ISyE 6739AQ/Q: Statistical Methods

Fall 2026
(TU/TH 9:30AM - 10:45AM)

Instructor: I-Hsiang Lee (Ethan)
Classroom: **TSRB 118** or Canvas Video

For Distance Learning (DL/Q Section) students, Video Lectures on Canvas should be available few hours after the regular in-person lectures on Tuesday and Thursday.

E-mail: isye6739@gmail.com

The class GMail is the **main communication** for our class. Please DO NOT send me Canvas messages or email to my GaTech email. I ONLY reply to GMail.

Office Hours: Wed 1PM - 2:30PM or by appointment through *Zoom* (Distance Learning).

If you want to attend the regular office hour, please send a quick email to me at least 60 minutes in advance.

TA Info: TBA

Catalog Description:
Introduction to probability, probability distributions, point estimation, confidence intervals, hypothesis testing, linear regression, and analysis of variance.

Textbook:
Applied Statistics and Probability for Engineers, **6th/7th** Edition, by Montgomery & Runger

Course Objective:
The objective of this course is to provide an introduction to probability and statistics, emphasizing applications in science and engineering. We will be covering material contained in Chapters 2 through 11 in the text, and mostly in that order. We do not necessarily cover everything in the chapters, however. We will make it clear which material is not being covered during lectures.

Outcomes:
At the end of this course, we hope to help you build the following skills.

- Ability to collect, organize, summarize and present data graphically
- Demonstrate ability to use formal mathematical argument with basic probability concepts, including conditional probability distributions
- Understand how to characterize and assess probability in its role in experiments
- Use statistical tests and confidence intervals to assess mathematical uncertainty in statistical decisions

- Select proper statistical techniques for statistical decision making based on the type of data available
- Use statistical software to conduct data analyses and interpret output
- Draw sound statistical conclusions from experiments and observational studies

Prerequisites:
You should know basic calculus to be able to integrate and take derivative of functions.

Software:
A statistical software, **R**, will be used in this class for lectures, assignments and projects. R is an open source software package wildly used in the academia and industry. It is free, flexible, and very powerful. Employers appreciate the skills of competence in R. We also require students to learn **R Markdown** and use it for your homework assignments and exam reports.

Grading Policy:
Tentative exam report due dates and grade distribution are as follows:

		ISyE6739AQ	**ISyE6739Q (DL)**
Midterm	10/20/2026	20%	20%
Final	TBD	30%	30%
Attendance		10%	——
Homework		40%	50%

Class Policy:
Participation is important in this class except for DL students. Class attendance is recorded by signing Attendance Sheet. Unexcused absences may affect your final grade. **Interviews, family trips, meetings for other courses are not excused**. We will have **ONE Midterm exam and ONE Final Report** during the term, along with **TEN** homework assignments. It is allowed to work together on homework assignments, but your handed-in solutions should be personal and show individual effort (NOT identical to the others' assignments nor the previous solutions). For the regular assignments, the students need to submit their homework assignments on Canvas by the due date/time (usually **11PM**). **NO late homework** will be accepted. In addition, we ask students to type homework and exam reports with **R Markdown**. Make-up exams are not permitted except in cases of serious illness, Institute Approved absences, Dean's office recommended absences, or GT Athletic Association conflicts with appropriate documentations. All course materials and grades will be posted on Canvas. You're responsible to check if your posted grades are correct. You have seven days from the day we return homework or exams on Canvas for considering re-grading. We reserve the right to re-grade the entire homework or exam. So keep in mind, you may lose more points than you gain when we re-grade your homework or exam. Please let us know any special situation you may have during the semester ASAP.

Letter Grade Minimum Averages Required: A: 90%; B: 80%; C: 70%; D: 60%; F: <60%

I reserve the right to adjust the Minimum Average to avoid certain extreme cases.

GT Honor Code:
Make sure that you are aware of the Honor Code by visiting
https://www.policylibrary.gatech.edu/student-affairs/academic-honor-code
Any violation of the Honor Code (e.g., cheating in assignments or tests, not being truthful, plagiarism, etc.) may result in an F in this class. Also, the student government and faculty representatives

have developed a new Student-Faculty Expectations document. Please see the page:
https://catalog.gatech.edu/rules/21/

Special Needs:
Georgia Tech provides upon request appropriate academic accommodations for students with disabilities.
https://disabilityservices.gatech.edu/

Tentative Schedule and Calendar:

Date	Day	Coverage	Hw Due
Aug-25	Tue	Introduction	
Aug-27	Thu	Ch2	
Sep-01	Tue	Ch2	**Quiz0**
Sep-03	Thu	Ch2	
Sep-08	Tue	Ch3	**Hw1**
Sep-10	Thu	Ch3	
Sep-15	Tue	Ch3/Ch4	**Hw2**
Sep-17	Thu	Ch4	
Sep-22	Tue	Ch4	**Hw3**
Sep-24	Thu	Ch5	
Sep-29	Tue	Ch5	**Hw4**
Oct-01	Thu	Ch5	
Oct-06	**Tue**	**Fall Break**	
Oct-08	Thu	Ch6	**Hw5**
Oct-13	Tue	Ch6/Ch7	
Oct-15	Thu	Ch7	**Hw6**

Date	Day	Coverage	Hw Due
Oct-20	**Tue**	**Midterm**	
Oct-22	Thu	Ch7	
Oct-27	Tue	Ch8	
Oct-29	Thu	Ch8	**Hw7**
Nov-03	Tue	Ch9	
Nov-05	Thu	Ch9	**Hw8**
Nov-10	Tue	Ch9	
Nov-12	Thu	Ch10	
Nov-17	Tue	Ch10	**Hw9**
Nov-19	Thu	Ch10	
Nov-24	Tue	Ch11	
Nov-26	**Thu**	**Thanksgiving**	
Dec-01	Tue	Ch11	**Hw10**
Dec-03	Thu	Ch13	
Dec-08	Tue	Review	**Hw11**
Dec-10	Thu	No Class