EDLD 486.01B: Statistical Procedures in Education

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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  
Office Hours: Wed. 10:00 – 12:00  
Thurs. 12:00 – 2:00  
406-243-5204 Or By Appointment  
Daniel.Zielaski@mso.umt.edu

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)


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 prior to the assignment due date.

ACCOMODATIONS

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Num</th>
<th>Points</th>
<th>Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance/Participation</td>
<td>15</td>
<td>5</td>
<td>75</td>
<td>Students are asked to attend all classes, arrive on time, and complete the exit slip at the end of class.</td>
</tr>
<tr>
<td>Problem Sets</td>
<td>15</td>
<td>20</td>
<td>300</td>
<td>Problem sets will be assigned weekly. Each problem set will be posted on Moodle at the beginning of class.</td>
</tr>
<tr>
<td>Skills Assessments/Quizzes</td>
<td>5</td>
<td>25</td>
<td>125</td>
<td>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.</td>
</tr>
<tr>
<td>MidTerm Exam</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td>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.</td>
</tr>
<tr>
<td>Action Research Paper (GRAD ADDITION, UG OPTION)</td>
<td>1</td>
<td>100</td>
<td>100</td>
<td>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). Students 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.</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1</td>
<td>300</td>
<td>300</td>
<td>The final assessment will consist of 25 statistics questions. This assessment will take place during the UM final assessment period.</td>
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<tr>
<td>FINAL GRADE (UG/G)</td>
<td></td>
<td></td>
<td>900/1000</td>
<td></td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topics</td>
<td>Assigned Reading</td>
<td>Assignment Due</td>
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<tr>
<td>1</td>
<td>8/29/2013</td>
<td>Introduction/Basics</td>
<td></td>
<td>Exit Slip</td>
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<tr>
<td>2</td>
<td>9/5/2013</td>
<td>Displaying Data / Frequency Tables / Graphs</td>
<td>CH1, CH2, CH3</td>
<td>Problem Set #1, Exit Slip</td>
</tr>
<tr>
<td>3</td>
<td>9/12/2013</td>
<td>Standard Scores (z) / Percentile and Percentile Ranks</td>
<td>CH4</td>
<td>Problem Set #2, Exit Slip</td>
</tr>
<tr>
<td>4</td>
<td>9/19/2013</td>
<td>Measures of Central Tendency</td>
<td>CH2 (review), CH3 (review)</td>
<td>Problem Set #3, Exit Slip</td>
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<tr>
<td>5</td>
<td>9/26/2013</td>
<td>Measures of Variability</td>
<td>Study #1 (see Moodle)</td>
<td>Problem Set #4, Exit Slip</td>
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<tr>
<td>6</td>
<td>10/3/2013</td>
<td>Normal Distribution</td>
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<td>Problem Set #5, Exit Slip, Midterm Exam Assigned</td>
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<tr>
<td>7</td>
<td>10/10/2013</td>
<td>Pearson’s r</td>
<td>CH6, Study #2 (see Moodle)</td>
<td>Problem Set #6, Exit Slip</td>
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<td>8</td>
<td>10/17/2013</td>
<td>Spearman’s Rho</td>
<td>CH6 (review)</td>
<td>Problem Set #7, Exit Slip</td>
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<td>9</td>
<td>10/24/2013 (POSSIBLE CANCELLATION)</td>
<td>Confidence Intervals / Hypothesis Testing – Single Mean</td>
<td>Study #3 (see Moodle)</td>
<td>Problem Set #8, Exit Slip, Midterm Exam Due Action Research Paper Questions and Data Sets Assigned</td>
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<tr>
<td>10</td>
<td>10/31/2013</td>
<td>Hypothesis Testing for Independent Samples</td>
<td>CH7</td>
<td>Problem Set #9, Exit Slip</td>
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<td>11</td>
<td>11/7/2013</td>
<td>Hypothesis Testing for Dependent Samples</td>
<td>CH8, Study #4 (see Moodle)</td>
<td>Problem Set #10, Exit Slip</td>
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<td>12</td>
<td>11/14/2013</td>
<td>Chi-squared Goodness-of-Fit</td>
<td>CH15</td>
<td>Problem Set #11, Exit Slip</td>
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<td>13</td>
<td>11/21/2013</td>
<td>Simple Linear Regression</td>
<td>CH6 (review), Study #5 (see Moodle)</td>
<td>Problem Set #12, Exit Slip</td>
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<td>14</td>
<td>12/5/2013</td>
<td>ANOVA</td>
<td>CH11</td>
<td>Problem Set #13, Exit Slip, Course Evaluation</td>
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<td>15</td>
<td>12/12/2013</td>
<td>FINAL EXAM</td>
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<td>Problem Set #14 &amp; #15 (exam prep), Exit Slip</td>
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