

	<b>Course</b>	<b>CS/STAT 6313.001: Statistical Methods for Data Science</b>
	<b>Professor</b>	Min Chen
	<b>Term</b>	Fall 2021
	<b>Meetings</b>	Hybrid, FN 2.102 (enrollment cap.120, room cap. 180) <a href="#">MS Teams Links</a>

### Professor's Contact Information

<b>Office &amp; Email</b>	FO 3.704 H ( <a href="mailto:mchen@utdallas.edu">mchen@utdallas.edu</a> )
<b>Office Hours</b>	Tuesdays and Thursdays from 10AM-11AM
<b>Other Information</b>	eLearning at <a href="https://elearning.utdallas.edu/">https://elearning.utdallas.edu/</a> will be used for posting course materials.

### Teaching Assistant

<b>Name</b>	Please login to eLearning to find details.
<b>Email</b>	
<b>Office Hours</b>	

### Course Modality and Expectations

<b>Instructional Mode</b>	The instructional mode for the course is Hybrid/Flexible. The first 3 weeks, with a possible extension beyond that, will be taught in a low-density mode for in person participants. However, since the room capacity is 180, larger than twice the number of enrolled in-person students, we will implement no further measure for de-densification. I do require those enrolled in the remote session to join the classes through Teams.
<b>Course Platform</b>	This course will be delivered in person and also by streaming. We will use <a href="#">Microsoft Teams</a> to record and post lectures:
<b>Expectations</b>	<ul style="list-style-type: none"> <li>• To submit your assignment on time.</li> <li>• To be engaged in class activities.</li> <li>• To spend an adequate amount of time on the homework each week, and to make an effort to solve problems in mini projects.</li> <li>• To engage with both the abstract and computational sides of the course material.</li> <li>• To seek help when appropriate.</li> </ul>
<b>COVID-19 Response</b>	COVID-19 response can be found at below. The information on this page is subject to change daily: <a href="https://covid.utdallas.edu/response/faq/">https://covid.utdallas.edu/response/faq/</a> .

***(For blended/hybrid course only)***  
**COVID-19 Guidelines and Resources**

The following guidelines and resources outline expectations for students and instructors of record during the Fall 2021 semester.

**Classroom Safety and COVID-19** To help preserve the University's in-person learning environment, UT Dallas recommends the following:

Adhere to the University's [CDC Updated Guidelines](#) issued on July 30, 2021. All Comets are strongly encouraged to wear face coverings indoors regardless of vaccination status. Please note this represents a change in the [campus guidance](#) issued on May 20, 2021.

**Accommodations for Students Who Miss Class for Reasons Unrelated to COVID-19**

Students should not come to class if they are experiencing any type of illness, COVID-19-related or not. Whenever possible, they should attend class remotely. In case of severe illness, they should make up missing classes by watching recorded lectures and completing course work as soon as conditions may improve.

**Accommodations for Students Who Must Isolate or Quarantine Due to COVID-19**

To keep the UT Dallas community as safe as possible, the University requires students who test positive for COVID-19 or who are close contacts as determined by the campus contact tracing program to isolate or quarantine as applicable. Faculty will be notified by the Dean of Students' Office if a student in their class has been required to isolate (positive case) or quarantine (exposed). Faculty must make lectures available for those students during the period the students must isolate or quarantine. Faculty who need assistance with providing these students access to course content can contact the eLearning Team at [elarning@utdallas.edu](mailto:elarning@utdallas.edu). Faculty have the discretion to set an attendance policy for their in-person meetings, but the absences due to COVID-19 cannot be counted against an isolated or quarantined student.

**Verifying COVID-19 Isolations or Quarantines**

Students need to self-report COVID-19 positive results or exposures via an [online form](#) so that university campus tracers can verify, record, and take necessary campus precautions. When faculty are notified by students rather than by the Dean of Students' Office that the students are isolating or quarantining, the faculty should remind students to self-report via the form; students should not attend class until cleared by campus tracers.

Vaccinations are widely available, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated. You are encouraged to [get a COVID-19 vaccine](#) and register your vaccination status through the [voluntary vaccine report form](#).

