UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF MATHEMATICS & STATISTICS
COURSE OUTLINE

1. **Course:** STAT 205, Introduction to Statistical Inquiry -- Winter 2018

Lecture 01: (MWF, 11:00-11:50 in ST145)

Instructor Name	Email	Phone	Office	Hours
Jim Stallard	jbstall@ucalgary.ca	403.220.3953	MS 582	TBA

Lecture 02: (MWF, 11:00-11:50 in ST145)

Jim Stallard	jbstall@ucalgary.ca	403.220.3953	MS 582	TBA

Lecture 03: (MWF, 13:00-13:50 in ENA103)

Bingrui (Cindy) Sun	cindy.bsun@ucalgary.ca	403-210-8473	MS 544	MWF 10-11am

Course Site:

D2L: STAT 205 L01/L02-(Winter 2018)-Introduction to Statistical Inquiry

Statistics 205 L01/L02 Course Webpage

Department of Mathematics & Statistics: MS 476, 403 220-5210,

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

2. **Prerequisites:**

See section 3.5.C in the Faculty of Science section of the online Calendar.

> Mathematics 30-1 or Pure Mathematics 30 or Mathematics II (offered by Continuing Education) or registration in the Faculty of Nursing.
> Credit forÂ Statistics 205Â andÂ any oneÂ of Statistics 211,Â 213,Â 217,Â 327,Â Political Science 399,Â Psychology 312,Â orÂ SociologyÂ 311Â will not be allowed. Students may not register in, or have credit for,Â Statistics 205Â if they have previous credit for one of Mathematics 321,Â Statistics 321Â orÂ Engineering 319Â or are concurrently enrolled inÂ Statistics 321Â orÂ Engineering 319.
> This course is highly recommended for Statistics Majors.

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 %
Top Hat Monocle (L01/L02)	3% (Additional)
Assignments (10)	10%
Midterm Exams (2)	35% (LEC 01/02: **MT1**: February 12th; **MT 2**: March 19th, both in lab)
Lab Exam (1)	10% (LEC 01/02 - Monday, April 9th, in lab)
Final Exam	45% (Scheduled by the Registrar)

LEC 03 Midterms: 35% (**MT1**: February 15th; **MT 2**: March 22nd)

LEC 03 Lab Exam: 10% (April 5th, in lab)

Each of the above components will be given a letter grade using the official university grading system. The final grade will be calculated using the grade point equivalents weighted by the percentages given above and then converted to a final letter grade using the official university grade point equivalents.

A passing mark on the final exam (at least 50%) is required in order to earn a minimum grade of C- in this course.

4. **Missed Components of Term Work:**

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in Section 3.6. It is the student's responsibility to familiarize himself/herself with these regulations. See also Section E.3 of the University Calendar

5. **Scheduled out-of-class activities:**

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

   REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

6. **Course Materials:**

   Introductory Statistics: Exploring the World Through Data by *Gould,Ryan,Stallard, and Boue*.

   Statistical Package: Minitab 18 will be required for this course and may be bundled with the text at the Bookstore. Free access is available in the labs: MS317, 515, 521, and 571. If you wish to purchase a copy, you can download a 30 day free trial from www.Minitab.com. E-academy offers both rental options and a perpetual copy (which will not shut off or expire). A 5-month rental costs is around $29.99 and a 12-month rental costs is $49.99; the perpetual purchase is $99.99. These licenses are for the full professional version and nothing has beenleft out. To purchase simply go to On The Hub. Minitab 18 is currently not compatible with Mac computers.

   Oneline Course Components:
   Online home through MyStatLab is available on any computer that has internet access to those who opt to purchase the above textbook package. Those who do not purchase the textbook will be given access to just the homework component through select computer labs on campus. Either way, you are responsible for completing the assigned homework. If you prefer the flexibility of working on your assigned homework from anywhere with internet access andaccess to the e-Book.The homework assignments are a critical part of this course. They are aimed to help you self assess your understanding of the course material and prepare you for the exams in the course.

7. **Examination Policy:**

   All course exams are closed books. You will be provided with a formula sheet for both midterm exams and the final exam. You will not be provided a formula sheet for the lab exam.

   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 those reports. See also Section E.2 of the University Calendar.

10. **Human studies statement:**

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

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.

    1. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 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 immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections I.1 and I.2 of the University Calendar
    2. **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. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under Section K. Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples**.

b. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on assembly points.

c. **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-accomodations-for-students-with-disabilities_0.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, Jim Stallard by email jbstall@ucalgary.ca or phone 403-220-3953. 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: http://www.ucalgary.ca/pubs/calendar/current/e-4.html

d. **Safewalk:** Campus Security will escort individuals day or night (www.ucalgary.ca/security/safewalk/) . Call 403-220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

e. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). 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 also www.ucalgary.ca/legalservices/foip.

f. **Student Union Information:** VP Academic, Phone: 403-220-3911 Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: suvpaca@ucalgary.ca.

g. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.

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. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see www.ucalgary.ca/wellnesscentre or call 403-210-9355.

Department Approval: Electronically Approved **Date:** 2017-12-22 11:15

Course Outcomes

1. Define a random variable; conceptualize its sample space, and calculate the likelihood of various events that random variable(s) could produce.
2. Identify a targeted population and its corresponding target parameter. Display how various sampling methods can target a population, with minimal bias.
3. Describe and analyze a random variableâ€™s properties through a visual and numeric examination of its distribution shape, measure of centre, and measure of spread
4. Comprehend and display the Central Limit Theorem and its implications on statistical inference via confidence interval estimation and hypothesis testing. This is to include methodology for both qualitative and quantitative data types as well as for single and multiple population comparisons.
5. Explain the correlation between bivariate data, again, for both qualitative and quantitative samples. Constructing the least-squares estimate when applicable.
6. Demonstrate how to use critical thinking, formulae, and statistical software to provide solutions for both theoretical and practical applications of course material.