Dr. Alex Liebrecht
alexander-liebrecht@uiowa.edu

The University of Iowa
The College of Liberal Arts and Sciences
Spring, 2025

Title of Course: STAT:1030:0AAA Statistics for Business
Course meeting time and place: 3:30P – 4:45P AUD MH
Department of Statistics and Actuarial Science: https://stat.uiowa.edu/

Course ICON site: To access the course site, log into Iowa Courses Online (ICON) using your Hawk ID and password.

Instructor: Alex Liebrecht
alexander-liebrecht@uiowa.edu
Office: 221 SH
Office Hours: 2:30P – 3:20P MWF
Phone: (319) 335 – 1038

TAs (and discussion sections)**:**

		STAT:1030:0A03 8:30A - 9:20A T 41 SH 8:30A - 9:20A Th 30 SH *Brandon Joly*	**STAT:1030:0A04** 8:30A - 9:20A T 30 SH 8:30A - 9:20A Th 41 SH *Mingyu Huang*
STAT:1030:0A05 9:30A - 10:20A T 41 SH 9:30A - 10:20A Th 30 SH *Brandon Joly*	**STAT:1030:0A06** 9:30A - 10:20A T 30 SH 9:30A - 10:20A Th 41 SH *Mingyu Huang*	**STAT:1030:0A07** 10:30A - 11:20A T 41 SH 10:30A - 11:20A Th 30 SH *Akhilesh Karra*	**STAT:1030:0A08** 10:30A - 11:20A T 30 SH 10:30A - 11:20A Th 41 SH *Ashwin Dervesh*
STAT:1030:0A09 11:30A - 12:20P T 41 SH 11:30A - 12:20P Th 30 SH *Akhilesh Karra*	**STAT:1030:0A10** 11:30A - 12:20P T 30 SH 11:30A - 12:20P Th 41 SH *Ashwin Dervish*	**STAT:1030:0A11** 12:30P - 1:20P T 41 SH 12:30P - 1:20P Th 30 SH *Mikyeong Lee*	**STAT:1030:0A12** 12:30P - 1:20P T 30 SH 12:30P - 1:20P Th 41 SH *Max Swinton*
STAT:1030:0A13 1:30P - 2:20P T 41 SH 1:30P -2:20P Th 30 SH *Mikyeong Lee*	**STAT:1030:0A14** 1:30P - 2:20P T 30 SH 1:30P -2:20P Th 41 SH *Max Swinton*	**STAT:1030:0A15** 2:30P - 3:20P T 41 SH 2:30P - 3:20P Th 30 SH *Nathan Munshower*	**STAT:1030:0A16** 2:30P - 3:20P T 30 SH 2:30P - 3:20P Th 41 SH *Yuyue Sun*
STAT:1030:0A17 3:30P - 4:20P T 41 SH 3:30P -4:20P Th 30 SH *Nathan Munshower*	**STAT:1030:0A18** 3:30P -4:20P T 30 SH 3:30P - 4:20P Th 41 SH *Yuyue Sun*	**STAT:1030:0A19** 4:30P - 5:20P T 41 SH 4:30P - 5:20P Th 30 SH *Yu-Chao Huang*	**STAT:1030:0A20** 4:30P - 5:20P T 30 SH 4:30P - 5:20P Th 41 SH *Behrooz Khalil Loo*
STAT:1030:0A21 5:30P - 6:20P T 41 SH 5:30P - 6:20P Th 30 SH *Yu-Chao Huang*	**STAT:1030:0A22** 5:30P - 6:20P T 30 SH 5:3P - 6:20P Th 41 SH *Behrooz Khalil Loo*		

DEO (Department Chair): Kung-Sik Chan
Kung-sik-chan@uiowa.edu
Office: 241 SH
Phone: (319) 335 - 0712

Description of Course
This is a one semester undergraduate course in business statistics. All the course material (except the textbook) will be made available on ICON. Lectures will introduce the student to statistical and probabilistic reasoning and will cover introductory topics in descriptive and inferential statistics, with emphasis on business applications. Discussions will support lecture material and include a weekly computer lab component where software Excel will be used to carry out data analyses. The material is pitched at a level that should be comfortable to a first-year undergraduate student who has successfully completed high school algebra. This is an approved General Education course (Quantitative and Formal Reasoning).