Proactive Community Testing remains an important part of the university's efforts to protect our community. Tests are fast and free. Please check the [Comets United](#) webpage for additional information.

[Student Safety](#) remains an important part of the UT Dallas' efforts to protect our community. All students will adhere to the Comet Commitment. Unvaccinated Comets will be expected to

complete the mandatory [Required Daily Health Screening](#). Those students who do not comply will be referred to the Office of Community Standards and Conduct for disciplinary action under the [Student Code of Conduct – UTSP5003](#). All students are encouraged to read the [Recommendations for Students Returning to Campus](#) issued on August 2, 2021.

Visit [Comets United webpage](#) to obtain the latest information on the University's guidance and resources for campus health and safety.

[Previous Campus Communications](#): a list of university announcements made in 2020-2021.

[Registrar's Intranet](#): please log in with your UTD NetID and password to access this site. Information that faculty need about grading, scheduling, and other essential aspects of our responsibilities related to teaching are made available and updated regularly in the Registrar's Intranet. This source of information can only be accessed by logging in with your UTD NetID and password. Many important faculty questions are answered here, and this is information that faculty members are expected to know and understand.

[FERPA Guidelines](#): you will be asked to log in before you access the FERPA Guidelines webpage on the Registrar's Intranet. If faculty have additional questions about FERPA guidance, please contact the Office of the Registrar at [records@utdallas.edu](mailto:records@utdallas.edu) for the proper student consent forms and further instructions.

[Honorlock](#): Online proctoring tool will be available for fully online courses and for classes with enrolled international students who are not yet in the United States.

[UT System Resources for Creating Accessible Course Content](#): designed to assist faculty with developing course content

### ***Student Resources***

Students who have tested positive for COVID-19 or may have been exposed should not attend class in person and should instead follow required disclosure notifications as posted on the university's website (see "[What should I do if I become sick?](#)")

### ***COVID-19 Resources***

[Comets United webpage](#): check frequently

[FAQ](#): check out the FAQs and reach out to your instructor or academic advisor if answers are not included

[Student Resources](#): a variety of resources are available to help students to obtain counseling, health care, and academic support.

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**Course Pre-requisites, Co-requisites, and/or Other Restrictions**  
CS/SE/STAT 3341 or equivalent.

## Course Description

Statistical Methods will be developed at an intermediate level.

## Student Learning Objectives/Outcomes

- Students will be able to analyze data using basic statistical methods.
- Students will be able to use a statistical software package for data analysis.

## Required Textbooks and Materials

*Probability and Statistics for Computer Scientists*, 2<sup>nd</sup> edition, Michael Baron, CRC Press, 2014. Textbooks and some other bookstore materials can be ordered online or purchased at the [UT Dallas Bookstore](#).

## Suggested Course Materials

- *simpleR – Using R for Introductory Statistics*
- *An Introduction to R*
- *Introduction to Probability and Statistics Using R* (The PDF files of these three books are available on eLearning)
- *Advanced R* (Its HTML file is available at <http://adv-r.had.co.nz>)

Textbooks and some other bookstore materials can be ordered online or purchased at the [UT Dallas Bookstore](#).

## Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the [Getting Started with eLearning](#) webpage.

## Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the [eLearning](#) website.

Please see the course access and navigation section of the [Getting Started with eLearning](#) webpage for more information.

To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#) webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The [eLearning Support Center](#) includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

## Communication

This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the [Student eLearning Tutorials](#) webpage for video demonstrations on eLearning tools.

## Distance Learning Student Resources

Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the [eLearning Current Students](#) webpage for more information.

