

Course Title	MECH 2342 Electromechanical System (002), CRN: 17935 (Fall-2017): Credit: 3
Professor	Dr. A. R. Khan (arkhan@utep.edu); Office: Eng. Bld. A-317
Class location	MW: 10:30-11:50, Liberal Arts Building 319 (Aug 28, 2017 - Dec 07, 2017)
Laboratory	E-102B Intelligent System Laboratory
Course Prerequisite	MATH 1312 (Calculus-II) or MATH 2313 or MATH 2326 (not concurrently)
Course Description	Electromechanical system requires basic knowledge on electrical circuits and circuit analysis, electronic device, digital system, electromechanics, etc. appropriate for Electrical, Mechanical, Industrial, Civil, Chemical, Computer, Spacecraft engineering, Aerospace Engineering and Space science education, etc.
Course Objective	This course educates students in both analog and digital circuit analysis in order to build and measure system with various sensors and to develop various concepts learned in Mathematics, Science and Engineering. This course will also improve the ability to identify, analyze and solve engineering problems using basic knowledge, human intuition and instinct.
Course Topics	<ul style="list-style-type: none"> • Introduction (Power, Energy, Current, Voltage, Circuits) • Resistance, Capacitance and Inductance (RLC circuits) • Transients and Sinusoidal Signal Analysis and Filters • Diode, Bipolar and Field-Effect Transistors • Operational Amplifiers (OpAmp) • Magnetic Circuits and Transformers • DC and AC Machines • Logic Circuits and Microcontrollers. • Computer Based Instrumentations (LabVIEW)
Reference	<ol style="list-style-type: none"> 1. Electrical Engineering: Principle and Applications by A. R. Hambley (5th or 6th Edition, Published by PEARSON) 2. Additional Reference materials (notes, web links, etc.) may be handed out in class.
Software in class	iClicker Cloud (Attendance and class quiz) , NI Multisim, Arduino, LabVIEW,
Student's assessment	<ol style="list-style-type: none"> 1. Assignment: 30% (home work, class quiz, attention, attendance, etc.) 2. Midterm-1: 15% 3. Midterm-2: 15% 4. Final Exam: 20% 5. Project: 20% (5 students group with Arduino Kit) 6. Final (Comprehensive): Students who score equal or more than 90% of Midterm-1, Midterm-2, Assignments and project are exempted from final exam.
Students grading	<p>A= $\geq 90\%$</p> <p>B= $< 90\%$ and $\geq 80\%$</p> <p>C= $< 80\%$ and $\geq 70\%$</p> <p>D= $< 70\%$ and $\geq 60\%$</p> <p>F= $< 60\%$</p>
Tools in Class/Lab	<ol style="list-style-type: none"> 1. Scientific calculator, Laptop, Pad, e-book, Cell phones (silent mode, no text/call) can be used as problem solving tools. 2. Multimeter (able to measure voltage, current, resistance, capacitance, etc.) Each group must possess one. 3. Arduino Kit (Elegoo UNO Project Super Starter Kit), Each group must possess one set.

Academic Honesty

During exams and quizzes, you are not allowed to use any form of Wi-Fi enabled electronic device, including cell phones or other electronic communication devices or methods (wrist watches, earbuds, etc.). No wristwatch or other electronic device may be worn.

No electronic version of the book, loose paper print-outs of the book or extra sheets of paper of any kind are allowed unless explicitly mentioned in writing by the instructor. As a part of the zero-tolerance policy, if you have a cellphone or other electronic device capable of communication on your person; or if any proctor sees or hears any electronic device during the exam or if you share your work with someone else, you will be reported to the proper authorities and you may receive a zero on the exam and an F in the class. Other actions including suspension may also be perused.

If you have a disability that requires the use of an electronic device during exams you must have a letter of accommodation from the Center for Accommodations and Support Services (CASS). This accommodation must be coordinated in advance with the instructor.

During exams, you will not be allowed to leave the examination room until you complete the exam. This includes restroom breaks. Students with disabilities must have a letter of accommodation and coordinate this in advance with the instructor.

Instructors and/or proctors may record and/or use their personal cell phones to document activity during the exam. Recording devices may also be located at various locations in the room and may be out of sight of the students. These recordings will be managed according to the UTEP approved regulations for such media.

If you are suspected of scholastic dishonesty you may not be directly confronted about your conduct by the instructor or proctor. You will however, be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) and your exam will not be admissible. Your grade in the class may not be available until OSCCR makes a final ruling, this may adversely impact your ability to enroll in other classes.

If you arrive more than 15 minutes late to an exam, you will not be allowed to enter the examination room.

There will be no makeup exams administered. If you have a university-approved excuse, your instructor will have a process for determining how to handle the missing grade outlined in the syllabus. However, no makeup exams will be given.

If you miss more than one exam, the instructor may choose to administratively drop you from the class. This may adversely impact a visa and financial aid.

No food or drinks will be allowed in the examination room.

Departmental policy allows for the use of assigned seats. All students must present their UTEP issued ID prior to and during every exam and may be required to sign in. Not having a UTEP issued ID when asked will result in forfeiture of the exam.

Scholastic dishonesty on homework, lab assignments and all other class assignments will be held to the same standards and requirements of academic honesty as quizzes and exams.

Class Attendance Policy

Attendance is mandatory. Anyone with 5 or more absences will be dropped from the class. A drop for not attending will count toward the State Allowed Six Drop Limit. If you are failing the class at the time of the drop you may also be given a WF designation. Be advised that a drop could adversely impact visa status, financial aid and other programs.

As per UTEP rules, you may be asked to show a UTEP ID at any time during class.

Harassment Policy

The department has a zero-tolerance policy for harassment. Engagement in any behavior considered harassment will be reported to the proper authorities. In addition to generally understood forms of harassment, the department also treats the following behavior as harassment:

- Repeated emails and/or calls regarding subjects that have already been addressed. Once a decision has been made or a question answered, a student who continues to ask the same question will be given a warning by the recipient of the email/call. If the student continues, the behavior will be reported. Questions that seek understanding of course material are not harassment; but repeated questions about a grade or an administrative decision are.
- Grades are NOT negotiable, ever. If you believe a grading mistake has been made, you must follow the process described in the UTEP catalog. Any request for a grade elevation that is NOT based on a mistake is considered harassment and will be reported immediately.
- Remaining in an office after the occupant requests you leave is considered harassment and potentially threatening. You will be reported immediately without warning and depending on the severity, may be reported to law enforcement.
- Similar behavior towards department staff, and student advisors will also be treated as harassment, including persistent phone calls, emails, and badgering. Department staff and student advisors are there to help students, and should be treated with due respect.