| | Course | CS/STAT 6313.002: Statistical Methods for Data Science |
|---|---|---|
| **UTD** | **Professor** | Min Chen |
| | **Term** | Spring 2022 |
| | **Meetings** | TTh: 11:30am-12:45pm, HH 2.402 |

## Professor's Contact Information

| | |
|---|---|
| **Office & Email** | FO 3.704 H (mchen@utdallas.edu) |
| **Office Hours** | Tuesdays and Thursdays from 2PM-3PM |
| **Other Information** | eLearning at https://elearning.utdallas.edu/ will be used for posting course materials. |

## Teaching Assistant

| | |
|---|---|
| **Name** | Please login to eLearning to find details. |
| **Email** | |
| **Office Hours** | |

## Course Modality and Expectations

| | |
|---|---|
| **Instructional Mode** | The instructional mode for the course is face-to-face. The first 3 weeks, with a possible extension beyond that, will be taught virtually. |
| **Course Platform** | We will use Microsoft Teams to meet virtually for the first 3 weeks. |
| **Expectations** | <ul><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> |
| **COVID-19 Response** | COVID-19 response can be found below. The information on this page is subject to change daily: https://covid.utdallas.edu/response/faq/. |

_____

**COVID-19 Guidelines and Resources**

The following guidelines and resources outline expectations for students and instructors of record during the Spring 2022 semester.

**Instructor Resources**

**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.

**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 elearning@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. If you have received your COVID-19 booster, you may register your status through the voluntary COVID-19 booster reporting 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 2020-2022.

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 for the proper student consent forms and further instructions. NOTE: Class recordings from prior semesters may be used as long there are no identifiable student information due to FERPA because instructors will need students' written consent first. Please review your previous class recordings for identifiable student information before using them in the current term. For additional guidance, contact the Office of the Registrar.

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 "Student Safety" protocols).

*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.
_____

**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*, 3rd edition, Michael Baron, CRC Press.
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.

**Academic Calendar**

| Tentative Course Schedule | 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) |
| **Exam Schedule & Mini Project Due Dates** | |
| Project 1 | Fri 02/04 |
| Exam 1 | Thu 02/10 |
| Project 2 | Fri 02/25 |
| Project 3 | Fri 03/11 |
| Exam 2 | Thu 03/31 |
| Project 4 | Fri 04/01 |
| Project 5 | Fri 04/15 |
| Project 6 | Fri 05/06 |
| Exam 3 | Thu 05/05 |

**Course Policies**

| | |
|---|---|
| **Grading (credit) Criteria** | 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)<br><br>• 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.<br>• For each exam, each student must bring a scantron score sheet, **FORM NO. F-1712-PAR-L**.  The scantron sheets should be _clean_ and _not bent or mutilated_. These are available in the bookstore. Each student must also bring a _No. 2 pencil_ with a good eraser for use with the scantron sheet. The instructor will NOT be providing any of these.<br>• 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.<br>• Homework will be assigned but will not be collected or graded.<br>• The exams are closed-book, closed-notes. A cheat sheet may be provided. |
| **Tentative Grading Scheme** | 93 or higher: A<br>[90, 93): A-<br>[87, 90): B+<br>[83, 87): B<br>[80, 83): B-<br>[75, 80): C+<br>[70, 75): C<br>Lower than 70: F |
| **Make-up Policy** | No make-up work will be given unless there is a serious medical emergency and appropriate documentation is provided in a timely manner. |
| **Extra Credit** | No extra credit work will be assigned. |
| **Late Work** | No late work will be accepted. It may be possible to submit the work early. |
| **Campus Carry** | The University's concealed handgun policy is posted on the campus carry website: https://www.utdallas.edu/campuscarry/. |

| | |
|---|---|
| **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.](#) |
| **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 Spring 2022 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](#). |
| **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. |
| **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](#). |

| | |
|---|---|
| **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.<br><br>***NOTE: if the instructor records any part of the course, then the instructor will need to add the following syllabus statement:***<br><br>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. |
| **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:*<br><br>*"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.*<br><br>*Please go to http://go.utdallas.edu/academic-support-resources.* |
| **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 sections regarding the credit/no credit grading option and withdrawal from class.*<br><br>*Please go to http://go.utdallas.edu/syllabus-policies for these policies.* |

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