EPPS 2302.5U1 – Methods of Quantitative Analysis

In the Social and Policy Sciences

ATC 1.305 – Tuesday - 6:00pm-10:00pm - Summer 2016

Instructor Contact Information:
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Office Hours: Mon-Tue 3:30 pm- 4:30pm, and by appointment.

Course Pre-requisities:
MATH 1314 (College Algebra), or equivalent.

Course Description:
This course introduces basic concepts and methods of statistical analysis used in different fields of social and policy science research to better understand human relationships and the impacts of government action on them. Topics include data description, using probability to assess the reasonableness of claims about the world based on sample data, exploring cause-effect interactions through regression models, and application of software to ease visualization and calculation. Students completing this course will be good consumers of statistical information and have a solid foundation for pursuing further study of quantitative analysis.

Student Learning Objectives/Outcomes:
This course aims to provide for you a strong foundational understanding of how statistics is done in the social sciences which will allow you to not only be able to understand published statistical results, but also be able to compute your own research as well. By the end of the course, you should be able to:

1) Be able to describe and utilize data.
2) Understand and apply probability and relevant concepts.
3) Create hypotheses and appropriately examine them.
4) Understand and utilize regression techniques.
5) Gather a working understanding of basic statistical software.

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. Note: Do not confuse this book with a very similar book called *Fundamentals of Statistics*.

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

Software

The primary software of the course is STATA. You can complete class assignments using STATA in the GR 3.402 computer lab if you choose not to install it on your personal computer.

If you can afford it, six-month license of STATA is $38. Or if you plan on continuing your statistical and methodological education in EPPS, you may purchase your own copy. http://www.stata.com/order/new/edu/gradplans/student-pricing/

Grading Policy:

Your course grade will be determined by the following:

1) Ten (10) quizzes, best 7 counted, for a total of 70%.
2) Three (3) Problem Sets, for a total of 30%.

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	

Quizzes: There is a great deal of material in this course with which student may not be familiar. Weekly quizzes based on important concepts and computation encourage students to stay current with the readings and practice. There will be absolutely **NO MAKE UP QUIZZES**, as the three lowest scores are not considered in the final grade calculation. Quizzes will be open book and open note but not open computer or similar gizmo.

Problem Sets: There are three homework problem sets that incorporate elements from lectures (slides discussion and STATA sessions). Use of statistical software for solving some portion of each assignment is required. Needed datasets will be posted on e-learning. Problem sets are distributed one or two week prior to the due date. These are intended to be good practical exercises. Take these assignments seriously. All problem sets will be submitted via e-Learning. Points are lost for late submissions.

Finally, there will not be any bonus opportunities or extra credit chances. All grades will be determined by the aforementioned assignments.

Assignments and Academic Calendar:

Date and Topic		Readings
1. May 24:	Introduction to the Course Research Design and Sampling Visualization of Data	 Chapter 1.1-1.4 Chapter 2.1-2.2
2. May 31:	Descriptive Statistics I Descriptive Statistics II	Chapter 3.1-3.2 Chapter 3.3-3.4
3. June 7:	Probability I – **Quiz 1** Probability II Probability Review	Chapter 5.1-5.2 Chapter 5.3-5.4
4. June 14:	Scattergrams and Correlations– **Quiz 2** Discrete Probability Distributions Continuous Probability Distributions	Chapter 4.1 Chapter 6.1-6.3 Chapter 7.1-7.4
5. June 21:	Sampling Distributions – **Quiz 3** Estimating the Value of a Parameter - **PS1 Due**	Chapter 8.1-8.2 Chapter 9.1-9.4
6. June 28:	Hypothesis Testing/Significance– **Quiz 4** Comparing within groups	Chapter 10.1 Chapter 10.2-10.3
7. July 5:	Comparing two groups I– **Quiz 5** Comparing two groups II	Chapter 11.1 Chapter 11.2-11.3
8. July 12:	Analysis of Variance I– **Quiz 6** Analysis of Variance II	Chapter 13.1 In-class examples
9. July 19:	Linear Regression I– **Quiz 7** Linear Regression II Linear Regression III- **PS2 Due**	Chapter 4.2-4.3 Chapter 14.1-14.2 Chapter 14.3
10. July 26:	Categorical data I– **Quiz 8** Categorical data II	Chapter 12.1 Chapter 12.2
11. August 2:	Nonparametric testing I – **Quiz 9** Nonparametric testing II	Chapter 15.3-15.4 Chapter 15.5-15.7
12. August 9:	**Quiz 10** **PS3 Due**	

Expectations

What I expect of my students

- ✧ Willingness to work: As a general rule, one credit represents two to three hours of academic work per week (including lectures, laboratories, recitations, discussion groups, study, and so on), averaged over the semester. In other words, you will need to invest time into this course, otherwise the benefits and the grades you will get might not be what you want.
- ✧ Classroom etiquette: You are expected to read the assigned text chapter and lecture notes prior to the class session, arrive to class on time, participate in discussions, not be embarrassed to ask questions, study diligently and take advantage of the Professor's office hours. Lectures will no duplicate, but instead will build on, and hence will assume prior familiarity with assigned topics.
- ✧ Course policies: Please read the course policies that are stated in this syllabus. They are important in several ways. First, they facilitate a learning experience that is as efficient and effective as possible. Further, they represent the professional code of conduct in the real

world. Therefore, familiarizing yourself with them will prepare you for your later work careers.

What you can expect from the instructor

- ✧ I offer a learning environment that challenges you in order to provide opportunities for growth. I will be prepared to the best of my abilities.
- ✧ I encourage you to explore all learning opportunities in response to the assigned tasks. I will be open-minded in responding to your ideas and suggestions. I will offer constructive feedback.
- ✧ I am open to constructive feedback from you on my performance. If you have ideas or suggestions, please do not hesitate to discuss them with me. I am committed to make this the best possible classroom experience.

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. You are all adults, and have paid to be here. I am not a babysitter, meaning I will not force you to come to class or do your assignments. Should you choose to not come to class or do your assignments, you also choose to accept any consequences of your decision.

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 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 to problem sets, my late-policy is two-fold. First, due dates are due dates. 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 hours 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 (and the fact that your future boss will not be impressed if you cannot finish work assignments on time).

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

The best way to succeed is to be on time, participate in discussions, ask questions, study hard, and take advantage of the supplemental instruction opportunities.

Email is the best way to get a hold of me. Should you need to email me, you must do so from your UTD email address. The email address from high school like “monkeyclimb@gmail.com” and “hotmuffin216@hotmail.com” are just not appropriate. I will not respond to emails from external email addresses. I am also not allowed to discuss grades over email. You may speak with me before or after class, during office hours, or by arranging an appointment.

If you have any questions about your grade on a quiz or an assignment, please wait until 24 hours after receiving your quiz or assignment before discussing the grade with the professor. There are no exceptions to this policy. If you wish to have a re-graded, it must be returned to the professor within a week 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 box). Quizzes or assignments to be re-graded must include a memo stating the reason why you believe the assignment should be re-graded. Finally, re-graded quizzes or assignments can be graded higher, lower, or the same as the initial grade.

You are expected to check e-Learning frequently. I will often post Announcements containing important information for this course. Course materials will also be posted to e-Learning, but they will be mostly useless to you if you do not come to class. If you do miss class, be sure to obtain notes. In class, there will be many examples and discussions that will not be covered in the slides. That is where the most of helpful information will be contained.

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