EDP 371 – Introduction to Statistics			
Spring	**2014 -Unique Number: 11040**	**TTh: 9:30–11**	**SZB 104**
Spring	**2014 -Unique Number: 11045**	**TTh: 11-12:30**	**SZB 432**
Spring	**2014 -Unique Number: 11055**	**Web Course**	

Instructor

Name: **Dr. Martin Tombari**

Office: SZB 538B
Office Hours: T-Th 12:30 – 1:45
Email: mtombari@austin.utexas.edu

Teaching Assistants

Name: **Ling Chen**
Office:
Office Hours:
Email: **lchen0329@utexas.edu**

Name: **Gleb Furman**
Office:
Office Hours:
Email:

Course Description:

This course is designed to help students learn the introductory descriptive and inferential statistical procedures that are used in behavioral and social science research studies. Students will acquire statistical literacy, become skilled at graphic production, learn the basics of making inferences from samples to populations, and recognize the statistics used with different types of data. These skills will provide the student with a basis to conduct their own such analyses and to evaluate critically others' uses of statistics.

Quantitative Reasoning:

This course carries the Quantitative Reasoning flag. Quantitative Reasoning courses are designed to equip you with skills that are necessary for understanding the types of quantitative arguments you will regularly encounter in your adult and professional life. You should therefore expect a substantial portion of tests to assess your use of quantitative skills to analyze real-world problems.

Prerequisites

Mathematical skills: While this course is not completely mathematical, it is founded upon the use of mathematical tools. Thus some fundamental mathematical skills are essential for successful mastery of the material. Students are expected to have basic algebra skills including the ability to solve single variable equations. Students should have a basic understanding of exponents and square roots, as well as the order of operations, proportions, fractions, decimals, percentage, and negative numbers.

Calculator: Students are required to bring to class a scientific calculator that can be used to sum, multiply, take the square root and square of numbers. Calculators are recommended for use with class assignments and tests as well as during class time. During in-class exams, you must use a calculator that does not have the capacity to connect to email (use of cell phones is completely **forbidden** during exams).

Course Materials and Resources

Required: EDP 371 Course Packet. This packet contains the course objectives that you will be tested over, sample test questions for all exams, homework problems and answers, PPT slides for each of the 14 units, tables needed to solve test problems, necessary formulae and vocabulary, problems to solve in class, places to take class notes, graph and chart paper to sketch problems, suggested web sites for better understanding and extended practice, links to You Tube videos, and many illustrations. This will only be available through the University COOP Bookstore.

The packet will include important tables and charts that are needed during exams. It will also contain research articles over which questions will be asked on all exams. It is important that you bring the packet to class everyday because many class activities, including class quizzes, will require that you have it with you.

Optional: The optional class text is: "Statistics for the Behavioral Sciences" by Frederick J Gravetter and Larry B Wallnau. This textbook is available at the Co-op and other on-line outlets. It is an excellent text with many interesting problems to solve for your deeper learning. It also presents the material in a slightly different way than the instructor presents the material during class time.

Also, optional, is "Introduction to Statistics:Online Edition" by David M. Lane which we will post on Blackboard for you to download. The course packet will recommend specific pages to read in this online text that reinforce packet material.

Homework:

We have listed homework problems at the end of each Unit in the course packet and we encourage you to do them. However they are optional. If you do not understand how a particular answer was computed, we will be pleased to go over these problems in class, during office hours, or over email.

Exams

There will be **5 tests** during the Spring semester. The tests will focus on the material covered during the most recent class segment. The 5th test will be given during the final exam period. More detail will be provided about the material assessed by each test closer in time to the test dates. It should be noted that most of the statistical skills acquired during this class are constantly building upon earlier learning. This means that even though each test will focus on the preceding section of the course, students might need to recall skills learned in earlier sections. There are no make-ups for these tests and the tests must be taken on the scheduled dates.

Format: Exams will be multiple-choice or true-false.

Materials: Students should bring a calculator. All necessary tables and charts for answering the test questions are included in the course packet. You may bring the tables to the test. Tables will not be given out during the exams.Cell phones are not allowed during the exams.

Attendance Policy

Attendance at all classes is required. Attendance will be taken during class on a random basis. The attendance check will be in the form of a short quiz over material just covered in class. Students who come to every class can earn up to **5 points** towards their final class grade. These extra points, for example, can be the difference between earning a final grade of B+ or A, or the difference between earning a final grade of D+ or C. Therefore it is to your benefit to attend class every day. Exams will come primarily from class lectures and activities, and missing class will put you at a disadvantage come test time.

Grading system

Grades are assigned based on the percentage of accumulated points:

Overall Course Percent	*Grade*
90% - of highest grade	A
85% - 89% "	B+
80% - 84% "	B
75% - 79% "	C+
70% - 74% "	C
65% - 69% "	D+
60% - 64% "	D
Below 60% "	F

Scholastic dishonesty policy

The University defines academic dishonesty as cheating, plagiarism, unauthorized collaboration, falsifying academic records, and any act designed to avoid participating honestly in the learning process. Scholastic dishonesty also includes, but is not limited to, providing false or misleading information to receive a postponement or an extension on a test or other class assignments, and submission of essentially the same written assignment for two courses without the prior permission of faculty members.

By accepting this syllabus and participating in this course, you have agreed to these guidelines and *must* adhere to them. This means (specifically for this class) that any work that you hand in for a grade ***MUST*** be your own work. This also means that you may ***NOT*** use or review the exams of students of this class from previous semesters.

Violation of this agreement and of any of the University rules on scholastic dishonesty will result in the student being awarded an ***F for the final course grade***, being referred to the appropriate university officials, and may result in suspension or expulsion from the University. For more information on scholastic dishonesty, students may review the Student Judicial Services web site: http://www.utexas.edu/depts/dos/sjs/.

