Introduction to Statistics (WEB) - Syllabus

Summer 2016

EDP 371

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Purpose of this course

Welcome to the Summer 2016 online section of EDP 371: Introduction to Statistics. We hope that you find this course interesting, stimulating, challenging and worth all the effort you put into learning the material and mastering the skills.

The purpose of this course is for you to become statistically literate. Throughout this class there will be one central question that we will ask over and over: How can we conclude things about the many, when we only know about the few! How do we say anything meaningful about populations of thousands and millions, when all we have in front of us are small samples! How can we accurately predict the future, when all we experience is the present!

I invite you to accompany your classmates and me on a journey where we hope to do all these magical things.

This course is mostly self-paced. There are no required lectures or online conferences to attend. The only deadlines are the dates for the four course exams. You can read more about these below.

As you look at the Canvas Home Page, the left side contains tabs with the names of the principal features of the course. At the top of the page, you will see arranged in a row the titles (1) Courses, (2) Assignments, (3) Grades, and (4) Calendar. You can ignore information on the right side of the page. The most important tabs for you at this point in the course are the Modules tab on the left and the Calendar tab at the top. If you move the cursor to the Modules tab and click on it, you will see the content of the course and if you click on Calendar you will see the dates that tests and certain assignments are due. If you need more assistance with using Canvas, on the left side is a tab called "Canvas Tutorials". Under the tutorial for students, you will find more information about Canvas and how to use it.

The readings for this course are in a course packet under Dr. Tombari's name. The packet is called *"Stat Sense: Thinking Clearly About Data"*. You can purchase it at the Campus COOP bookstore. Make sure to purchase it promptly. It contains material that you will need for exams that you can find nowhere else such as tables and worksheets.

The Syllabus tab shows important dates when tests and assignments are due, so be sure to view this now and plan your semester accordingly. ***The midterm and final exams are given on campus.***

The Modules tab displays the organization of the course and contains all the readings, media, practice tests, and other resources that you will need to be successful in statistics.

<p style="text-align:center; color:red; font-size:larger;">Please read carefully what follows.</p>

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Organization of the Course

The course is organized into 13 Units. Each Unit contains a variety of resources to help you master statistical reasoning and statistical computations. It is important that you use all these resources.

Objectives and Readings:

This section identifies the important skills that you will be learning and highlights the main points of the readings. The objectives are the focus of the readings, activities, videos, practice tests, and exams. They indicate what you will be asked to demonstrate on the exams. Thus it is important for you to reflect on these skills and, at the end of each module, judge the extent to which you have learned them. As you study the chapter readings, complete the assignments, watch the videos, and take the practice tests, keep these objectives in mind. Knowing about them will give a focus and sense of purpose for your study, and assure that you will succeed on the exams. If you are not sure what a particular objective means, send us an email,

participate in the discussion board on Canvas, or contact us during office hours. We will be happy to explain exactly what is expected of you.

The unit readings will explain the whats, whys, and wherefores of what you will be learning. They stress understanding of why the formulas look as they do. There is plenty of opportunity to practice the skills. Your mastery of statistics will depend less on mathematical sophistication than on your clear and logical thinking. There is logic behind statistical reasoning and problem solving that will require a lot of thought, reflection, and practice to acquire. You will grasp some sections of the readings immediately. Other sections you may have to read, re-read, and re-read again to make some sense of the information. Thinking like a statistician is not something we were born with. It is an acquired skill. Be patient with yourselves and you will get it.

PowerPoint Presentations, Videos, Recorded Lectures

After you have read and studied the units, we have provided power point presentations, videos, and taped lectures from the spring, 2016 semester to reinforce what you have learned. Some of the PPTs are narrated and include useful visual material. These presentations cover material in the Units in a slightly different way. These PPTs have been adapted from several textbooks and may contain some slightly different formulas and symbols than were used in your course packet. Although you may see a chapter name in the video that is different from the unit title that it goes with, the material is the same as is presented in each unit.

Recorded Lectures

My class lectures for Units 4-13 are available for your viewing. Log into videocenter.edb.utexas.edu and you can watch them. These recordings were made during the spring 2016 semester.

YouTube Videos

We have reviewed some of the best demonstrations of statistical routines and concepts that have been catalogued on YouTube. Along with the PPTs, they will further enrich your grasp of the important concepts and procedures that you learned in the units included in the course packet.

Unit Practice Problems

Each unit in the course packet includes a variety of questions (and answers) that will prepare you for the 4 course exams. Be sure to do all of them. Taking these tests and evaluating your learning regularly throughout the semester is one of the best ways to learn.   These self-tests will let you know how well you have acquired the statistical skills explained in the chapter. These exercises are not graded. They will help you to learn better the skills that you will be tested over.

