



## ISDT 7372: STATISTICAL METHODS Fall 2017

College of Education, Department of Curriculum & Instruction

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Thursdays 12PM - 3PM  
And by appointment (FtF or Online)

**Class Format:** Completely Online

**Class day and time:** N/A

**Class location:** Blackboard Learn

**Course Description:** In Statistical Methods, doctoral students will manage, analyze, and interpret data related to the field of instructional technology. The course will focus on quantitative methods. Prerequisite: Admission into the Ed.D. Instructional Technology program.

### Textbooks:

**Required Textbook:** Urdan, T. C. (2017). *Statistics in plain English*. (4<sup>th</sup> ed.). New York: Routledge.

**Required Software:** IBM SPSS Statistics Standard GradPack 23. Student versions are available through the SHSU bookstore and through the SPSS website, <http://www.onthehub.com/spss/>

**Course Objectives:** The following objectives will be met during this course:

1. Explain statistical concepts, terms, and theories.
2. Explain assumptions for the following statistical analyses.
3. Perform the following statistical analyses.
4. Interpret the results from the statistical analyses.
5. Apply appropriate statistical methods to a given situation.
6. Report findings according to the APA Publication Manual 6<sup>th</sup> Edition.

The statistical analyses to be learned are:

- Correlation, Regression
- tTests
- One-way ANOVA, Factorial ANOVA, Repeated-Measures ANOVA

A matrix that aligns course objectives, activities, assessments, and standards can be viewed at this [link](#).



**IDEA Objectives:** The instruction in this course will address the following major objectives (as assessed by the IDEA course evaluation system):

**Essential:**

Learning appropriate methods for collecting, analyzing, and interpreting numerical information.

**Important:**

Gaining a basic understanding of statistics

Learning to apply statistics in real data analysis situations

**Course/Instructor Requirements:** This course requires students to have acquired an IRB approval for data collection and actual data collected ready for analysis. Also, students are required to attend a face-to-face or online meeting with the instructor to discuss students' data analysis plan for their research

## Course Outline

### Assignments

- Weekly Quizzes: Students will check their understanding on each week's topic.
- Weekly Discussions: Students will engage in discussions on suggested discussion points related to the week's topic.
- Data Analyses using SPSS: Students will be given a scenario to perform data analyses using SPSS and interpret the results.
- Research Consultation: Students will prepare a data analysis plan for their evaluation research projects and consult with the instructor about the plan.
- Research Paper: Students will write up their data analysis plan, perform the analysis, and report the results.
- Reflection Paper: Students will reflect on their learning experiences.

### Grades

Weekly Quizzes (11*20)	220
Weekly Discussions (12*20)	240
SPSS Data Analyses (8*40)	320
Research Consultation	40
Research Paper	100
Reflection Paper	40
Pre- & Post- Tests	40
<b>Total</b>	<b>1000</b>
100%-90%	A
89%-80%	B
79%-70%	C
69% and below	F

### Schedule (The schedule is subject to change.)

W	Dates	Topic	Due	Text
1	8/23-8/29	Introduction to class	8/30	-
2	8/30-9/5	Introduction to statistics	9/2, 9/6	Ch. 1
3	9/6-9/12	Measures of central tendency and variability	9/9, 9/13	Ch. 2&3
4	9/13-9/19	The normal distribution and standardization	9/16, 9/20	Ch. 4&5
5	9/20-9/26	tTests – Part1 and standard errors	9/23, 9/27	Ch. 5&8
6	9/27-10/3	Statistical and practical significance, assumptions	9/30, 10/4	Ch. 7
7	10/4-10/10	tTests - Part 2	10/7, 10/11	Ch. 8
8	10/11-10/17	One-way ANOVA	10/14, 10/18	Ch. 9
9	10/18-10/24	Factorial ANOVA	10/21, 10/25	Ch. 10
10	10/25-10/31	Repeated measures ANOVA	10/28, 11/1	Ch. 11
11	11/1-11/7	Correlation	11/4, 11/8	Ch. 12
12	11/8-11/14	Regression	11/11, 11/15	Ch. 13
13	11/15-11/21	Individual Research - Consultation	TBA	
Thanksgiving Break				
14	11/27-12/4	Research Paper and Reflection Paper	12/4	

## Student Guidelines

### Course Policies

- Late assignment policy: Assignments are due at midnight on the established due dates. The following late assignment policy will be applied for late submissions.
  - Within first 24 hours: 10% of total points for that assignment
  - 24-48 hours: 20% of total points for that assignment
  - After 48 hours: *I will not accept late submissions after 48 hours.*
- Time requirement: For each semester course hour attempted, at least three hours outside of the class time in addition to three class hours is expected. It is expected that if you are enrolled in this course, you can meet the time requirements.
- Professionalism policy: The frequency with which you check the status of the course in Blackboard, the quality of your interactions with colleagues and supervisors, and the quality and timeliness regarding completing assignments all determine your professionalism, which in turn, signals your readiness to advance in the program.
- Academic dishonesty policy: Any cases of academic dishonesty will result in an automatic F in this course and the university policy will be applied.

### University Policies

- SHSU Academic Policy Manual-Students
  - [Procedures in Cases of Academic Dishonesty #810213](#)
  - [Disabled Student Policy #811006](#)
  - [Student Absences on Religious Holy Days #861001](#)
  - [Academic Grievance Procedures for Students #900823](#)
- SHSU Academic Policy Manual-Curriculum and Instruction
  - [Use of Telephones and Text Messagers in Academic Classrooms and Facilities #100728](#)
- Visitors in the Classroom- Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance.



## College of Education Information

### Accreditation

The programs within the SHSU College of Education have the distinction of receiving accreditation and national recognition from multiple accrediting bodies. All educator certification programs, including teaching and professional certifications, have received ongoing accreditation from the Texas Education Agency ([TEA](#)). Additionally, the educator preparation program has been accredited by the Council for the Accreditation of Educator Preparation ([CAEP](#)-formerly NCATE) since 1954. Many of the educator preparation concentration areas have also chosen to pursue national recognition from their respective Specialized Professional Associations ([SPA](#)), signifying the program is among the best in the nation. The programs within the Department of Counselor Education have also received accreditation from the Council for Accreditation of Counseling and Related Educational Programs ([CACREP](#)).

### Course and Program Evaluation

Near the end of the semester, students are asked to take part in the University's adopted course evaluation system, IDEA. The assessments are completed online and instructions are emailed to each student. Students' assessments of courses are taken and are systematically reviewed by the Dean, Associate Deans, Department Chairs, and individual faculty members. Only after the semester has completed are faculty members allowed to view aggregated results of non-personally-identifiable student responses.

The College of Education conducts ongoing research regarding the effectiveness of the programs. Students receive one survey in the final semester prior to graduation regarding the operations of the unit during their time here. A second survey occurs within one year following completion of a program, and is sent to students and their employers. This survey requests information related to students' quality of preparation while at SHSU. Students' responses to these surveys are critical to maintaining SHSU's programs' excellence.