

STAT:3100:0001 Introduction to Mathematical Statistics I (Fall 2023)

Lectures: 9:30–10:20 a.m. MWF, 14 Schaeffer Hall.

Instructor: Haley Jeppson

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Office: 386 Schaeffer Hall

Office hours: M 11:20 - 12:50 p.m., W 8:00 - 9:30 a.m.; and by appointment.

Grader: Nikita Jaiswal, nikita-jaiswal@uiowa.edu, 241 Schaeffer Hall

Department: Statistics and Actuarial Science, stat.uiowa.edu

DEO: Dr. Kung-Sik Chan, 241 Schaeffer Hall, 319-335-2849

Course Description

This course is the first of a two-semester sequence designed to introduce students to mathematical statistics. The following topics will be covered this fall: basic probability, discrete distributions, continuous distributions, bivariate distributions, and functions of random variables. These topics roughly correspond to Chapters 1 - 5 of the textbook. This is a mathematical course. There will occasionally be software demonstrations in class, but no computing is required.

Prerequisites: Math 1860 or 1560

Textbook: Hogg, Tanis, and Zimmerman (2018). Probability and Statistical Inference, 10th ed, Pearson.

Additional Resource: Durrett (2021 Beta test version). Elementary Probability for Applications. Freely available at https://services.math.duke.edu/~rtd/EP4A/EP4A_April2021.pdf.

Course webpage: I will post announcements, homework problems, lecture notes, and other course information on ICON <http://icon.uiowa.edu>

Email Etiquette: You are always welcome to email me questions. Mention Stat 3100 in the email title and I will do my best to answer email questions within 24 hours.

Assessment

Your final course grade is computed based on the following proportions: 30% Homework, 40% Two in-semester exams, 30% Final Exam.

The letter grades will be made according to the following scale: A = 90%-100%, B = 80%-90%, C = 70%-80%, D = 60% - 70%. Plus (+) and minus (-) gradings will be given as deemed appropriate. At the discretion of Dr. Jeppson, depending on class performance and attendance/participation in class, these ranges may be adjusted, but only downward - criteria will only become easier, not harder. A+ grade will be used only to indicate rare and extraordinary academic achievement.

Homework: Approximately ten homework assignments will be assigned throughout the semester. Late homework submissions will not be accepted unless permission to turn in the homework late has been granted by the instructor prior to the due date. Such permission will be given at the discretion of the instructor and will only be given in extraordinary circumstances. The worst homework will be dropped. Homework is to be completed and submitted individually. Unless stated otherwise, to receive full credit, show your work when solving homework problems instead of just present a numerical result. You are encouraged to discuss and study with others, but the submitted work must reflect your own effort.

Submitting Homework: All homework is to be submitted through ICON. Please write clearly and upload a single file of scan/picture of your work in ICON. In order for the homework to be graded you must upload the assignment as a pdf document.

Exams: Exams (in class) will emphasize examples, key concepts and techniques that are repeatedly mentioned in class, as well as those encountered in homework problems. All in class tests will be closed book. There will be two in-semester exams, each of the two worth 20% of your final course grade. The tentative dates for these exams are October 4 (Wednesday), November 8 (Wednesday), but these dates are subject to change. The changes, if any, will be announced at least one week before the exam dates. The final exam will be comprehensive and the date/time will be determined by the University <https://registrar.uiowa.edu/final-exam-schedules>.

Makeup Policy: In case of illness or emergency, contact the instructor in person or by email prior to the exam. Each case will be reviewed individually.

Attendance is required: View Attendance and Absence Policies at clas.uiowa.edu/faculty/student-attendance-and-absences.

The College of Liberal Arts and Sciences Policy and Procedures

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](#).

Absences from Class: [University regulations](#) require that students be allowed to make up examinations which have been missed due to illness, religious holy days, military service obligations, including service-related medical appointments, jury duty, or other unavoidable circumstances or other University-sponsored activities. Students should work with faculty regarding making up other missed work, such as assignments, quizzes, and classroom attendance.

