

**EPPS 2302.001 Methods of Quantitative Analysis in the Social and Policy Sciences
(Fall 2016-Preliminary)**

Class Location: CB1 1.106
Time : Tuesday, Thursday - 2:30-3:45pm
Instructor : Turgut Ozkan
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Office : Green Hall 2.510
Office Hours : Tu-Th 12:30-1:30 pm & by appointment.

Course Pre-requisites:

MATH 1314 (College Algebra), or equivalent.

Course Description:

In this course, we will go over basic concepts and methods of statistical analysis used in social and policy science research. Topics will cover data description, probability, regression models, and application of software to ease visualization and calculation.

Student Learning Objectives/Outcomes:

This course aims to provide for you a fundamental statistical background, which will prepare you for further quantitative analyses. You will be able to understand main concepts in published statistical articles and research. Also, you will be able to conduct your own statistical analysis on a social phenomenon as well. By the end of the course, you should be able to:

- 1) Describe and utilize data.
- 2) Understand and apply probability and relevant concepts.
- 3) Develop hypotheses and appropriately examine them.
- 4) Understand and utilize regression techniques.
- 5) Gather a working understanding of basic statistical software.

Course Logistics:

Required Textbook: *Statistics: Informed Decisions Using Data*, 4th Edition. Michael Sullivan, Pearson Publishing. ISBN: 9780321757272.

The textbook should be available at the bookstore on campus, and at alternative retailers off campus. You should also be able to find used or rental copies as well, either in store, or online.

Software: The primary software of the class is STATA. A six-month license of STATA is \$38. You can also complete class assignments using STATA in the GR 3.402 computer lab if you choose not to purchase a copy for your personal computer.

<http://www.stata.com/order/new/edu/gradplans/student-pricing>

Note: Although STATA is the main software to be used in the class, students may elect to do work in R or Python if they choose.

Calculator: A basic calculator that can take square roots and raise numbers to powers is required.

Course Detailed Schedule

Week	Date	Topic	Readings
Week-1	23-Aug	Introduction to the Course	-
	25-Aug	Data Collection, Design and Sampling	Chapter 1.1-1.4
Week-2	30-Aug	Organizing and Summarizing Data	Chapter 2.1-2.4
	1-Sep	Descriptive Statistics - I	Chapter 3.1-3.2
Week-3	6-Sep	Descriptive Statistics - II	Chapter 3.3-3.5
	8-Sep	Quiz 1 Probability I	Chapter 5.1-5.2
Week-4	13-Sep	Probability II	Chapter 5.3-5.4
	15-Sep	Discrete Probability Distributions (DPD)	Chapter 6.1-6.3
Week-5	20-Sep	Quiz 2 Normal Probability Distributions	Chapter 7.1-7.4
	22-Sep	Normal Probability Distributions, PS1	
Week-6	27-Sept	Quiz 3 Sampling Distributions	Chapter 8.1-8.2
	29-Sep	Estimating the Value of a Parameter- PS 1 Due	Chapter 9.1-9.4
Week-7	4-Oct	Hypothesis Tests	Chapter 10.1-10.4
	6-Oct	Inferences of Two Samples, PS2	Chapter 11.1-11.4
Week-8	11-Oct	Quiz 4 Analysis of Variance I	Chapter 13.1
	13-Oct	Analysis of Variance II – PS 2 Due	
Week-9	18-Oct	Quiz 5 Scatter Diagrams and Correlation	Chapter 4.1

	20-Oct	Least-Squares Regression I	Chapter 4.2-4.3
Week-10	25-Oct	Least-Squares Regression II - III	Chapter 14.1-14.3
	27-Oct	Least-Squares Regression II - III	
Week-11	1-Nov	Quiz 6 Categorical Data	Chapter 12.1-12.2
	3-Nov	Categorical Data	
Week-12	8-Nov 10-Nov	Nonparametric Statistics	Chapter 15.1-15.6
Week-13	15-Nov	Quiz-7, PS3	
	17-Nov	NO CLASS- Self-Study	Details TBD.
Week-14	22-Nov	NO CLASS-Fall Break	
	24-Nov	NO CLASS-Thanksgiving Holiday	
Week-15	29-Nov	Applied STATA- PS 3 Due	Details TBD.
	1-Dec	General Review	
Week-16	6-Dec	Final Exam Review	
	8-Dec	Final Exam- open books, open notes	

In quizzes, you will be responsible from the material including chapters, readings (if assigned that week) and lectures. Quizzes are important to keep track of your progress.

