ISyE 3770 – Statistics & Applications
Georgia Tech Europe – Summer 2025
Monday and Wednesday 10:25 am -12:20 pm
Centrale Supelec Building

Instructor:	Parisa Yousefi Zowj
Email:	pyz@gatech.edu
Office hours:	Monday 12:30-1:30 pm
	Location TBA

Credit:	3-0-3 (Lecture-Lab-Total Credit Hours)

Textbook:	"Applied Statistics and Probability for Engineers", 6th Edition, Douglas C. Montgomery, George C. Runger, Wiley, ISBN 978-1118539712, © 2014, 836 pages.

Website:	http://canvas.gatech.edu/
Software:	RStudio at https://www.rstudio.com
Prerequisite:	MATH 2401 or MATH 2411 or MATH 24X1 or MATH 2605 or MATH 2551 or MATH2561 or MATH 2X51

Note: All the information and dates in the syllabus are tentative and subject to change.

Delivery Mode:
- The classes will be held in-person
- Exams are in-person
- HWs and solutions will be posted on Canvas

Catalog Course Description:
An introductory course on statistical thinking, modeling, analysis, and decision making. This course covers a variety of topics including descriptive statistics, point and interval estimation, hypothesis testing, regression analysis, analysis of variance and experimental design, etc.

Objective: Provide an introduction to probability and statistics, emphasizing applications in science and engineering.

Course Outcomes:
By the end of the semester, you will be able to:
- Summarize and interpret a dataset using descriptive statistics
- Estimate parameters of a distribution based on a random sample
- Construct confidence intervals for parameters of a distribution
- Make decision about a population based on a random sample
- Predict a response variable based on one or more predictor variables
- Identify important factors influencing a response variable

- Determine a probability distribution of a population based on a random sample

Grading Policy:

o	Project	30%
o	Exam I (TBA)	30%
o	Exam II (TBA)	30%
o	Participation	10%

Course Policy:

1. **Homework**
- There is approximately biweekly homework which will be posted with the solution
- No submission is needed

2. **Exam**
- Exams are <u>in-person</u> during the class time
- For each exam you have **1 hour 55 min**
- No make-up exams will be given unless prior arrangement is made with the instructor (with written documentation BEFORE the exam, e.g., a note from the dean of students' office).
- Exams are cumulative but concentration of each exam will be on the parts after the previous exam.
- Students are allowed to have one or two (double-sided) sheets of equations for exam I or II respectively.

3. **Project**
- A group of 2 or 3 students will work on a project
- An abstract and a report should be submitted
- At the end of semester, the group will present their project in class
  Note: Refer to the project handout for details

o	Abstract (TBA)	20%
o	Report (TBA)	30%
o	Presentation (TBA)	50%

Academic Honor Code:
It is your responsibility to get familiar with the Georgia Tech Honor Code and you are bound by its requirements.
Use of any previous semester course materials is allowed for this course; however, I remind you that while they may serve as examples for you, they are not guidelines for any tests, quizzes, homework, projects, or any other coursework that may be assigned during the semester.

For any questions involving these or any other Academic Honor Code issues, please consult me, my teaching assistants, or

Related chapters of the textbook:

In addition to lecture slides you can refer to the related chapters in the textbook.

Topics
Probability Introduction
Random Variables
Discrete Distributions
Continuous Distributions
Descriptive Statistics
Sampling Distributions
Point Estimation
Confidence Intervals
Hypothesis Testing
Analysis of Variance, Experimental Design
Simple Linear Regression

Semester Schedule at a glance:

May

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		14		16		
19		21				
26		28				

June

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2		4				
		11		13		
16		18				
23		25				
30						

July

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		2				
7		9				
		16		18		
21 Last Day						