I. COURSE DESCRIPTION

This course builds on the foundation established in the prerequisite introductory course of EDLD 6333 to explore a variety of advanced statistical procedures. Special emphasis is placed on analysis of variance (ANOVA) techniques such as one-way and factorial ANOVA, analysis of covariance (ANCOVA), repeated measures ANOVA, and multivariate analysis of variance (MANOVA), as well as multiple regression analysis, logistic regression analysis, and discriminant analysis. Also included are selected nonparametric statistical techniques. The course includes hands-on experiences in the use of Statistical Package for the Social Sciences (SPSS) with exercises related to the topics covered. Prerequisite: EDLD 6333

II. RATIONALE

Students who complete the doctoral degree should be both knowledgeable and competent in advanced statistical procedures. The course will enable the students to not only become informed consumers of the research, but also better able to conduct high quality educational research themselves.

III. TExES COMPETENCIES - NA

IV. COURSE OBJECTIVES

Upon successful completion of the course, students will demonstrate knowledge and understanding of advanced statistical procedures by:

1. Successfully stating null and alternative/research hypotheses, given research questions.
2. Successfully selecting and performing appropriate statistical techniques, given research questions.
3. Successfully interpreting and reporting results, given research questions.
4. Successfully using the Statistical Package for the Social Sciences (SPSS) to perform statistical analyses of data.
V. TOPICAL OUTLINE

Unit 1 – t Tests
Unit 2 – One-Way Analysis of Variance
Unit 3 – Post-Hoc and A Priori Comparisons
Unit 4 – Factorial Analysis of Variance
Unit 5 – One-Way Repeated Measures ANOVA
Unit 6 – Analysis of Covariance
Unit 7 – Multiple Regression Analysis
Unit 8 – Logistic Regression Analysis/Discriminant Analysis
Unit 9 – Multivariate Analysis of Variance (MANOVA)
Unit 10 – Nonparametric Statistics

VI. TENTATIVE CLASS SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/22</td>
<td>Course Introduction, t Tests</td>
<td>Ch. 9</td>
</tr>
<tr>
<td>1/29</td>
<td>t Tests</td>
<td>Ch. 9</td>
</tr>
<tr>
<td>2/5*</td>
<td>t Tests Practice Session</td>
<td>Ch. 9, Ch. 10</td>
</tr>
<tr>
<td>2/12</td>
<td>One-Way Analysis of Variance</td>
<td>Ch. 10</td>
</tr>
<tr>
<td>2/19</td>
<td>Post-Hoc and A Priori Comparisons</td>
<td>Ch. 10</td>
</tr>
<tr>
<td>2/26</td>
<td>Factorial Analysis of Variance</td>
<td>Ch. 12</td>
</tr>
<tr>
<td>3/5</td>
<td>Quiz 1, Factorial Analysis of Variance</td>
<td>Review, Ch. 12</td>
</tr>
<tr>
<td>3/12</td>
<td>Spring Break</td>
<td>Ch. 12</td>
</tr>
<tr>
<td>3/19</td>
<td>One-Way Repeated Measures Analysis of Variance</td>
<td>Ch. 13</td>
</tr>
<tr>
<td>3/26</td>
<td>Analysis of Covariance</td>
<td>Ch. 11</td>
</tr>
<tr>
<td>4/2</td>
<td>Multiple Regression Analysis</td>
<td>Ch. 7</td>
</tr>
<tr>
<td>4/9</td>
<td>Quiz 2, Multivariate Analysis of Variance (MANOVA)</td>
<td>Ch. 16</td>
</tr>
<tr>
<td>4/16</td>
<td>Logistic Regression Analysis, Discriminant Analysis</td>
<td>Ch. 8</td>
</tr>
<tr>
<td>4/23</td>
<td>Nonparametric Statistics</td>
<td>Ch. 15</td>
</tr>
<tr>
<td>4/30</td>
<td>Nonparametric Statistics</td>
<td>Ch. 15</td>
</tr>
<tr>
<td>5/7</td>
<td>Final Exam</td>
<td>Course review</td>
</tr>
</tbody>
</table>

Note. *Denotes an online meeting.
VII. INSTRUCTIONAL METHODS AND ACTIVITIES

1. Lecture/discussion
2. Practice problems
3. Individual homework assignments
4. In-class group assignments
5. Critique of a research article

VIII. EVALUATION AND GRADE ASSIGNMENT

Homework Assignments* 5%
Attendance and Class Participation 5%
Quiz 1 30%
Quiz 2 30%
Final Examination 30%

* Homework assignments include reading selected journal articles.

Grading Scale:
90 – 100 A
80 - 89 B
70 - 79 C
60 - 69 D
< 60 F

IX. REQUIRED TEXTBOOKS


X. RECOMMENDED READINGS


X. COURSE POLICIES

Late work and Make-up Exams

Late assignments are not accepted except in extenuating circumstances at the discretion of the instructor. Students who find that they are unable to be at an examination session because of illness, extenuating circumstances, etc., should contact the instructor as soon as the condition becomes apparent to arrange fair and practical extensions.

Incomplete Grade

An incomplete notation may be given to a student who is passing but has not completed a term paper, examination, or other required work for reasons beyond the student’s control other than lack of time.

Academic Integrity/Plagiarism

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in receiving an “F” in the course.

Dropping a Class

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class.

Grade Appeals

As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

Disabilities Accommodations
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.