Quiz 1: Materials from Week 1, 2, and 3. You are NOT responsible from the material of 8-Sep.

Quiz 2: Materials from Week 3 (only Sept. 8) and Week 4.

Quiz 3: Materials from Week 5

Quiz 4: Materials from Week 6 and Week 7

Quiz 5: Materials from Week 8

Quiz 6: Materials from Week 9 and Week 10

Quiz 7: Materials from Week 11 and Week 12.

Problem Sets: Problem sets are distributed at least one week prior to the due date. These are intended to be good practical exercises, and also helpful practice for the final exam. For this reason, they will cover all materials delivered until the release date of a problem set. Take these

assignments seriously. All problem sets will be submitted via e-Learning. Points are lost for late submissions.

Grading Policy:

Your course grade will be determined by the following:

- 1) Seven (7) quizzes, best 5 counted, for a total of 50%.
- 2) Three (3) Problem Sets, graded at 10% each, for a total of 30%.
- 3) Final Exam, worth 20%.

Final grades will be determined on the following scale:

A+ = 97-100	B+ = 87-89	C+ = 77-79	D+ = 67-69	F = 59 and below
A = 93-96	B = 83-86	C = 73-76	D = 63-66	
A- = 90-92	B- = 80-82	C- = 70-72	D- = 60-62	

There will be **NO MAKE UP QUIZZES**, as the two lowest scores are not considered in the final grade calculation. Quizzes and the final exam will be open book and open note but not open computer or similar gizmo. Final exam will be comprehensive. Except in the case where there is a legitimate, documented reason for missing the final exam (i.e. a medical emergency), there will be **NO MAKE UP FINAL EXAM**.

Course Expectations:

- ✓ This course requires hard work outside the classroom, including studying chapters, getting ready for quizzes, solving problem sets, and finally getting ready for a comprehensive final exam. All students are expected to show a scholarly attitude, respect, diligence.
- ✓ Please arrive to class on time, participate in discussions.
- ✓ You are responsible for all materials delivered in lecture. Solely studying the book or slides may NOT be sufficient to pass this class.

Suggestions:

- ✓ Quizzes and problem sets are critical in terms of your progress. For this reason, pay utmost attention to these tasks. Benefit from office hours and be comfortable with asking any type of questions.
- ✓ Be careful and use your time efficiently. Study each week's material before coming to class.
- ✓ Benefit from services, such as Math Lab:
<http://www.utdallas.edu/studentsuccess/mathlab/>
- ✓ Please peruse Course & Instructor Policies

Course & Instructor Policies

Attendance is expected, but is generally not mandatory. However, missed quizzes and exams cannot be made up. It is in your best interest to attend lectures, as virtually the entirety of the quizzes will be based solely on materials delivered during lectures. We are jointly responsible for maintaining a constructive learning environment in the classroom. Students whose behavior is disruptive either to me or to other students will be asked to refrain from such behavior or, in severe cases, to leave the classroom. Therefore, please silence your cell phones before coming to class and do not talk or text on your phone during class.

Mutual respect is highly expected of everyone in the classroom, and personal attacks will not be tolerated. Please contact me if you have any concerns in this regard.

Concerning the problem sets, late work will be subjected to a penalty in the form of points deducted. This deduction will increase exponentially with lateness. More specifically, I will deduct 20% of the points achieved for a 12-hour delay, 50% for 24 hours, and 100% for more than 24 hours. This policy is justified as all deadlines are announced at the beginning of the semester in the syllabus.

Cell phones, laptop computers, and other electronic devices are not allowed on desks during quizzes or final exam. If you are caught with either during a quiz or final, you will receive a zero.

Email is the best way to communicate with me. Should you need to email me, use your official school email address (UTD email). Considering this is also a university policy, please be aware that I will not respond to emails from external email addresses.

If you have any questions about your grade on an assignment, please wait until 24 hours after receiving your assignment before discussing the grade with the professor. There are no exceptions to this policy. If you wish to have an assignment re-graded, it must be returned to the professor within three days of the day it was returned (if I am not available that day, ask the staff of the School of Economic, Political and Policy Sciences to leave it in my mailbox). Assignments to be re-graded must include a memo stating the reason why you believe the assignment should be re-graded. Finally, re-graded assignments can be graded higher, lower, or the same as the initial grade.

You are expected to check e-Learning and your UTD email frequently. I will often post Announcements containing important information for this course. Course materials will also be posted to e-Learning, but missing lectures will more likely reduce your final grades.

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

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 go to <http://go.utdallas.edu/syllabus-policies> for these policies. The content is also shared here for your convenience.

