EDP 371 - Introduction to Statistics

Unique# 10265 Class Time: 12:30 – 1:45 p.m. Class Room: UTC 3.110

Instructor	Office and hours	Phone	E-mail
Dan Robinson	SZB 538D, TTh 10-11 a.m. and by appointment	471-0683	dan.robinson@mail.utexas.edu

Teaching Assistants	Office and hours	Phone	E-mail
Daniel Clark	by appointment	817-223-1586	dac99a@gmail.com
Matthew Clem	by appointment	983-9008	maclem@utexas.edu

Readings

Gravetter, F. J., & Wallnau, L. B. (2010). Statistics for the behavioral sciences (8th ed.). Thompson Wadsworth: Belmont, CA.

Policy on Instructional Modifications in the College of Education

Students who have a documented disability (physical or cognitive) that may impair their ability to complete assignments or otherwise satisfy course criteria are encouraged to meet with the course instructor to identify, discuss, and document any feasible instructional modifications or accommodations. They must notify the instructor no later than the end of the second week of the semester/term in which the course is offered. Students should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 to request an official letter outlining authorized accommodations.

What I Want for this Course

When you leave this course I want you to be able to do some things better than you could do them at the beginning. First, I want you to be able to identify solutions to problems that involve data. Second, I hope you are able to critically evaluate research reports involving data. And third, I hope that your experience with team-based learning will enable you to work more effectively with others. Throughout the session I will ask for your feedback to see if we are continuing to move toward achieving these goals.

Course Objectives

This course is designed to enable students to learn basic statistical procedures frequently used in the research literature so that they will be able to (a) conduct and interpret these analyses, and (b) intelligently and critically read the literature. The course is organized into six learning units, each of which has a skill-based learning goal. In order the units are:

1. Calculating descriptive statistics and solving problems using z-scores
2. Solving problems using the one-sample t-test
3. Solving problems using the independent and dependent-samples t-tests
4. Solving problems using the one-way analysis of variance and a post hoc follow up test
5. Solving problems using correlation and chi-square
6. Solving problems using regression
7. Solving problems using nonparametric tests

Extra Credit

There are 56 possible extra credit points that you may receive in this class (including one for visiting the instructor during office hours before February 16). No other extra credit is allowed.

Readiness Assurance Quizzes

There will be six 15-point multiple-choice quizzes. Each quiz will cover conceptual material presented in the assigned readings. Quizzes will first be taken individually (without the help of others) and then again in teams. You will take the individual quizzes for 20 minutes. Upon completion of the individual quiz, students will assemble in their teams and take the same quiz again as a team. The team quiz will also last for 20 minutes. Students may receive bonus points if their team scores higher than other teams. For example, if a team scores higher on a quiz than all other teams, each individual from that team will receive two points added to their individual score. So, if a student scores 13 and the team scores higher than all other teams, then that student receives a 15 for the overall score. 2nd place teams receive 1 point. If teams tie, they get equal points. Thus, a student may receive up to 12 extra credit points on quizzes.

Register for quizzes at http://www.edb.utexas.edu/visionawards/Robinson/TBL/

Problem Solving Tests

There will be three comprehensive problem-solving tests worth 60 points each. Each test will involve applying the knowledge acquired in the assigned readings and lecture to real-world problems. Tests will first be taken individually (without the help of others) and then again in teams. You will take the individual tests after the first 5 minutes of class for 35 minutes. Upon completion of the individual test, students will assemble in their teams and take the same test again as a team. The team test will also last for 35 minutes. Students may receive extra credit points if their team scores higher than other teams. For example, if a team scores higher on a test than all other teams, each individual from that team will receive 9 points added to their individual score. So, if a student scores 51 and the team scores higher than all other teams, then that student receives a 60 for the overall score. 2nd place teams receive 6 points, and 3rd place teams receive 3 points. If teams tie, they get equal points. Thus, a student may receive up to 27 extra credit points on tests.

