THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES

Course #: STAT 5335  
Course Title: Applied Experimental Design  
Credit Hrs: 3  
Term: Fall 2020

Course Meetings & Location: ONLINE/BLACKBOARD

Prerequisite Courses: STAT 5428 or instructor approval.

Course Fee: (if applicable) NA

Instructor: Amy Wagler, Ph.D.
Office Location: Bell Hall 311

Contact Info: 744-6847  awagler2@utep.edu  
               744-6502

Phone #  E-mail address  Fax #  Emergency Contact

Office Hrs: TBA, or by appt

Textbook(s), Materials: 
Required: A First Course in Design and Analysis of Experiments 1st ed., Oehlert, G.W.

Suggested: none

Course Website: Blackboard

Course Objectives (Learning Outcomes): This course covers the basic principles of experimental design, the analysis of variance method, the difference between fixed and random effects and between nested and crossed effects, discussion of confounding effects, and multiplicity adjustments. The designs covered include completely random, randomized block, Latin squares, split-plot, factorial, fractional factorial, nested treatments and variance component analysis.

Course Activities/Assignments: Lecture Component: Most class periods will have in-class group work completed within the period. Additionally, bi-weekly individual assignments will be given. Students will complete a semester-long project and each student will make a presentation during the last week of classes about the final project. A midterm and a final exam will be given in this course. The date of the midterm is tba.

Assessment of Course Objectives: Daily in-class assignments are graded for completeness only. Weekly assignments are due at TBA times and will be graded for completeness and accuracy. A rubric will be provided at the time the project is assigned so it is clear how you will be assessed for the project.
Course Schedule: This course schedule is tentative and the instructor may vary from it when necessary. Please use this primarily as an outline of the course materials covered throughout the semester.

Week 1: Experimental Design Basics
Week 2: Randomization and CRD
Week 3: Contrasts
Week 4: Multiplicity Corrections, Part 1
Week 5: Power Analysis/Factorial Structures
Week 6: Factorial Structures, Exam review
Week 7: Modeling Interaction, Midterm
Week 8: Multiplicity Corrections, Part 2
Week 9: Random Effects
Week 10: Nesting, Crossed and Mixed Effects
Week 11: Complete and Incomplete Blocks
Week 12: Multiplicity Corrections, Part 3
Week 13: Fractional Factorials
Week 14: Response Surface Methodologies
Week 15: Final projects and course review

Grading Policy: Homework/Mini-projects 25%
Project 20%
Midterm Exam 25%
Final Exam 25%
In-class and engagement work 5%

If class is missed for a valid and documented reason, the daily in-class assignments may be made-up for full credit. All other assignments should be turned in on time.

Attendance Policy: You must attend class to turn in the in-class assignments and practice. Regularly missing class for an undocumented reason will affect your grade via the in-class assignments and occasional computing assignments.

Academic Integrity Policy: Please see http://academics.utep.edu/Default.aspx?tabid=23785

Civility Statement: This is a class where participation is required. We will work in groups and individually in class. You are expected to participate in both the group and individual class exercises. I welcome you to ask questions and add to the in-class discussion.

Disability Statement: If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148 or at <dss@utep.edu> or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.
Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact me as soon as possible.

UTEP College of Science Policies: The UTEP Fall drop date is October 30, 2020. The College of Science will remain aligned with the University and not approve any drop requests after that date.

All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.