### Server Unavailability or Other Technical Difficulties

The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online [eLearning Help Desk](#). The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

### Academic Calendar

<b>Tentative Course Schedule</b>	Topics (Book Chapters)
2 weeks	Review of basic probability concepts and Monte Carlo simulations (Chapters 1-5)
4 weeks	Introduction to statistics, sampling distributions and point estimation (Chapter 8, Section 9.1)
2.5 weeks	Interval estimation (Sections 9.2, 9.3, 10.3)
2.5 weeks	Hypothesis testing (Section 9.4)
3 weeks	Regression and ANOVA (Chapter 11)
1 week	Chi-square tests (Section 10.1)
<b>Exam Schedule &amp; Mini Project Due Dates</b>	
Project 1	Fri 09/10
<b>Exam 1</b>	Thu 9/16
Project 2	Fri 10/01
Project 3	Fri 10/15
<b>Exam 2</b>	Thu 10/28
Project 4	Fri 11/05
Project 5	Fri 11/19
Project 6	Thu 12/09
<b>Exam 3</b>	Thu 12/07

### Course Policies

<b>Grading (credit) Criteria</b>	Exam 1: 20%, Exam 2: 20%, Exam 3: 25%, Participation 5%, Six mini-projects (each with 5% weight): 30% (Additional details will be provided later)
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	<ul style="list-style-type: none"> <li>• The first two exams will be based on a specified range of course content to be announced in the class. The last exam is comprehensive. The use of a basic calculator is required.</li> <li>• Exams will be administered online using Honorlock. Details can be found in <a href="https://ets.utdallas.edu/testing-center/honorlock/">https://ets.utdallas.edu/testing-center/honorlock/</a>.</li> <li>• Incomplete grade is possible only in the case of a documented serious medical emergency near the end of the semester, with at least 70% of work completed at an on-going passing grade.</li> <li>• Homework will be assigned but will not be collected or graded.</li> <li>• The exams are closed-book, closed-notes. A cheat sheet may be provided.</li> </ul>
<b>Tentative Grading Scheme</b>	<p>93 or higher: A  [90, 93): A-  [87, 90): B+  [83, 87): B  [80, 83): B-  [75, 80): C+  [70, 75): C  Lower than 70: F</p>
<b>Make-up Policy</b>	No make-up work will be given unless there is a serious medical emergency and appropriate documentation is provided in a timely manner.
<b>Extra Credit</b>	No extra credit work will be assigned.
<b>Late Work</b>	No late work will be accepted. It may be possible to submit the work early.
<b>Campus Carry</b>	The University's concealed handgun policy is posted on the campus carry website: <a href="https://www.utdallas.edu/campuscarry/">https://www.utdallas.edu/campuscarry/</a> .

### **Class Materials**

The Instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

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*(For blended/hybrid course only)*

### **Classroom Conduct Requirements Related to Public Health Measures**

UT Dallas will follow the public health and safety guidelines put forth by the Centers for Disease Control and Prevention (CDC), the Texas Department of State Health Services (DSHS), and local

public health agencies that are in effect at that time during the Fall 2021 semester to the extent allowed by state governance. Texas Governor Greg Abbott's Executive Order [GA-38](#) prohibits us from mandating vaccines and face coverings for UT Dallas employees, students, and members of the public on campus. However, we strongly encourage all Comets to get vaccinated and wear face coverings as recommended by the CDC. Check the [Comets United: Latest Updates webpage](#) for the latest guidance on the University's public health measures. Comets are expected to carry out [Student Safety](#) protocols in adherence to the Comet Commitment. Unvaccinated Comets will be expected to complete the [Required Daily Health Screening](#). Those students who do not comply will be referred to the Office of Community Standards and Conduct for disciplinary action under the [Student Code of Conduct – UTSP5003](#).

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*(For blended/hybrid course only)*

### **Class Attendance**

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes. Faculty have the discretion to set an attendance policy for their in-person meetings, but the absences due to COVID-19 cannot be counted against a quarantined student.

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### **Class Participation**

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

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### **Class Recordings**

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of

the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

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### **Comet Creed**

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

*“As a Comet, I pledge honesty, integrity, and service in all that I do.”*

### **Academic Support Resources**

The information contained in the following link lists the University’s academic support resources for all students.

Please go to [Academic Support Resources](#) webpage for these policies.

### **UT Dallas Syllabus Policies and Procedures**

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus. Please review the catalog sections regarding the [credit/no credit](#) or [pass/fail](#) grading option and withdrawal from class.

Please go to [UT Dallas Syllabus Policies](#) webpage for these policies.

***The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.***