Appeals

If your team feels strongly about the correctness of an item that it missed, the team may submit a written appeal to the instructor. This appeal process must occur immediately following a readiness quiz or problem-solving test. Only teams, not individuals, may write appeals. Only teams that write successful appeals get points for that appeal, even if another team missed the same question(s). Appeals are not simply an opportunity to dig for more points. Rather, they are an opportunity for teams to make scholarly arguments for their collective positions. All arguments must be supported by evidence from the text or lecture notes. If the appeal is based on an ambiguously phrased question, the team must suggest wording that is less ambiguous. The decision to grant or refuse an appeal will be made by the instructor after class via e-mail. The following is an example of a successful appeal:

> Argument: "We feel that A, rather than B, should be the correct answer to question 15."
>
> Evidence: "According to Table B.6, the critical *r* for 10 degrees of freedom, two-tailed test, and an alpha of .05 is .576, which is larger than the calculated *r* of .570. This would lead us to conclude that there is no relationship between shoe size and intelligence."

Missed Quizzes and Tests Policy

Students are allowed to make-up one quiz or test without providing the TA sufficient warning (i.e., at least a few days). Students who know they will miss a quiz or test may arrange with the TA to take one quiz or test early. Thus, only two quizzes or tests may be taken outside of the regularly scheduled time. Students who take make-up quizzes or tests do not receive team extra credit points.

Team Games

You may receive up to 16 extra credit points by participating in four team games. Each game involves solving problems as teams. First place teams receive four points, second place teams receive three points, third place teams receive two points, and fourth place teams receive one point.

Professionalism Feedback

In this class, professionalism is very important. In the professional world, your life is influenced by three things: your own effort, the effort of the people you depend upon, and the way you work together, which is why I have chosen the Team-Based Learning system which values all three of those things.

Twice during the course you will provide professionalism feedback to each member of your team. The feedback should reflect your judgment of such things as:

Preparation – were they prepared when they came to class?
Contribution – did they contribute productively to the team discussion and work?
Respect for others' ideas – did they encourage others to contribute their ideas?
Flexibility – were they flexible when disagreements occurred?

It is important to provide positive feedback to people who truly worked hard for the good of the team and to also make suggestions to those you perceived not to be working as effectively on team tasks. I will refer to the feedback a student has received from team members in those situations where the student is a few points short of a letter grade. Improvement as a team member and/or sustained good work may convince me to show mercy to students who barely miss the cutoffs. By the way, you will also evaluate me as the instructor twice during the semester.

Grading

Students' course grade will be determined by their grade in two areas: individual performance (on the readiness assurance quizzes and problem solving tests) and team performance (ditto).

Readiness quizzes will make up 33% of your grade (90 points). Problem-solving tests will make up 67% (180 points). Your overall course grade will be determined by the number of points you obtain.

A	243-270	B	216-242	C	189-215	D	162-188	F	Less than 162

How to Succeed in EDP 371

1) Sit close together in a circle - this enables easy communication and eye contact, which is very important to team performance.
2) In team activities, be prepared to share three things with your teammates: (a) what answer you chose as an individual, (b) why you chose that answer, and (c) how confident you are about it.
3) Come prepared - not only having read what was assigned, but also by bringing your book and calculator to every class.
4) Deliberate as long as time permits - teams who deliberate longer (especially at the beginning) do better in team activities.

Topic	Date	Reading
Introduction	January 17	
Practice Quiz	January 19	syllabus
Readiness Assurance Quiz 1	January 24	Chapters 1-5
Lecture	January 26, 31	
Readiness Assurance Quiz 2	February 2	Chapters 6-9
Lecture	February 7, 9	
Team Game 1 (up to 4 points)	February 14	
Problem Solving Test 1	February 16	
Readiness Assurance Quiz 3, feedback	February 21	Chapters 10 and 11
Lecture	February 23, 28	
Readiness Assurance Quiz 4	March 1	Chapter 13
Lecture	March 6, 8	
Team Game 2 (up to 4 points)	March 20	
Problem Solving Test 2	March 22	
Readiness Assurance Quiz 5, feedback	March 27	Chapters 16 and 18
Lecture	March 29, April 3	
Readiness Assurance Quiz 6	April 5	Chapter 17
Lecture	April 10	
Readiness Assurance Quiz 7	April 12	Chapter 20
Lecture	April 19, 24	
Team Game 3 (up to 4 points)	April 26	
Team Game 4 (up to 4 points)	May 1	
Problem Solving Test 3	May 3	