Learning Objectives
The successful student will leave this course with a basic understanding of many of the fundamentally important ideas in statistics. They will be equally comfortable (i) explaining statistical concepts, paradoxes, and fallacies to colleagues; (ii) using basic probability rules to measure uncertainty, (iii) graphically and numerically describing univariate and multivariate data; and (iv) applying elementary statistical inference procedures. They will also be comfortable using the computer software Excel to carry out many of the descriptive and inferential tasks.

Textbook: Business Statistics A First Course
ISBN: 9780321506092
Author: Sharpe, De Veaux, and Velleman

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 for support when the matter is not resolved at the previous level. Graduate students should contact the CLAS Associate Dean for Graduate Education and Outreach and Engagement when additional support is needed.

Grading System

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. There will NOT be a curve for this class.

Course Grades

Questions about the scoring of participation, homework, quizzes, or exams must be asked within one week of posting the grade.

Participation (10% of grade)**:** There will be the occasional attendance check during lecture and discussion to encourage classroom attendance. This will include things like a quick ICON quiz during lecture or completing the discussion worksheet during discussion. The two lowest participation grades will be dropped.

Homework (15% of grade): Homework will be assigned and collected during Discussion on Thursdays at your assigned discussion time. There will be two presentations during discussion throughout the semester ---one on regression and one on hypothesis testing. We will drop the two lowest homework assignments. On weeks that there are exams, there will be no homework.

Quizzes (15% of grade): On Thursdays, Discussion will conclude with a short quiz (probably about 15 minutes on average). These quizzes will cover material from lecture and discussion for the week and will be checked for correctness. Each quiz will be worth 10 points and we will drop the two lowest quizzes. On weeks that there are exams, there will be no quiz.

---------- **IMPORTANT**----------

Exams (17.5%, 17.5%, 25%): The date of the final is TBD.

Midterm Exams
6:30PM - 8:30PM 02/28/2025 Fri AUD MH / W10 PBB / W107 PBB
6:30PM - 8:30PM 04/04/2025 Fri AUD MH / W10 PBB / W107 PBB

Students are expected to be present for the exams at the scheduled time. If you cannot be present, it is your responsibility to make the appropriate arrangements *beforehand.* The policy for missed exams is the same as the policy outlined by the College of Liberal Arts and Sciences. Exams may be made up for the following reasons:

- Illness. Visites to Student Health are free for current UIowa students. A note from Student Health or documentation from MyChart would be helpful to prove an illness occurred on the day of examination.
- Religious holy days
- Military service obligations
- University-sponsored activities

Students are permitted to prepare a 8.5" × 11" *hand-written* "crib-sheet" for exams. No other materials are allowed.

Attendance and Absences

Attendance is required. Students must attend all lectures and discussion sections. Just as in the workplace, attendance is a critical predictor of success. There will be announced and unannounced engagement activities in both lecture and discussion. There will be no make-ups for missed homework, quizzes, or attendance checks. Please note that the lowest two homeworks and quizzes are dropped --- this is to help with any quizzes that are missed.

Course Content

- Data collection, summary statistics, and graphical displays
- Introduction to correlation and simple linear regression
- Counting techniques and probability
- Random variables, expectation, and variance
- Discrete distributions
- Continuous distributions
- Linear combinations of random variables
- Sampling distributions, Central Limit Theorem
- Inference (confidence intervals and hypothesis testing) for a mean μ
- Inference (confidence intervals and hypothesis testing) for a proportion p
- Inference for $\mu_1 - \mu_2$
- Inference for simple linear regression
- Chi-square test for independence and chi-square goodness of fit test

Communication: UI Email

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. For the privacy and the protection of student records, UI faculty and staff can only correspond with UI email addresses.

