STAT:3120 Probability and Statistics
Section 0001 Fall 2025

Lectures	MWF 10:30 – 11:20 a.m. and Th 8:30-9:20 a.m, VAN LR2 MWF sessions focus on new material and Thursday on guided practice. **Both** are essential for learning, and attendance is mandatory.
Instructor for MWF	Dr. Aixin Tan, 259 SH, `aixin-tan@uiowa.edu`
Instructor for Thur	TBD
Assistant/Grader	TBD
Dr. Tan's Office Hours	TBD Students are invited to drop by 259 SH during these hours to discuss questions about course materials or concerns. I am also available by appointment (can be in person or by zoom).
Questions by email	You are always welcome to email me questions. Mention STAT:3120 in the email title. I usually reply within a day.
Assistant's Office Hours	TBD

Course Website. I will post announcements, homework problems, lecture notes, and other course information in ICON `http://icon.uiowa.edu`

Course Home. The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the add and drop deadlines, academic misconduct policies, and other undergraduate policies and procedures. Other UI colleges may have different policies.
The Course Home Department is Statistics and Actuarial Science, 241 SH.
DEO: Dr. Kung-Sik Chan, 241 SH, 335-0712, kung-sik-chan@uiowa.edu

Course Description. This course offers a condensed introduction to probability theory and statistical inference. We introduce random variables and probability distributions and tools to study and apply them. Building upon these, we also introduce statistical inference methods, including point and interval estimation/prediction, and hypothesis testing. Many sections of Chapters 1–9 of the textbook will be covered.

Learning Outcomes. By the end of the course, students will be able to work with a wide range of probability models and apply them to making statistical inference. They will also gain experience in interpreting results and understanding how these methods are used in practical applications.

Prerequisites. The course prerequisites are the mathematics courses MATH:1860 or MATH:1560, or equivalents. Basically, **a good, year-long course in calculus**.

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

Additional Optional Resources.
Durrett (2021 Beta test version). Elementary Probability for Applications. Freely available at `https://services.math.duke.edu/~rtd/EP4A/EP4A_April2021.pdf`.
Larry Wasserman (2004) All of Statistics – A Concise Course in Statistical Inference.

Grading. Your semester grade will consist of the following components:

Homework	12%	
Quizzes (including attendance)	5%	
Midterm Exam 1	24%	week of Oct. 29 (tentative)
Midterm Exam 2	24%	week of Nov. 9 (tentative)
Final Exam	35%	week of Dec. 14 (to be announced by the University in Oct.)
Total	100%	

As a **rough** guide, **A,A-**= 90%−100%, **B+,B,B-**= 80%−90%, **C+,C,C-**= 70%−80%, **D+,D,D-**= 60% − 70% .

Quizzes and Exams. Quizzes (maybe given in class or on-line via ICON, tbd) and Exams (in class) will emphasize examples, key concepts and techniques that are repeatedly mentioned in class and encountered in homework problems. All in-class tests will be closed book. The final exam will be comprehensive.

Makeup policy for Quizzes and Exams. In case of illness or emergency, contact the instructor in person or by email **prior** to the exam or quiz. Each case will be reviewed individually.

Homework. Weekly homework will be assigned in ICON and due a week later. The deadline will be clearly shown in ICON/Assignment. **Please write clearly and upload a single file of scan/picture of your work in ICON/Assignment.**
Homework submissions up to 24 hours late will receive a 15% penalty, those between 24 and 48 hours late a 30% penalty, and those between 48 and 72 hours late a 45% penalty. **A Homework submission that is more than 72 hours late receives a score of zero unless** the delay is due to "illness, mandatory religious obligations, or other unavoidable circumstances or University activities" that were communicated to the instructor **prior to the original deadline**. Solutions will be posted in ICON.
Each week, the grader will randomly pick a subset of the assigned problems, and your homework grades solely depend on your solution to the randomly picked problems. So it is important that you attempt all the assigned problems. Note, there will be no homework assignments that give "bonus credit" to individual students to help their grade. However, **the lowest two homework scores will be dropped**, meant to cover all unexpected emergent situations.
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. If you do discuss with others or use AI on homework assignments, please: (a) write up your own assignment and make sure you completely understand all solutions that you submit, and (b) write the names of the others in your study group and/or acknowledge your AI assistant on your assignment.

Attendance and Accommodation. Attendance is required. Random roll calls will be conducted throughout the semester. In case of illness or emergency, inform the instructor in advance by email or in person. More details of the college policy can be found at Attendance and Absence Policies

Artificial Intelligence (AI) Policy
Students are free to use AI to help them study course materials and solve homework problems. But the work submitted must reflect their own understanding and writing. (Direct copying and pasting from AI generated results will NOT earn points.) Note that AI will NOT be available for use on exams. (During in-class exams, the only aid allowed is a formula sheet prepared by the student. Specific guidelines for the sheet will be shared one week prior to each exam.)

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.

Academic Honesty and Misconduct
All students in CLAS courses are expected to abide by the college's standards 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.

Drop Deadline for this Course
You may drop an individual course before the drop 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. To discuss how dropping (or staying in) a course might affect your academic goals, please contact your Academic Advisor. 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.

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 DEO (Chair) of the department, school or program offering the course. Sometimes students will be referred to the department or program's Director of Undergraduate Studies (DUS) or Director of Graduate Studies (DGS).

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 Graduate Affairs Manager when additional support is needed.

Course's College (Administrative Home)
For undergraduate courses: The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the add and drop deadlines, academic misconduct policies, and other undergraduate policies and procedures. Other UI colleges may have different policies.

For graduate courses: The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the policies and procedures for its courses. Graduate students, however, must adhere to the academic deadlines set by the Graduate College.

The up-to-date University policies concerning Free Speech and Expression, Non-discrimination Statement, Accommodations for Students with Disabilities, Absences, Classroom Expectations, Sexual Harassment/Misconduct, Conflict Resolution, Mental Health, Basic Needs and Student Support, and Class Recordings can be found at `https://provost.uiowa.edu/student-course-policies`.