

ISyE 4031T12: Regression and Forecasting

Fall 2026
(TU/TH 12:30PM - 1:45PM)

Instructor: I-Hsiang Lee (Ethan)

Classroom: **GTST Room 220**

E-mail: isye4031.gt@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 1:00PM - 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:

Regression analysis: multiple linear regression, diagnostics, and variable selection.

Forecasting: exponential smoothing techniques and autoregressive moving average models.

Textbook:

Forecasting, Time Series, and Regression by Bowerman, O'Connell, and Koehler, 4th Edition

Reference Book:

Forecasting: Principles and Practice by Hyndman and Athanasopoulos, 2nd Edition

<https://otexts.com/fpp2/>

Course Objective:

The objective of this course is to learn about regression, time series, and other forecasting models and their applications in various fields of science and engineering.

Outcomes:

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

- Formulate real life problems using regression and forecasting models.
- Collect appropriate data to estimate the models and understand which data are useful in solving the problem.
- Use statistical software to estimate the models from real data.
- Draw conclusions from the estimated models to solve the real-life problems.

Prerequisites:

ISyE2028/ISyE3030

Software:

A statistical software, **R**, will be used in this class for lectures and assignments. 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.

Grading Policy:

Midterm	10/20/2026	25%
Final	TBD	35%
Attendance		10%
Homework		30%
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 one midterm (Ch2-Ch5) and one final (Ch2-Ch9) 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 project 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	Date	Day	Coverage	Hw Due
Aug-25	Tue	Introduction		Oct-20	Tue	Midterm	
Aug-27	Thu	Prob+Stat Review		Oct-22	Thu	SL	
Sep-01	Tue	Stat Review		Oct-27	Tue	SL	
Sep-03	Thu	Ch3		Oct-29	Thu	SL	
Sep-08	Tue	Ch3	Hw1	Nov-03	Tue	Ch6	
Sep-10	Thu	Ch3		Nov-05	Thu	Ch6	Hw7
Sep-15	Tue	Ch3	Hw2	Nov-10	Tue	Ch6	
Sep-17	Thu	Ch4		Nov-12	Thu	Ch8	
Sep-22	Tue	Ch4	Hw3	Nov-17	Tue	Ch8	
Sep-24	Thu	Ch4		Nov-19	Thu	Ch9	
Sep-29	Tue	Ch4	Hw4	Nov-24	Tue	Ch9	Hw8
Oct-01	Thu	Ch5		Nov-26	Thu	Thanksgiving	
Oct-06	Tue	Fall Break		Dec-01	Tue	Ch9	
Oct-08	Thu	Ch5	Hw5	Dec-03	Thu	Ch9	
Oct-13	Tue	Ch5		Dec-08	Tue	Review	Hw9
Oct-15	Thu	Ch5	Hw6	Dec-10	Thu	No Class	

FA26 Calendar

AUGUST

SUN	M	TU	W	TH	F	SAT
		4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

SUN	M	TU	W	TH	F	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

SUN	M	TU	W	TH	F	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

SUN	M	TU	W	TH	F	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

SUN	M	TU	W	TH	F	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

End of FA26
 Exam
 Holiday
 Lecture
 Withdrawal