The best way to prepare for the exams is to do these problems and make sure that

you understand exactly why you solved a problem correctly or why you may have gotten it wrong. The more of these problems at the end of each Unit that you do, and the more you understand why you did or did not do them correctly, the more successful you will be on your exams.

Review Questions

Each unit ends with 10-20 question self-tests on Canvas to allow you to evaluate how well you have learned the material.

Additional Readings

Each unit contains a section titled 'Additional Readings' on Canvas. These readings are from online textbooks that explain the concepts that you read about in each unit in a slightly different way. After you have read the units, and taken the unit self-tests, if you believe you need more practice or reinforcement, these additional readings are just the thing for you. They contain practice questions and exercises like the ones you have been doing in the units.

Four Practice Exams

You have approximately two weeks between exams. The best way to assess how ready you are to take them is to take the practice exams and score your performance. The questions in these practice tests are similar to the questions on the exams.

You may print copies of these tests and solve the problems, but you need not send them to us. If you answer less than 80% of the questions correctly, you should review the sections in the textbook that explained the knowledge and skills that these questions assess.

The answers to these questions are listed on a separate page in the module following the practice test. Try not to guess the correct answer if you are not sure of it. If you do guess and get an item correct, make sure you understand why it is correct after you check your answers with the ones given in the module. And make sure that you understand why you may have gotten a particular question wrong.

Students often visit us during our on-campus office hours and online hours to go over these practice tests.

Course Exams

Exams 1 (Units 1-4) and 3 (Units 9 & 10) each contain 30 questions that assess how well you have learned the objectives of the units covered by the exams. The midterm (Exam 2) and final exam (Exam 4) consist of 50 multiple-choice questions. The midterm will cover Units 1-8 and the final 9-13. ***The midterm and final exams are 2 hours long and are given on campus.***

The best way to prepare for these exams is to make sure that you can demonstrate

the skills that each objective describes. If you have done all the assignments and taken the practice tests and done well, then feel confident that you know these skills. The test questions were built directly from the objectives. So if you know how to do the objectives you will know exactly what is expected of you on the tests.

Do not click on the "take the test" button for the 2 online tests until you are ready to complete the test. You are given only 1 attempt at the exams and you will have 75 minutes to complete exams 1 and 3. Once the timer for the online tests has begun, you must complete the test. These exams have deadlines as indicated in the calendar. You have approximately 3 weeks to complete Exams 1 and 3. If you do not complete the exams in this time you will get a zero. There are no makeups for these tests, unless you provide a legitimate, documented excuse to us. 30% of your grade is based on these two tests so it is very important that you don't miss either.

If you are more than 30 minutes late for either the mid-term or final exam (with no legitimate and validated excuse) you will not be allowed to take the exam, nor will a make-up be given. You will receive a grade of zero.

A legitimate excuse involves personal illness or family emergency only...not traffic, car, bus or any other type of transportation problem.

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Course Requirements:

Your grades will be based on: (A) Two unit exams that will make up 30% of your grade; (B) a midterm exam that will count 35% of your final grade; and (C) a final exam that will also count 35% of your final grade. Both midterm and final will be taken at the University of Texas on dates and times shown in the table below.

You must take all exams to receive credit for this course.

How Grades Will Be Assigned

Your grades on all 4 tests will be totaled, averaged, and weighted. The following percentages will be used to assign final grades:

Overall Course Percent	Grade
90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

Schedule of Activities - Summer 2016

6/4-6/20	What is Statistics?	Unit 1
	Tables and Graphs	Unit 2
	Averages	Unit 3
	Variability	Unit 4
6/21	**TEST # 1: Due 6/21 at 11:59 PM (Units 1-4)**	*Units 1-4*
6/21-7/11	Z-scores	Unit 5
	The Standard Normal Distribution	Unit 6
	The Central Limit Theorem	Unit 7
	Confidence Intervals	Unit 8
7/13	**Test # 2: On Campus Mid Term Exam in SZB 435 from 5-7 PM**	*Units 1-8*
7/14- 8/1	Hypothesis Testing	Unit 9
	Inferences About Averages	Unit 10
8/2	**Test # 3: Due 8/2 at 11:59PM**	*Units 9 & 10*
8/3-8/14	Correlations and Predictions	Unit 11
	Inferences About Associations	Unit 12
	Inferences About Proportions	Unit 13
8/15	**Test # 4: On Campus Final Exam in SZB 435 from 5-7 PM**	**Units 9-13**