Sharing Confidential Information

Students considering sharing personal information in email, in person, or within assignments or exams should be aware that faculty members and teaching/research assistants are required by UT Dallas policy to report information about sexual misconduct to the UT Dallas Title IX Coordinator. Per university policy, faculty have been informed that they must identify the student to the UT Dallas Title IX Coordinator. Students who wish to have confidential discussions of incidents related to sexual harassment or sexual misconduct should contact the Student Counseling Center (972-883-2527 or after hours 972-UTD-TALK or 972-883-8255), the Women's Center (972-883-8255), a health care provider in the Student Health Center (972-883-2747), the clergy person (or other legally recognized religious advisor) of their choice, or an off-campus resource (i.e., rape crisis center, doctor, psychologist). Students who are sexually assaulted, harassed, or victims of sexual misconduct, domestic violence, or stalking, are encouraged to directly report these incidents to the UT Dallas Police Department at 972-883-2222 or to the Title IX Coordinator at 972-883-2218. Additional information and resources may be found at <http://www.utdallas.edu/oiec/title-ix/resources>.

Technical Support

If you experience any issues with your UT Dallas account, contact the UT Dallas Information Resources Help Desk: assist@utdallas.edu or call 972-883-2911.

UT Dallas provides eLearning technical support 24 hours a day/7 days a week. The services include a toll free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service. Please use this link to access the UTD eLearning Support Center: <http://www.utdallas.edu/elearninghelp>.

Field Trip Policies, Off-Campus Instruction and Course Activities

Off-campus, out-of-state, foreign instruction/travel, and course-related field trip activities are subject to state law and University policies and procedures regarding travel and risk-related activities.

Detailed information regarding this policy, in accordance to *Texas Education Code*, Section 51.950, can be accessed at the UT Dallas Policy Navigator, <http://policy.utdallas.edu/utdbp3023>, and at <http://www.utdallas.edu/administration/insurance/travel>. Additional information is available from the office of the school dean.

Student Conduct and Discipline

The University of Texas System (Regents' Rule 50101) and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UT Dallas online catalogs (<http://catalog.utdallas.edu>).

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Student Discipline and Conduct, UTDSP5003 (<http://policy.utdallas.edu/utdsp5003>). Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SSB 4.400, 972-883-6391) and online at <http://www.utdallas.edu/deanofstudents>.

A student at the University neither loses their rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating its standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

Academic Dishonesty: The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes, plagiarism, cheating, fabrication and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment.

Additional information related to academic dishonesty and tips on how to avoid dishonesty may be found here: <http://www.utdallas.edu/deanofstudents/maintain>.

Copyright Notice

It is the policy of the University of Texas at Dallas to adhere to the requirements of the United States Copyright Law of 1976, as amended, (*Title 17, United States Code*), including ensuring that the restrictions that apply to the reproduction of software are adhered to and that the bounds of copying permissible under the fair use doctrine are not exceeded. Copying, displaying, reproducing, or distributing copyrighted material may infringe upon the copyright owner's rights. Unauthorized distribution of copyrighted material, including unauthorized peer-to-peer file sharing, may subject students to appropriate disciplinary action as well as civil and criminal penalties. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. For more information about the fair use exemption, see <http://copyright.lib.utexas.edu/copypol2.html>. As a UT Dallas student, you are required to follow UT Dallas' copyright policy (UTDPP1043 at <http://policy.utdallas.edu/utdpp1043>) and the UT System's policy at <http://www.utsystem.edu/ogc/intellectualproperty/copyrighthome.htm>.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. All official student email correspondence will be sent only to a student's UT Dallas email address and UT Dallas will only consider email requests originating from an official UT Dallas student email account. This allows the University to maintain a high degree of confidence in the identity of each individual's corresponding via email and the security of the transmitted information. The University of Texas at Dallas furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources provides a method for students to have their UT Dallas mail forwarded to other email accounts. To activate a student UT Dallas computer account and forward email to another account, go to <http://netid.utdallas.edu>.

Class Attendance

Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. Absences may lower a student's grade where class attendance and class participation are deemed essential by the instructor. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

Withdrawal from Class

The administration at UT Dallas has established deadlines for withdrawal from any course. These dates and times are published in the Comet Calendar (<http://www.utdallas.edu/calendar>) and in the Academic Calendar (<http://www.utdallas.edu/academiccalendar>). It is the student's responsibility to handle withdrawal requirements from any class. In other words, a professor or other instructor cannot drop or withdraw any student unless there is an administrative drop such as the following:

- Have not met the prerequisites for a specific course
- Have not satisfied the academic probationary requirements resulting in suspension
- Judicial affairs request
- Have not made appropriate tuition and fee payments
- Enrollment is in violation of academic policy
- Was not admitted for the term in which they registered

It is the student's responsibility to complete and submit the appropriate forms to the Registrar's Office and ensure that he or she will not receive a final grade of "F" in a course if he or she chooses not to attend the class after being enrolled.

