The University of Iowa  
The College of Liberal Arts and Sciences  
Fall, 2023

STAT 1020:0CCC Elementary Statistics and Inference

Course meeting time and place:  MWF 11:30 – 12:20 p.m. C20  PC

Department of Statistics:  https://stat.uiowa.edu/

Course ICON site:  To access the course site, log into Iowa Courses Online (ICON) https://icon.uiowa.edu/index.shtml using your Hawk ID and password

Instructor:  Alex Liebrecht  
alexander-liebrecht@uiowa.edu  
Office:  221 SH  
Phone:  (319) 335-1038  
Office Hours:  MWF 12:30 – 1:30 p.m.

TAs:  Edward Addison, Yikai Zhang, Ash White

Graders:  Sumedha Dhar

DEO:  Kung-Sik Chan  
kung-sik-chan@uiowa.edu  
Office:  241 SH

Description of Course:  The main objective of this course is to introduce students to basic statistical concepts for summarizing, analyzing and presenting data. Main topics include regression, prediction, probability, estimation, and tests of significance.

Learning Objectives:  This course is approved for the general education “quantitative or formal reasoning” requirement. Courses approved in this area have as their primary purpose the development of the analytical powers of the student as they might be exercises in the presentation and evaluation of mathematical or other formal symbolic systems.


Calculators:  It is recommended that you get a TI-83 or TI-84 for this course. Demonstrations in this class will be done with a TI-84 and Microsoft Excel.

Academic Honesty and Misconduct:  All students in CLAS courses are expected to abide by the CLAS Code of Academic Honesty. Undergraduate academic misconduct must be reported by instructors to CLAS according to these procedures. Graduate academic misconduct must be reported to the Graduate College according to Section F of the Graduate College Manual.
**Student Complaints:** Students with a complaint about a grade or a related matter should first discuss the situation with the instructor and/or the course supervisor (if applicable), and finally with the Director or Chair of the school, department, or program offering the course.

Undergraduate students should contact [CLAS Undergraduate Programs](mailto:CLASUndergraduatePrograms@uiowa.edu) for support when the matter is not resolved at the previous level. Graduate students should contact the CLAS [Associate Dean for Graduate Education](mailto:AssociateDeanforGraduateEducation@uiowa.edu) and Outreach and Engagement when additional support is needed.

**Drop Deadline for this Course:** You may drop an individual course before the deadline; after this deadline you will need collegiate approval. You can look up the [drop deadline for this course](https://example.com/drop-deadline) here. When you drop a course, a “W” will appear on your transcript. The mark of “W” is a neutral mark that does not affect your GPA. Directions for adding or dropping a course and other registration changes can be found on the [Registrar’s website](https://example.com/registrar). Undergraduate students can find policies on dropping and withdrawing [here](https://example.com/undergrad-policies). Graduate students should adhere to the [academic deadlines](https://example.com/grad-policies) and policies set by the Graduate College.

**Grades:** Grade cutoffs will be no higher than the usual 90-80-70-60 breakdown. The course will use the +/- grading system. The A+ grade is used only in extraordinary situations.

**Homework (25% of grade):** Homework will be assigned and collected on Fridays at 11:59 p.m. using ICON. *Homework should be turned in as a pdf.* Points will be deducted for homework that is not the appropriate file type.

During the semester, there will be two presentations---one on regression and one on hypothesis testing. These will be counted as a “double” homework assignment.

**Exams (25/25/25%):** Three exams will be given: two midterms and a final. The dates of the exams are TBD.

**Date and Time of the Final Exam**

The final examination date and time will be announced by the Registrar generally by the fifth week of classes and it will be announced on the course ICON site once it is known. Do not plan your end of the semester travel plans until the final exam schedule is made public. It is your responsibility to know the date, time, and place of the final exam. According to Registrar's final exam policy, students have a maximum of two weeks after the announced final exam schedule to request a change if an exam conflict exists or if a student has more than two exams in one day (see the [policy here](https://example.com/payment-policy)).
Calendar of Course Assignments and Exams

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Course Content

Unit 1: Introduction
- Data, Variables, and Models (Chapter 1)
- Displaying and Describing Data (Chapter 2)
- Relationships Between Categorical Variables --- Contingency Tables (Chapter 3)
- Sample Surveys (Chapter 10)
- Experiments and Observational Studies (Chapter 11)

Unit 2: Regression
- Scatterplots, Association, and Correlation (Chapter 6)
- Linear Regression (Chapter 7)
- Regression Wisdom (Chapter 8)

Unit 3: Probability
- From Randomness to Probability (Chapter 12)

Unit 4: Discrete Distributions
- Geometric and Binomial Distribution (Supplemented by Instructor)

Unit 5: Continuous Distributions
- The Standard Deviation as a Ruler and the Normal Model (Chapter 5)

Unit 6: Confidence Intervals
- Sampling Distribution Models and Confidence Intervals for Proportions (Chapter 13)
- Confidence Intervals for Means (Chapter 14)

Unit 7: Hypothesis Tests
- Testing Hypotheses (Chapter 15)
- More About Tests and Intervals (Chapter 16)

Unit 8: Inference for Relationships
- Comparing Groups (Chapter 17)
- Paired Samples and Blocks (Chapter 18)
College of Liberal Arts and Sciences (CLAS) Course Policies

**Attendance and Absences**

University regulations require that students be allowed to make up examinations which have been missed due to illness or other unavoidable circumstances. Students with mandatory religious obligations or UI authorized activities must discuss their absences with me as soon as possible. Religious obligations must be communicated within the first three weeks of classes.

**Exam Policies**

**Communication: UI E-mail**

Students are responsible for all official correspondences sent to their UI email address (uiowa.edu) and must use this address for any communication with instructors or staff in the UI community.