



**Course** EPPS 7313.501  
**Professor** Descriptive and Inferential Statistics  
Dr. Timothy M. Bray  
**Term** Fall Semester, 2016  
**Meetings** Monday 7:00 PM – 9:45 PM, GR4.204

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## Professor's Contact Information

**Office Phone** (972)883-5432  
**Office Location** WT 1.6  
**Email Address** timothy.bray@utdallas.edu  
**Office Hours** Anytime by Appointment

## General Course Information

### Pre-requisites, Co-requisites, & other restrictions

WARNING! You *must* be able to do math at a college algebra level. Familiarity with Calculus is preferred, and *one semester of Calculus is STRONGLY SUGGESTED*. If you are not comfortable with that level of mathematics, you should consider taking the algebra-based approach to this course, EPPS 6313. If you are struggling and you do not seek remedial assistance, it is likely that you will fail this course! If you doubt your ability, see me. Many errors on tests and assignments arise from improper execution of basic algebra: order of operations, powers, roots, and equations.

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### Course Description

The course provides a thorough introduction to probability and statistics. Probability topics covered include random variables, expectations, and probability distributions. The heart of the course is a rigorous introduction to statistical inference: sampling theory, confidence intervals, and hypothesis tests. The final section of the course is an introduction to regression analysis, with an emphasis on interpretation of regression results, using examples from recent research. Recommended: one semester of calculus.

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### Contacting the Professor

Please contact me via telephone or e-mail at the number and address above. I strive to respond to your e-mail or telephone inquiry within 24 hours. ***Include This Course (EPPS7313) in the Subject Line for Prompt Response.***

You will receive e-mail as a class through Orion at your official University e-mail address. Should you wish to contact me about matters related to your academic standing (e.g., anything related to your grades), you must do so from your official University e-mail address. If you want to contact me to ask a question about the content of the course (e.g., a statistics question), please feel free to use whatever e-mail address is most convenient for you.

**IMPORTANT:** To be sure that your e-mail receives my prompt attention, please put the phrase EPPS7313 in the subject line. This will flag it for my attention.

## Texts, Readings, & Materials

- **Required:** Miller & Miller, *John E. Freund's Mathematical Statistics with Applications*; 8<sup>th</sup> ed.; Pearson. ISBN: 978-0-321-80709-0
- **Calculator:** While we won't be working with large sets of numbers, the involved math will be sufficiently complex to require a calculator. Sophisticated, expensive graphing or programmable calculators are not necessary, and will be of no use to you. Any calculator with the ability to take logs, exponents, factorials, and powers should suffice. For example, the TI-36X Pro is widely available and retails for under \$30.
- **Software:** One goal of this course is to familiarize you with the software often used in graduate education to complete simple and sophisticated quantitative analyses. For this class (and many others in the School of EPPS), this is **Stata**. The latest version of Stata is available in the EPPS computer labs. If you can afford it, or if you plan on continuing your statistical and methodological education in EPPS, you may purchase your own copy for home / office use under UTD's "GradPlan" arrangement with Stata, which affords you a significant discount on your purchase. For information, and to order, visit <http://www.stata.com/order/new/edu/gradplans/gp-direct.html>. Either "Small Stata" or "Intercooled Stata" will meet the needs of this course. If you're making an investment and buying the software, please buy at least the Stata/IC version. Small Stata is too limited. Data for use in class will be provided via eLearning.

## Assignments & Academic Calendar (TENTATIVE – SUBJECT TO CHANGE)

Date	Material	Date	Material
8/22	Introduction Chapter 1, Appendix A	10/17	<b>MIDTERM EXAMINATION (IN CLASS)</b> <b>Problem Set 6 DUE</b>
8/29	Probability Chapter 2	10/24	Hypothesis Testing Chapter 12, Chapter 13 (partial)
9/5	<b>NO CLASS – LABOR DAY</b>	10/31 – 11/7	Hypothesis Testing Chapter 13 <b>Problem Set 7 DUE 10/31</b>
9/12	Probability Distributions and Densities Chapter 3 <b>Problem Set 1 DUE</b>	11/14	Regression and Correlation Chapter 14 <b>Problem Set 8 DUE</b>
9/19	Mathematical Expectations Chapter 4 <b>Problem Set 2 DUE</b>	11/21	<b>NO CLASS – FALL BREAK</b>
9/26	Special Distributions and Densities Chapter 5, Chapter 6 <b>Problem Set 3 DUE</b>	11/28	Non-Parametric Tests Chapter 16 <b>Problem Set 9 DUE</b>
10/3	Sampling Distributions Chapter 8 <b>Problem Set 4 DUE</b>	12/5	<b>FINAL EXAMINATION (IN CLASS)</b> <b>Problem Set 10 DUE</b>
10/10	Estimation Chapter 10, Chapter 11 <b>Problem Set 5 DUE</b>		

