ISyE3030: Statistical Methods

Summer 2026

Instructor: I-Hsiang Lee (Ethan)
Classroom: ISyE Main 126/ Video Lectures
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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: Live Weekly Q&A Sessions listed in the schedule (12:30PM - 1:30PM) or by appointment through *Zoom*.

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:

Midterm	6/4/2026	30%
Final Exam	TBD	40%
Homework		30%

Class Policy:
We will have one midterm, one final during the term, along with FIVE homework. 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. For the regular assignments, the students need to submit their homework assignments on Canvas by the due date/time (usually **11:59PM EDT**). **Late homework will be accepted but each late hour will result in a 10-point deduction**. In addition, we ask students to type homework/Exams with R Markdown. Exams are open book/notes. Students will have at least 12 hours to finish the exams on the scheduled exam dates. 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. I reserve the right of not curving your grade if you need to make up your exam. Same requirements apply to the excused absences (job interviews and family trips are not excused absences). You have two 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 in the first two weeks of the class. 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	Q&A
May-18	Mon	Intro/R Markdown	
May-19	Tue	Prob. Review	
May-20	Wed	Ch6	
May-21	Thu	Ch7	**Q&A**
May-24	**Sun**	**Hw1**	
May-25	**Mon**	**Memorial Day**	
May-26	Tue	Ch7	
May-27	Wed	Ch7	
May-28	Thu	Ch8	**Q&A**
May-31	**Sun**	**Hw2**	
Jun-01	Mon	Ch8	
Jun-02	Tue	Ch9	
Jun-03	Wed	Ch9	**Q&A**
Jun-04	**Thu**	**Midterm**	
Jun-07	**Sun**	**Hw3**	

Date	Day	Coverage	Q&A
Jun-08	Mon	Ch9	
Jun-09	Tue	Ch10	
Jun-10	Wed	Ch10	
Jun-11	Thu	Ch10	**Q&A**
Jun-14	**Sun**	**Hw4**	
Jun-15	Mon	Ch11	
Jun-16	Tue	Ch11	
Jun-17	Wed	Ch13	
Jun-18	Thu	Ch13	**Q&A**
Jun-21	**Sun**	**Hw5**	
Jun-22	Mon	Review