Absences for Religious Holy Days: The University is prepared to make reasonable accommodations for students whose religious holy days coincide with their classroom assignments, test schedules, and classroom attendance expectations. Students must notify their instructors in writing of any such Religious Holy Day conflicts or absences within the first few days of the semester or session, and no later than the third week of the semester. If the conflict or absence will occur within the first three weeks of the semester, the student should notify the instructor as soon as possible. See [Operations Manual 8.2 Absences for Religious Holy Days](#) for additional information.

Absences for Military Service Obligations: Students absent from class or class-related requirements due to U.S. veteran or U.S. military service obligations (including military service-related medical appointments, military orders, and National Guard Service obligations) shall be excused without any grading adjustment or other penalty. Instructors shall make reasonable accommodations to allow students to make up, without penalty, tests and assignments they missed because of veteran or military service obligations. Reasonable accommodations may include making up missed work following the service obligation; completing work in advance; completing an equivalent assignment; or waiver of the assignment without penalty. In all instances, students bear the responsibility to communicate with their instructors about such veteran or military service obligations, to meet course expectations and requirements.

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 a 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](#).

Basic Needs and Student Support: It can be difficult to maintain focus and be present if you are experiencing challenges with meeting basic needs or navigating personal crisis situations. The Office of the Dean of Students can help. Contact us for one-on-one support, identifying options, and to locate and access basic needs resources (such as food, rent, childcare, etc.). Links to Basic Needs info: [Food Pantry at Iowa](#),

Clothing Closet, Basic Needs and Support Resources. Contact: Student Care and Assistance, 132 IMU, dos-assistance@uiowa.edu, 319-335-1162

Classroom Expectations: Students are expected to comply with University policies regarding appropriate classroom behavior as outlined in the [Code of Student Life](#). While students have the right to express themselves and participate freely in class, it is expected that students will behave with the same level of courtesy and respect in the virtual class setting (whether asynchronous or synchronous) as they would in an in-person classroom. Failure to follow behavior expectations as outlined in the [Code of Student Life](#) may be addressed by the instructor and may also result in discipline under the [Code of Student Life](#) policies governing E.5 Disruptive Behavior or E.6 Failure to Comply with University Directive.

Communication and the Required Use of UI Email: Students are responsible for official correspondences sent to their UI email address (uiowa.edu) and must use this address for all communication within UI ([Operations Manual, III.15.2](#)).

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](#).

Free Speech and Expression: The University of Iowa supports and upholds the First Amendment protection of freedom of speech and the principles of academic and artistic freedom. We are committed to open inquiry, vigorous debate, and creative expression inside and outside of the classroom. Visit the Free Speech at Iowa website for more information on the university’s policies on free speech and academic freedom.

Mental Health: 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.

Non-discrimination Statement: The University of Iowa prohibits discrimination in employment, educational programs, and activities on the basis of race, creed, color, religion, national origin, age, sex, pregnancy, disability, genetic information, status as a U.S. veteran, service in the U.S. military, sexual orientation, gender identity, associational preferences, or any other classification that deprives the person of consideration as an individual. The university also affirms its commitment to providing equal opportunities and equal access to university facilities. For additional information on nondiscrimination policies, contact the Director, [Office of Institutional Equity](#), the University of Iowa, 202 Jessup Hall, Iowa City, IA 52242-1316, 319-335-0705, oi-e-ui@uiowa.edu. Students may share their pronouns and chosen/preferred names in [MyUI](#), which is accessible to instructors and advisors.

Sexual Harassment/Sexual Misconduct and Supportive Measures: The University of Iowa prohibits all forms of sexual harassment, sexual misconduct, and related retaliation. The [Policy on Sexual Harassment and Sexual Misconduct](#) governs actions by students, faculty, staff and visitors. Incidents of sexual harassment or sexual misconduct can be reported to the [Office of Institutional Equity](#) or to the [Department of Campus Safety](#). Students impacted by sexual harassment or sexual misconduct may be eligible for academic supportive measures and can learn more by [contacting the Office of Institutional Equity](#). Information about confidential resources and videos explaining these resources can be found on the [Division of Diversity, Equity, and Inclusion website](#).

Student Complaints: Students with a complaint about a grade or a related matter should first discuss the situation with the instructor, 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.