## Course Policies

<b>Grading (credit) Criteria</b>	Grades in this class come from your performance on exams and quizzes. Grades are structured as follows:	
	2 In-class Exams	650 Points
	Best 7 of 10 Problem Sets	350
	Total	1000 Points
	Letter grades will be assigned on the following point scale. This course <i>does not</i> adopt the +/- option in final course grading.	
	90% and Above	A
	80% to 89%	B
	70% to 79%	C
	Below 70%	F

### Exams and the Open Book Policy

We will have two (2) in-class exams. You will have the entire class period to complete the exam. If you arrive late to class you will not be afforded any additional time. If you arrive to class after the first completed test has been turned in, you will not be eligible to take the exam (see Make-up Exam).

In the real world, your employer will not ask you to perform statistical calculation “without referring to your notes;” neither will I. **Your exams will be open note / open book.** Resist the temptation to think these will be easy. Open book tests are generally harder because the answer is not in the book. While you may rely liberally on your notes and text for exams, you may not rely on your neighbor (see Incorporation of University Policies).

### Showing Your Work & Partial Credit

Any assignments, quizzes, and exams done for this class must show all steps (i.e., all calculations). **To receive any credit for an answer, all work must be shown. If you only provide the “final” answer, you will not receive any credit for the answer. If I cannot read your answer, follow the steps that you have taken, and clearly see how you arrived at your answer, you will not receive any credit for the answer.**

Provided you have shown your work, your answer will be considered correct if it is within rounding error of the answer I have calculated on the key. Incorrect answers receive no credit. Partial credit is not given unless a particular item shows a partial credit breakdown.

<b>Make-up Exams</b>	Should you miss a scheduled exam or be ineligible to complete it you may take the make-up final exam offered during the final exam date for this class. This exam is comprehensive, but will follow the open note / open book policy discussed above. Your grade on this exam will replace your missing grade.
<b>Extra Credit</b>	Grades in this class are based on the work that you do. There will be <b>NO</b> end of semester extra-credit assignments made on an individual student basis.
<b>Late Work</b>	Late work will not be accepted.

<b>Class Attendance</b>	Class attendance is essential. It is also your responsibility. Whether or not you attend, <b>you</b> are responsible for all material delivered in class. This will probably include: deviations from the published text or notes, notification of errors in the text or notes, rescheduled or cancelled tests, announcement of extra credit opportunities, etc. You can avoid many headaches by checking with a friend (or me) to see what you missed.
<b>Use of Technology</b>	Believe it or not, statistics is one of the few classes where it is difficult, if not impossible, to take notes on your laptop / iPad. Students who have attempted to do so in the past have almost invariably performed poorly at exam time. Because laptop usage is ineffectual, and in many cases, distracting to those around you, please do not use your laptop computers during the lecture portion of class. Laptops may be used during the STATA demonstrations, but may not be used during the exams. Students with an accommodation-based need for technology should see me for exceptions to this policy.
<b>Incorporation of University Policies</b>	<p>The University has established a variety of rules and procedures that govern your experience as a student. While not spelled out explicitly in this syllabus, they are none the less applicable to you. You should make yourself aware of these policies, as they define your rights and responsibilities as a student. Particular examples include the following:</p> <ul style="list-style-type: none"> <li>• Student Conduct and Discipline</li> <li>• Academic Integrity</li> <li>• Email Use for Official Correspondence</li> <li>• Withdrawals from Class</li> <li>• Student Grievances</li> <li>• Incomplete Grades</li> <li>• Disability Services</li> <li>• Religious Holy Days</li> <li>• Off-Campus Instruction and Course Activities</li> </ul> <p>To view these and other policies in detail, visit <a href="http://go.utdallas.edu/syllabus-policies">http://go.utdallas.edu/syllabus-policies</a>. All applicable University policies are incorporated herein by inclusion of this link.</p>

***These descriptions and timelines are subject to change at the discretion of the Professor. The most recent, date, time and policy addenda announced in class or through e-mail take precedent over any material published in this syllabus.***