Disability Accommodation

Students with disabilities who require special accommodations need to get a letter that documents the disability from the Services for Students with Disabilities area of the Office of the Dean of Students (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). This letter should be presented to the instructor in each course at the beginning of the semester and

accommodations needed should be discussed at that time. Five business days before an exam, the student should remind the instructor of any testing accommodations that will be needed. See the following website for more information: http://deanofstudents.utexas.edu/ssd/providing.php

Communication

In this course ***e-mail*** will be used as a means of communication with students. You will be responsible for checking your e-mail regularly for class work, deadlines, changes and announcements.

You will also be responsible for checking the Blackboard course site regularly for class work, announcements, and copies of the lecture notes. As with all computer systems, there are occasionally scheduled downtimes as well as unanticipated disruptions. Notification of these disruptions will be posted on the Blackboard login page. Blackboard is available at http://courses.utexas.edu. Support is provided by the ITS Help Desk at 475-9400 Monday through Friday 8 am to 6 pm, so plan accordingly.

Hints for success

Practice: Practice will facilitate successful mastery of the skills to be learned from this class. During class periods, guided practice will be offered in the form of sample problems. The homework exercise assignments will also provide opportunities for practice. It is hoped that studying for and completion of exams will provide additional such opportunities.

Course packet or test bood: You are responsible for whatever topics are covered in class. We do not necessarily cover all the material in the textbook. The terminology in the textbook sometimes differs from what we use in class. Use the terminology I use in class.

Study groups: It is highly recommended that you form study groups to master the material in this class. If you understand a concept, teaching it to your fellow students will help you solidify that learning. If you do not understand a concept, it might help to have it presented to you by someone who has more recently mastered it than the TA or instructor. It can help to have a concept presented by several people in different ways.

Office hours: Use them – our job is to help you learn! If you cannot make our office hours, ask us after class or via email to schedule another time to meet with the TA or me.

Email I: Check your email messages from the TA and me.

Email II: Use email to schedule appointments ***NOT*** to ask conceptual or computational questions. We will not answer those questions online because hand-feeding you the answer(s) does not help your learning as much as our prompting **you** (face-to-face) to come up with the answer.

Email III: (and most important) If you email one of us (professor or TA), please copy ***both*** of us on the email. That ensures a speedier response.

Class notes: If a student misses class, it is his/her responsibility to obtain any missed information from a classmate – ***not*** from the instructor, ***nor*** from the TA.

Keep up: The skills to be mastered for statistical analyses keep building upon themselves. If you fall behind, it will not only affect the topic in which you are behind but will affect your learning of a later topic.

Introduction to Statistics, Fall 2013
EDP 371
Tentative Schedule of Topics

Date:	Topic	Reading
Tu 1/14	Syllabus, course requirements, course content, etc. Introduction: • Types of Statistics • Types of Variables • Levels of Measurement	Unit I in Course Packet
Thu 1/16	Tables and Graphs • Frequency Tables • Frequency Distributions • Percentiles	Unit II
Tu 1/21	Tables and Graphs (cont'd) • Graphic Presentations • Rules Graphics • Interpreting Graphs • Junk Charts	Unit II
Thu 1/23	Averages: • Mean • Weighted Mean • Median • Mode	Unit III
Tu 1/28	Variability: • Range • Variance • Standard Deviation • Interquartile Range	Unit IV
Thu 1/30	z-scores • Transformations	Unit V
Tu 2/4	**Test # 1 (first half of class)** The Standard Normal Distribution • Simple probability	Unit VI
Thu 2/6	The Standard Normal Distribution (cont'd) • The Unit Normal Curve table • Computing Probabilities and percentiles	Unit VI
Tu 2/11	The Distribution of Sample Means • Sampling Procedures • Sampling error and the standard errore	Unit VII
Thu 2/13	The Distribution of Sample Means (cont'd) • The Central Limit Theorem	Unit VII

Tu 2/18	Estimation • Point Estimates • Interval Estimates	Unit VIII
Thu 2/20	Estimation (cont'd) • One and two sample	Unit VIII
Tu 2/25	**Test # 2**	
Thu 2/27	Hypothesis Tests • Null and alternative hypotheses • One- and two-tailed tests • z statistic	Unit IX
Tu 3/4	Inferences About Averages • One sample t tests	Unit X
Thu 3/6	Inferences About Averages (cont'd) • Two sample t tests	Unit X
Tu 3/18	Inferences About Averages (cont'd) • More than two samples (ANOVA)	Unit X
Thu 3/20	Inferences About Averages (cont'd) • Confidence intervals for an average • Confidence intervals for an average difference	Unit X
Tu 3/25	**Test 3**	
Thu 3/27	Inferences About Correlations • True Correlations • Spurious Correlations	Unit XI
Tu 4/1	Inferences About Correlations (cont'd) • Pearson Correlation • Spearman Correlation	Unit XI
Thu 4/3	Predictions • Big Data • Simple Regression	Unit XII
Tu 4/8	Predictions (cont'd) • Errors of Estimate • How good is a prediction model	Unit XII
Thu 4/10	Standard error of estimate	Unit XII
Tu 4/15	**Test 4**	
Thu 4/17	Inferences About Associations Goodness-of-fit	Unit XIII
Tu 4/22	Inferences About Associations (cont'd) Contingency Analysis	Unit XIII

Thu 4/24	Inferences About Proportions • Single proportions Confidence Interval for a Proportion	Unit XIV
Tu 4/29	Inferences About Proportions (cont'd) • Two Proportions • Confidence Intervals	Unit XIV
Thu 5/1	Inferences About Proportions (cont'd)	Unit XIV
TBA	**Test 5** (during final exam period)	