Student Grievance Procedures

Procedures for student grievances are found in university policy UTDSP5005 (<http://policy.utdallas.edu/utdsp5005>). In attempting to resolve any student grievance regarding disputes over grades, application of degree plan, graduation/degree program requirements, and thesis/and dissertation committee, advisor actions and/or decisions, evaluations, and/or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originated.

Incomplete Grade Policy

As per university policy, incomplete grades may be given, at the discretion of the instructor of record for a course, when a student has completed at least 70% of the required course material but cannot complete all requirements by the end of the semester. An incomplete course grade (grade of 'I') must be resolved completed within the time period specified by the instructor, not to exceed eight (8) weeks from the first day of the subsequent long semester. Upon completion of the required work, the symbol 'I' may be converted into a letter grade (A through F). If the grade of Incomplete is not removed by the end of the specified period, it will automatically be changed to F.

AccessAbility Services

It is the policy and practice of The University of Texas at Dallas to make reasonable disability-related accommodations and/or services for students with documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required (see <http://www.utdallas.edu/studentaccess>). If you are eligible to receive disability-related accommodations and/or services and to ensure accommodations will be in place when the academic semester begins, students are encouraged to submit documentation four to six weeks in advance. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion.

The Office of Student AccessAbility provides:

1. Academic accommodations for eligible students with a documented permanent physical, mental or sensory disability
2. Facilitation of non-academic and environmental accommodations and services
3. Resources and referral information, and advocacy support as necessary and appropriate.

OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities, including examinations and travel time for the observance of a religious holy day for a

religion whose places of worship are exempt from property tax under Section 11.20, of the *Texas Tax Code*.

Students are encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment.

Excused students will be allowed to take missed exams or complete assignments within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the President of UT Dallas or from the President's designee. The chief executive officer or designee must take into account the legislative intent of *Texas Education Code 51.911(b)*, and the student and instructor will abide by the decision of the chief executive officer or designee.

Resources to Help You Succeed

The Office of Student Success operates the Student Success Center (SSC, <http://www.utdallas.edu/studentsuccess>), which offers assistance to students in the areas of writing, mathematics, communication, multiple science fields, reading, study skills, and other academic disciplines. These services are available through individual and small group appointments, workshops, short courses, and a variety of online and instructional technologies. All students enrolled at UT Dallas are eligible for these services.

The **Math Lab** gives short-term and semester long support for a variety of introductory and advanced mathematics courses. Students may drop in to visit with a math tutor on a regular basis. Comet card is required.

The **Writing Center** offers a collaborative learning environment for one-to-one and small group assistance with general and advanced writing assignments and overall writing skills. Scheduling an appointment is strongly recommended, but walk in appointments are possible if a tutor is available.

The **Peer Tutoring** program offers free tutoring assistance in multiple locations for many of the historically challenging undergraduate subjects at UT Dallas. Tutoring sessions, offered every weekday on a drop-in basis, are one-on-one or in a small group format. The sessions are designed to meet students' individual questions and needs related to course/subject concepts. All peer tutors are current UT Dallas students who made an A- or better in the course and have a strong faculty/staff recommendation. Students should check the Student Success Center website each semester for subject offerings and session times.

The **Peer-Led Team Learning (PLTL)** program provides an active, engaged learning experience for students who meet in small groups once a week with a Peer Leader who helps guide them through potentially difficult gateway course. Students that attend sessions regularly typically earn a half to a whole letter grade higher than students that do not participate in the PLTL program.

Supplemental Instruction (SI) provides free, peer-facilitated weekly study sessions for students taking historically difficult courses. SI sessions encourage active, collaborative learning based on critical thinking and transferable study skills. SI leaders attend lectures, take notes, and read assigned material just like the enrolled students. Students should check the SSC website for subject and session times.

The **Communication Lab (CommLab)** offers one-on-one and group consultations where you will gain practical feedback for improving oral and group presentations.

Success Coaches are available for individual student appointments to discuss study skills, time management, note taking, test taking and preparation, and other success strategies.

The Student Success Center's main office is located in the McDermott Library Building and can be contacted by calling 972-883-6707 or by sending an email to ssc@utdallas.edu.