Help Outside of Class

Statistics Tutor Lab: There is a free statistics tutorial lab (1113 Red, Library Commons, First Floor, Main Library) for students in this course. During available times, a graduate student will be present to assist you. Hours for the lab can be found at https://www.stat.uiowa.edu/resources/tutoring. A list of paid private tutors can be found on this page as well.

Supplemental Instruction (SI): This course has SI available. SI is an excellent peer facilitated interactive group study session designed to not only help you learn the material but also how to learn. There will be no SI sessions during spring break or finals week. The scheduled SI times can be seen below:

Statistics for Business	Mondays 5:30-6:20 PM
STAT:1030 / Location: C410 PBB – South Reading Room	Wednesdays 2:30-3:20 PM
SI Leaders: Matt	Thursdays 4:00-4:50 PM

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 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. Undergraduate students can find policies on dropping CLAS courses here. Graduate students should adhere to the academic deadlines and policies set by the Graduate College.

Mental Health Resources and Student Support

Students are encouraged to be mindful of their mental health and seek help as a preventive measure or if feeling overwhelmed and/or struggling to meet course expectations. Students are encouraged to talk to their instructor for assistance with specific class-related concerns. For additional support and counseling, students are encouraged to contact University Counseling Service (UCS). Information about UCS, including resources and how to schedule an appointment, can be found at counseling.uiowa.edu. Find out more about UI mental health services at mentalhealth.uiowa.edu.

Student Care and Assistance provides assistance to University of Iowa students who are experiencing a variety of crisis and emergency situations, including but not limited to medical issues, family emergencies, unexpected challenges, and sourcing basic needs such as food and shelter. More information on the resources related to basic needs can be found at basicneeds.uiowa.edu/resources/. Students are encouraged to contact

Student Care & Assistance in the Office of the Dean of Students (Room 135 IMU, dos-assistance@uiowa.edu, or 319-335-1162) for support and assistance with resources.

University Policies

Accommodations for Students with Disabilities
The University is committed to providing an educational experience that is accessible to all. If a student has a diagnosed disability or other disabling condition that may impact the student's ability to complete the course requirements as stated in the syllabus, the student may seek accommodations through Student Disability Services (SDS). SDS is responsible for making Letters of Accommodation (LOA) available. **The student must provide an LOA to the instructor as early in the semester as possible, but requests not made at least two weeks prior to the scheduled activity for which an accommodation is sought may not be accommodated.** The LOA will specify what reasonable course accommodations the student is eligible for and those the instructor should provide. Additional information can be found on the SDS website.

Free Speech and Expression
Absences for Religious Holy Days
Classroom Expectations
Non-discrimination
Sexual Harassment/Misconduct and Supportive Measures
Sharing of Class Recordings (if appropriate)

Tentative Schedule

Week	Due Date	Homework	Topics	Chapters
1	1/23/2025	HW1	Intro	1, 2, 3, 8, 9
2	1/30/2025	Project 1	Regression	4
3	2/6/2025	HW3	Probability	5
4	2/13/2025	HW4A	Discrete Distributions	6
5	2/20/2025	HW5A	Continuous Distributions	7
6	**2/28/2025**	**EXAM 1**		
7	3/6/2025	HW5B	Continuous Distributions (continued)	7 (continued)
8	3/13/2025	HW6	Sampling Distributions	10
-	3/20/2025	-	-	-
9	3/27/2025	HW7	Confidence Intervals for Proportions	10 (continued)
10	**4/2/2025**	**EXAM 2**		
11	4/10/2025	Project 2	Hypothesis Testing for Proportions	12
12	4/17/2025	HW8	Inference for Means	11, 13
13	4/24/2025	HW9	2-Sample Inference	14
14	5/1/2025	HW10	Interence for Regression	16, 17, 18, 19
15	5/8/2025	Final Review	Final Review / Chi-Square	15
Finals	**TBD**	**FINAL**		