ISyE 3030C: Statistics & Applications

Fall 2026
(TU/TH 2:00PM - 3:15PM)

Instructor: I-Hsiang Lee (Ethan)
Classroom: **GTST Room 220**
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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*.

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:
Descriptive Statistics, Point and interval estimation of systems parameters, statistical decision making about differences in system parameters, analysis and modeling of relationships between variables.

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

Course Objective:
The objective of this course is to introduce students to basic statistics, data collection and analysis from which sound conclusions can be drawn. We will be covering material contained in Chapters 6 through 13 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 statistical skills of estimating parameters of distributions, performing statistical analysis and decision making using statistical inference, using statistical software to conduct analyses and interpret output, and drawing sound statistical conclusions from experiments and observational studies.

Prerequisites:
According to the semester system, you should have taken ISyE 2027. To succeed in this class, you need a strong understanding of probability and the concept of random variables and distributions. Using this framework, the student should already understand expected values, variances, covariances, and conditional expectation. If you are uncertain about your prerequisite knowledge for this class, please review Chapters 2, 3, 4 and 5 in the course textbook.

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:

Exam 1	10/6/2026	20%
Exam 2	11/17/2026	15%
Final Exam	TBD	30%
Attendance		10%
Homework		25%
Bonus		0.5%

Class Policy:
Participation is important in this class. 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 two exams and one final during the term, along with SEVEN 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 project reports with **R Markdown**. Exams are **closed book**. Each student is only allowed to bring a calculator to the exam. No other electronic device is allowed in the test. 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	Prob. Review	
Sep-01	Tue	Prob. Review	**Quiz0**
Sep-03	Thu	Ch6	
Sep-08	Tue	Ch6/Ch7	
Sep-10	Thu	Ch7	
Sep-15	Tue	Ch7	**Hw6**
Sep-17	Thu	Ch7	
Sep-22	Tue	Ch8	
Sep-24	Thu	Ch8	**Hw7**
Sep-29	Tue	Ch8	
Oct-01	Thu	Ch9	
Oct-06	**Tue**	**Fall Break**	**Hw8**
Oct-08	Thu	Review	
Oct-13	**Tue**	**Exam 1**	
Oct-15	Thu	Ch9	

Date	Day	Coverage	Hw Due
Oct-20	Tue	Ch9	
Oct-22	Thu	Ch9	
Oct-27	Tue	Ch10	
Oct-29	Thu	Ch10	**Hw9**
Nov-03	Tue	Ch10	
Nov-05	Thu	Ch10	
Nov-10	Tue	Ch11	**Hw10**
Nov-12	Thu	Review	
Nov-17	**Tue**	**Exam 2**	
Nov-19	Thu	Ch11	
Nov-24	Tue	Ch11	
Nov-26	**Thu**	**Thanksgiving**	
Dec-01	Tue	Ch13	**Hw11**
Dec-03	Thu	Ch13	
Dec-08	Tue	Review	**Hw13**
Dec-10	Thu	No Class