](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Mathematics & Statistics, Mark Bauer by email bauerm@ucalgary.ca or phone 403-220-4189. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.

- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- g. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: ombuds@ucalgary.ca.
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

Course Outcomes:

- Conduct appropriate parametric and/or non-parametric single and multiple population comparisons (for both qualitative and quantitative data types), applying confidence interval estimation and hypothesis testing. Verify the necessary conditions of: the Normality, the equality of variance, and the dependence of the data structure(s)
- Recognize and distinguish between Type I and Type II errors that accompany statistical hypothesis testing. Displaying the ability to calculate the probabilities associated with these errors, for both single population proportions and large sample sized population means
- Evaluate the correlation between bivariate data for two qualitative variables
- Determine the 'Goodness-of-Fit' of an empirical data set to the well-known probability models: Binomial, Poisson, as well as any specified well-defined model.
- Model and verify the statistical significance of the model relating two quantitative variables (least- squares estimation). Demonstrate awareness of the conditions of the linear model and validate that these conditions are met through various techniques. Produce confidence interval estimation of both the mean and an individual value of the response variable
- Display and interpret the least-squares-estimate for Multiple Linear Regression. To defend, model, and verify the statistical significance of the regression equation's estimate from two or more quantitative and/or qualitative independent variables.
- Conduct population parameter comparisons between three or more quantitative variables through the employment of the balanced: One-Way-ANOVA/Post Hoc inference (Tukey's HSD), Two- Way-ANOVA (including repetition), and with selected Non-parametric counterparts.
- Demonstrate how to use critical thinking, formulae, and statistical software to provide solutions for both theoretical and practical applications of course material.

Electronically Approved - Dec 19 2020 13:28

Department Approval

Electronically Approved - Jan 04 2021 12:19

Associate Dean's Approval