The University of Iowa
The College of Liberal Arts and Sciences
Fall, 2022

Title of Course: STAT:4100:0001 Mathematical Statistics I
Course meeting time and place: MWF 8:30 a.m. – 9:20 a.m., 140 SH
Department of Statistics and Actuarial Science: 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.

Course 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, the "second-grade only" option (SGO), 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.

Instructor
Office location: 205 SH
Office hours: MWF *9:20 a.m. – 10:20 a.m., or by appointment*
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Grader: Ying Xiang, 266 SH, ying-xiang@uiowa.edu
DEO: *Kung-Sik Chan, 241 SH, kung-sik-chan@uiowa.edu*

Description of Course
This is a course in mathematical statistics intended for upper-level undergraduate students in mathematical sciences as well as for graduate students in all disciplines. The main contents include (i) probability and distributions (sets, random variables, expectation, important inequalities), (ii) multivariate distributions (joint/marginal distributions, transformation, independence), and (iii) some special distributions (Binomial, Negative Binomial, Poisson, Geometric, Normal). *The course prerequisites are the mathematics courses MATH:2700 and MATH:2850.*

Learning Objectives
The goal of this course is to provide students with a strong foundation in probability, statistical terminology and concepts. This course should provide students with an understanding of statistical techniques and reasoning and provide a solid background for more advanced courses in statistics.

Textbook/Materials
The required textbook(s) for this course are:
- Introduction to Mathematical Statistics
- ISBN-10: 0134686993
- Authors: Robert Hogg, Joseph McKean and Allen Craig
- Publisher: Pearson; 8th edition (2018)

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.

Discussions/collaborations on homework problems are encouraged, but you should write your own solutions independently. You are not allowed to discuss with others in quizzes or exams. All exams will allow a one-page two-sided cheat sheet.

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.

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 and withdrawing here. Graduate students should adhere to the academic deadlines and policies set by the Graduate College.

Grading System and the Use of +/-
This course uses the plus or minus grading system.

Final grades will be awarded based on the following ranges:

A	B	C	D	F
A+ 98-100	B+ 87-89	C+ 77-79	D+ 67-69	F < 59
A 93-97	B 83-86	C 73-76	D 63-66	
A- 90-92	B- 80-82	C- 70-72	D- 60-62	

Course Grades

Final course grades will be assessed based on your performance in the following activities:

Homework assignments (20%): 12 homework assignments will be given, and 10 highest scores out of 12 will be counted towards final grades. Homework is due at 11:59 p.m. every Wednesday. Please submit an electronic version to ICON site. Late/no submission will be scored zero.

Quizzes (20%): To ensure that students are completing the course readings and understanding the material, regular quizzes will be given biweekly on Fridays. Each quiz takes 15 minutes (from 9:05 a.m. to 9:20 a.m), and late/no submission will be scored zero. They will evaluate key information presented in a two-week time interval. The 4 highest scores out of 6 will be taken into final grades. Make-up quizzes are not allowed.

Class participation (5%): Regular and prompt attendance is mandatory for this course. Since a substantial percentage of your grade will be based on class attendance and participation, it is in your interest to attend every class and to arrive with significant contributions to make to discussions.

Exams (55%): One midterm (25%) and one final exam (30%) will be given. Each exam will cover material from approximately half of the course, including information presented in lectures, quizzes, and homework assignments. The exams will test students' knowledge of basic concepts, terms, and general trends discussed in the course.

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).

Calendar of Course Assignments and Exams

Assignment type	Due date
Homework 1	09/07
Quiz 1	09/09
Homework 2	09/14
Homework 3	09/21
Quiz 2	09/23
Homework 4	09/28
Homework 5	10/05
Quiz 3	10/07

Homework 6	10/12
Midterm exam	10/14 (in class)
Homework 7	10/19
Quiz 4	10/21
Homework 8	10/26
Homework 9	11/2
Quiz 5	11/4
Homework 10	11/9
Homework 11	11/16
Quiz 6	12/02
Homework 12	11/30
Final exam	12/12 – 12/16, TBD

College of Liberal Arts and Sciences (CLAS) Course Policies
Attendance and Absences

University regulations require that students be allowed to make up quizzes or examinations which have been missed due to illness or other unavoidable circumstances. Documentation is required by the instructor except in the case of a brief illness. 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 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. When emailing about this course, please put "STAT4100" into the subject line. Emails to the instructor or TA could be organizational issues, such as requests for appointments, questions about course organization, etc. In general, discussion on technical issues over email lacks efficiency, and we strongly encourage solving those problems during office hours. Technical issues are questions concerning how to approach a particular problem, or whether a particular solution is correct.

Where to Get Help
Tutor Iowa: https://tutor.uiowa.edu/

University Policies
Accommodations for Students with Disabilities
Basic Needs and Support for Students
Classroom Expectations
Exam Make-up Owing to Absence
Free Speech and Expression

Mental Health
Military Service Obligations
Non-discrimination
Religious Holy Days
Sexual Harassment/Misconduct and Supportive Measures
Sharing of Class Recordings