

9-2013

## EDU 421.02A: Statistical Procedures in Education

Daniel H. Zielaski

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**Statistical Procedures in Education**  
**EDLD486 (UG/G) / EDU421 (UG/G)**  
Fall 2013  
TH 2:00-4:30 or 5:00-7:00

**Instructor:**

Daniel Zielaski  
PJWCE208  
406-243-5204  
Daniel.Zielaski@mso.umt.edu

**Office Hours:**

Wed. 10:00 – 12:00  
Thurs. 12:00 – 2:00  
Or By Appointment

**PURPOSE OF THE COURSE**

This course is intended to provide undergraduate and graduate students with a working knowledge of the statistical analysis of data from experiments and surveys (with all types of independent variables) using various computer based procedures. Students will develop knowledge of underlying statistical models, matching statistical models to research designs, using the computer software to conduct appropriate statistical analyses, and the interpretation of report findings.

**TEXTBOOK (On Reserve at UM Bookstore – [BUY NOW](#))**

Coolidge, Frederick L. (2013). Statistics: a gentle introduction (3e). Sage Publications. Thousand Oaks, CA.

**COURSE REQUIREMENTS**

Class notes (as PPT presentations), assignments, and homework are all posted on the UM Moodle EDLD486/EDU421 course shell. Please check Moodle frequently. When new material becomes available, I'll send you an email and announce it on Moodle.

**ATTENDANCE**

Attendance is required. All unexcused absences will result in the loss of "attendance/participation" points. Excused absences will be handled on a case by case basis.

**LATE SUBMISSIONS**

All assignments are due at the beginning of class on their assigned due date. All late submissions will receive an automatic 25% deduction. There is no deadline for late submissions. Should extenuating circumstances exist, please contact Daniel at [daniel.zielaski@mso.umt.edu](mailto:daniel.zielaski@mso.umt.edu) prior to the assignment due date.

**ACCOMMODATIONS**

If you are a student athlete please contact me via email with a schedule of your athletic commitments. Student athletes, or any student with a similar commitment (athletics, children, etc.), will not be penalized for attendance or the late submission of assignments, as long as you communicate with me in advance.

I want to be sensitive to any needs that you may have. If you require some accommodation or you are uncomfortable with some aspect of this course, I invite you to discuss these matters with me during office hours or some other scheduled time.

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). "Reasonable" means the University permits no fundamental alterations of academic standards or retroactive modifications. (For other options see <http://life.umt.edu/sa/dss/>).

**GRADING**

Item	Num	Points	Total	Description
Attendance/Participation	15	5	75	Students are asked to attend all classes, arrive on time, and complete the exit slip at the end of class.
Problem Sets	15	20	300	Problem sets will be assigned weekly. Each problem set will be posted on Moodle at the beginning of class.
Skills Assessments/Quizzes	5	25	125	Students are asked to complete 5 skills assessments through the semester. Skills assessments combine EXCEL skills with statistical methods in order to answer a action research question.
MidTerm Exam	1	100	100	The midterm assessment will consist of 25 statistics questions. This assessment will be available for a period of three weeks beginning 10/3/2013 and ending 10/24/2013. Please submit answers via the Moodle.
Action Research Paper (GRAD ADDITION, UG OPTION)	1	100	100	Students will be asked to select an action research question and data set from a list of available options (options will be posted on Moodle). Student will be asked to write a 5 chapter action research paper using the research question and data set that they have selected. Student will be provided with a detailed rubric and scoring guide.
Final Exam	1	300	300	The final assessment will consist of 25 statistics questions. This assessment will take place during the UM final assessment period.
FINAL GRADE (UG/G)			900/1000	

## COURSE SCHEDULE AND TOPICS

Week	Date	Topics	Assigned Reading	Assignment Due	In Class Activity
1	8/29/2013	Introduction/Basics		Exit Slip	PreTest
2	9/5/2013	Displaying Data / Frequency Tables / Graphs	CH1, CH2, CH3	Problem Set #1, Exit Slip	
3	9/12/2013	Standard Scores (z) / Percentile and Percentile Ranks	CH4	Problem Set #2, Exit Slip	
4	9/19/2013	Measures of Central Tendency	CH2 (review), CH3 (review)	Problem Set #3, Exit Slip	
5	9/26/2013	Measures of Variability	Study #1 (see Moodle)	Problem Set #4, Exit Slip	Research Review #1
6	10/3/2013	Normal Distribution		Problem Set #5, Exit Slip, <b>Midterm Exam Assigned</b>	Skills Assessment #1
7	10/10/2013	Pearson's r	CH6, Study #2 (see Moodle)	Problem Set #6, Exit Slip	Research Review #2
8	10/17/2013	Spearman's Rho	CH6 (review)	Problem Set #7, Exit Slip	Skills Assessment #2
9	10/24/2013 <b>(POSSIBLE CANCELEATION)</b>	Confidence Intervals / Hypothesis Testing – Single Mean	Study #3 (see Moodle)	Problem Set #8, Exit Slip, <b>Midterm Exam Due</b> <b>Action Research Paper Questions and Data Sets Assigned</b>	Research Review #3
10	10/31/2013	Hypothesis Testing for Independent Samples	CH7	Problem Set #9, Exit Slip	Skills Assessment #3
11	11/7/2013	Hypothesis Testing for Dependent Samples	CH8, Study #4 (see Moodle)	Problem Set #10, Exit Slip	Research Review #4
12	11/14/2013	Chi-squared Goodness-of-Fit	CH15	Problem Set #11, Exit Slip	Skills Assessment #4
13	11/21/2013	Simple Linear Regression	CH6 (review), Study #5 (see Moodle)	Problem Set #12, Exit Slip <b>Action Research Paper Due</b>	Research Review #5
14	12/5/2013	ANOVA	CH11	Problem Set #13, Exit Slip, Course Evaluation	Skills Assessment #5, Course Evaluation
15	12/12/2013	FINAL EXAM		Problem Set #14 & #15 (exam prep), Exit Slip	