EPPS 2302.002 – Methods of Quantitative Analysis

In the Social and Policy Sciences

MC 2.410 – Tuesday, Thursday - 5:30-6:45pm - Spring 2016

Instructor Contact Information:
Instructor: Ziya Cologlu
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Office: Green Hall 3.318
Office Hours: Tu-Th 3:30-4:30 pm & by appointment.

Supplemental Instruction:

Starting on the week of January 19, the Student Success Center will offer peer tutoring academic support for EPPS 2302. Students can schedule a one-hour appointment with the tutor during weekly appointment hours. To prepare for the appointment, students should bring their class materials and any questions for the tutor. Students will be able to sign up using the SSC's online software when it is up and running. Until then, students should call 972-883-5487 or email tutoring@utdallas.edu with any requests.

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) 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.

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

Software

The primary software of the class is STATA. 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

Grading Policy:

Your course grade will be determined by the following:

1) Eight (8) quizzes, best 6 counted, for a total of 50%.
2) Three (3) Problem Sets, 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**.

Problem Sets: Problem sets are distributed one week prior to the due date. These are intended to be good practical exercises, and also helpful practice for the comprehensive exam. Take these

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

Assignments and Academic Calendar:

Date and Topic			Readings
Week 1:	12-Jan	Introduction to the Course	
	14-Jan	Research Design and Sampling	Chapter 1.1-1.4
Week 2:	19-Jan	Visualization of Data	Chapter 2.1-2.2
	21-Jan	Descriptive Statistics - I	Chapter 3.1-3.2
Week 3:	26-Jan	Descriptive Statistics - II	Chapter 3.3-3.4
	28-Jan	Probability I - **Quiz 1**	Chapter 5.1-5.2
Week 4:	2-Feb	Probability II	Chapter 5.3-5.4
	4-Feb	Probability Review	
Week 5:	9-Feb 11-Feb	Discrete Probability Distributions - **Quiz 2**	Chapter 6.1-6.3
Week 6:	16-Feb 18-Feb	Normal Probability Distributions	Chapter 7.1-7.4
Week 7:	23-Feb	Sampling Distributions - **Quiz 3**	Chapter 8.1-8.2
	25-Feb	Estimating the Value of a Parameter - **PS 1 Due**	Chapter 9.1-9.4
Week 8:	1-Mar 3-Mar	Hypothesis Tests	Chapter 10.1-10.4
Week 9:	8-Mar 10-Mar	Inferences of Two Samples - **Quiz 4**	Chapter 11.1-11.4
Week 10:	22-Mar	Analysis of Variance I – **Quiz 5**	Chapter 13.1
	24-Mar	Analysis of Variance II – **PS 2 Due**	In-class examples
Week 11:	29-Mar	Scatter Diagrams and Correlation – **Quiz 6**	Chapter 4.1
	31-Mar	Least-Squares Regression I	Chapter 4.2-4.3
Week 12:	5-Apr 7-Apr	Least-Squares Regression II - III	Chapter 14.1-14.3
Week 13:	12-Apr 14-Apr	Categorical Data – **Quiz 7**	Chapter 12.1-12.2
Week 14:	19-Apr 21-Apr	Nonparametric Statistics - **PS 3 Due**	Chapter 15.1-15.6
Week 15:	26-Apr	**Quiz 8**	
	28-Apr	Final Review	

Expectations

What I expect of my students

- Willingness to work: As a general rule, one credit represents 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 supplemental instruction opportunities and the Professor's office hours. Lectures will not 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.

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 or final exam. If you are caught with either during a quiz or final, you will receive an automatic zero.

Email is the best way to get a hold of me. Should you need to email me, use your official school email address. The email address from high school like "hotmuffin96@hotmail.com" and "mikeyg@gmail.com" are just not appropriate. 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 box). 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 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.