

# STAT 400/Math 463: Statistics and Probability I

Professor: Albert Yu

Fall 2023

E-mail: [ayu12@illinois.edu](mailto:ayu12@illinois.edu)

LMS: **Canvas**

Office Hours: Tues/Thurs 1:45pm - 3:30pm      703 S. Wright St. 2nd floor common area

Discord: **Invitation Hyperlink**

Homework Submission: **Gradescope** (use entry code: **DJW3GN0**)

---

## Graduate Teaching Assistants

- Eddie Cardenas-Torres [ec17@illinois.edu](mailto:ec17@illinois.edu)
- Arjama Das [YD3, YD8] [arjamad2@illinois.edu](mailto:arjamad2@illinois.edu)
- Linjun Huang [YD4, YD6] [linjunh2@illinois.edu](mailto:linjunh2@illinois.edu)
- Tianning Xu [YD2, YD5] [tx8@illinois.edu](mailto:tx8@illinois.edu)
- Rentian Yao [YD1, YD7] [rentian2@illinois.edu](mailto:rentian2@illinois.edu)

## Homework Help Room

CAs and TAs will be available to answer questions.

Mon - Thurs: 5:00 - 7:00pm

Location: TBD

## Course Description

This course offers a basic semester-long introduction to mathematical statistics. Topics covered: probability, random variables, discrete and continuous distributions, expectation, distribution functions, central limit theorem, point estimation, confidence intervals, and hypothesis testing. Prepares students for STAT 410.

## Required Materials

- R and RStudio (free)
- Scientific or graphing calculator

## Strongly Recommended Materials (any edition)

- Probability and Statistical Inference, 9th or 10th edition, by Robert V. Hogg, Elliot A. Tanis, Dale L. Zimmerman. (*corresponds to course notes*)
- Mathematical Statistics with Applications 7th edition, by Wackerly, Mendenhall, Scheaffer. (*better readability*)

Course notes will be provided. However, they are not a valid substitute for lecture or reading the textbook. The textbook is extremely useful as a reference and source of additional practice problems, but is not necessary for homework.

## Prerequisites

Calculus I and II or equivalent. Lack of prerequisites may result in poor course performance.

## Email Policy

Due to the large size of this course, we will follow a strict email policy. If your question is not private, please consider asking in class or in Discord first. Before you write an email, please consider the following email etiquette:

- Your subject line should begin with "[STAT 400]", e.g. and include a short description.
- Emails should originate from an @illinois.edu email address. Depending on the situation, we may not be able to give you a response otherwise.
- **We will not be able to answer homework questions by email.** Please ask all homework questions in the Homework Help room, or the appropriate Discord channel.
- Please, no emails asking for curves or extra credit.

## Response time

As a general rule, I respond to emails within 24 hours during the work week. Unfortunately, sometimes an email will get caught by my spam filter, or accidentally missed. If I have not responded within 24 hours, please feel free to follow-up with me.

## Discord Policy

Please be respectful in our course server and refrain from using profane or inappropriate language. Questions and peer discussion are highly encouraged. Before asking a question, please **read the channel and/or use the search function first to avoid asking duplicate questions**. Questions that have already been answered multiple times may be deleted or ignored by the course staff.

## Gradescope

Gradescope will be used for all homework submissions in this course. Please create an account and register on [Gradescope](#) using the entry code found at the top of the Syllabus. **Students must register using their @illinois.edu email address.**

## Homework

There will be *approximately* 10-11 homework assignments, each worth **10** points. The lowest two homework scores will be dropped.

## General Instructions

- Homework must be turned in by **11:59pm CST** on the date it is due. Please be mindful of differences in time zone.
- All homework will be submitted through Gradescope.
- Homework by e-mail **will not be graded**. Due to the drop policy, no exceptions will be made for travel, regular illness, etc. Please plan accordingly! If you experience an extended illness due to COVID-19, and are able to obtain a doctor's note, exceptions may be made. If enough work is missed, you may be required to petition for an "Incomplete" grade and finish the course in a future semester.
- **No late homework accepted.**

## Assessments

Final grades will be assigned based on homework, 4 in-person quizzes (in lecture), and one comprehensive final using the following weights:

- Homework - 20%
- Quiz 1 - 15%
- Quiz 2 - 15%
- Quiz 3 - 15%
- Quiz 4 - 15%
- Final Exam - 20% (*will automatically replace your (one) lowest quiz grade if applicable*)

## Grading Policy

Grades in Stat 400 are based on individual mastery of the material, and not on comparative effort. The standard UIUC grading scale will be used. **There will not be a curve in this class.** The following are the minimum percentages required to obtain a given grade:

<b>A+</b>	<b>A</b>	<b>A-</b>
97.00	93.00	90.00
<b>B+</b>	<b>B</b>	<b>B-</b>
87.0	83.0	80.0
<b>C+</b>	<b>C</b>	<b>C-</b>
77.0	73.0	70.0

## Quiz Dates (tentative)

- Quiz 1 - Thurs, Sept 14
- Quiz 2 - Thurs, Oct 5
- Quiz 3 - Thurs, Oct 26
- Quiz 4 - Thurs, Nov 16

## Final Exam Times

- 9:30am section - Friday Dec 8, 1:30pm
- 11:00am section - Friday Dec 8, 8:00am

Quizzes will be administered in lecture. Instructions and reminder emails will be sent out one week prior to each quiz. Discussing the quiz with other students is a violation of the UIUC Academic Integrity policy. Please refrain from asking any questions or making comments about each quiz until solutions are posted.

## Other Course Policies

### Grade Disputes

If you feel your homework or quiz was graded incorrectly, you have **one week** from the date it was returned to discuss it with the course staff. It is your responsibility to look over graded work. After one week, grading is final except for exceptional circumstances. For homework regrades, please find the "regrade request" button in Gradescope and submit your petition there. For a regrade to be considered, you must justify to the staff why the grading was done incorrectly. Also, by disputing any grading, you agree to allow the course staff to review the entire assessment for other errors missed during grading.

### Attendance Policy

You are expected to attend all lectures and discussions. Failure to do so may not have a direct effect on your course grade, but will likely have a significant indirect effect.

### Academic Integrity

The official University of Illinois policy related to academic integrity can be found in Article 1, Part 4 of the Student Code. **Section 1-402 in particular outlines behavior which is considered an infraction of academic integrity.** These sections of the Student Code will be upheld in this course. Any violations will be dealt with in a swift, fair and strict manner. Homework assignments are meant to be learning experiences. You may discuss the exercises with other students, but you must write-up the solutions on your own. **In short, do not cheat, it is not worth the risk. You are more likely to get caught than you believe.**

### Chegg

Don't.

### Disability Accommodations

To obtain disability-related academic adjustments or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 217-333-4603, e-mail [disability@illinois.edu](mailto:disability@illinois.edu) or go to the [DRES](#) website.

### Quiz Grade Replacement

If you score a higher (%) on the final exam, it will automatically replace your lowest quiz score (%). You will not need to contact me. The final exam is **mandatory** regardless of performance on quizzes.

### Missing a Quiz

If you miss an quiz for any reason (sickness, birthday, etc), and did not have a prior validly scheduled conflict quiz, your missed quiz grade will automatically be replaced by the final exam grade. Only one missed quiz may be replaced by the final exam. Additional missing quizzes will receive a score of 0.

### Changes

If necessary, the instructor reserves the right to make any changes he considers academically advisable. Such changes, if any, will be announced in class and Canvas.