ABET COURSE SYLLABUS
UTEP - Department of Industrial, Manufacturing & Systems Engineering

1. **Course number and name**: IE 2377 Electro-Mechanical Systems

2. **Credits and contact hours:** 3 SCH – 3 hours of lecture

3. **Instructor's or course coordinator's name:** Dr. Ivan Arturo Renteria Marquez

4. **Office:** E 226F Engineering building

5. **Office hours:** Tuesday and Thursday, 3:00 PM-4:30 PM

6. **Email:** iarenteria@utep.edu

7. **Text book, title, author, and year**: Grob's basic electronics, Mitchel E. Schultz, 12th edition, Mc Graw Hill, 2016.
    a. **other supplemental materials:**
    reference books:
    Electrical machines, drivers and power systems, Theodore Wild, 6th edition.

8. **Specific course information**
    a. **brief description of the content of the course (catalog description):**
    Fall 2018 UTEP catalog description:
    Principles of electrical circuits, generators, and motors. Introduction to electronics and micro-processors for data acquisition.
    b. **prerequisites or co-requisites:** MATH 1312 with a grade of "C" or better.
    c. **indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program:** Required course.

9. **Specific goals for the course**
    a. **specific outcomes of instruction:**
    The student should:
    - Students will understand the basic electrical engineering principles and abstraction on which the design of electromechanical systems is based.
    - Students will understand the basic electrical circuits laws and theorems such as Ohm's law, series and parallel circuits, voltage dividers, Kirchhoff's laws and network theorems.
    - Students will understand the principle of operation of generators and motors. These include DC and AC motors.

    b. **explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course:**

    1. ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

10. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

10. Brief list of topics to be covered

Electricity, Ohm's Law, Series circuits, Parallel circuits, Series-parallel circuits, Voltage dividers and current dividers, Kirchhoff's Laws, Network theorems, Alternating voltage and current, Capacitive reactance, Capacitive circuits.

11. Course Grading Distribution:

Homework/Assignments/Quizzes	20%
Midterm	40%
Final Exam	40%

Quizzes policy: Just students with a valid medical excuse note will be able to present a make up quiz.

12. Grading Scheme:

Grades will be distributed based on the following scale:

% of Points Possible	Grade Assigned
≥90	A
≥ 80	B
≥ 70	C
≥ 60	D
< 60	F

The instructor reserves the right to lower the grading scale at the end of the semester. It is expected that each assignment (homeworks, examinations and projects) be professional. The instructor reserves the right to penalize unprofessional responses to any assignment up to including awarding a zero (0) for the assignment.