The University of Texas at El Paso

Engineering Computations

MECH-2103

Course Syllabus

Fall 2026

COURSE INFORMATION

Class Times:	Thr 3:00 – 5:50 PM
Location:	Texas Western Hall 313
Course Designation:	MECH 2103 (*Section 003*)
CRN:	15601
Credit Hours:	1
Course Description:	This course introduces programming and problem-solving in engineering using MATLAB. Students will learn fundamental programming concepts such as variables, arrays, logic, functions, loops, and data visualization, while developing computational thinking skills to analyze and solve engineering problems.
Prerequisite(s):	MATH 1312: Calculus II
Co-requisite(s):	None.
Course Outcomes	1. Write MATLAB scripts and functions to solve engineering problems. 2. Implement logic and control flow using conditionals and loops. 3. Manipulate arrays, tables, and structures to organize and process data. 4. Apply basic numerical methods (interpolation, curve fitting, differentiation) using MATLAB. 5. Create clear plots and visualizations to interpret engineering results.

INSTRUCTOR INFORMATION

Azar Banafshi

PhD Teaching Assistant, Mechanical Engineering

Office:	ACES
Office Hours:	Tue 12-2pm
Email:	abanafshi@miners.utep.edu

ACES AND TUTORING CENTER

Please note there are tutoring services available in the ACES center. Tutoring is free to you; the Department pays them. If tutors are not used, the Department may stop funding them. Check the schedule of the tutors and make use of the services. For more details visit the **ME Advising Blackboard: MECH Academic Advising: Tutoring and Resources** At the link you can find tutor schedules. For more information send an email to METutors@utep.edu

TEXTBOOK

Title: Introduction to MATLAB®

For access to the online ZyBook please follow the following steps:

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code for this class: **UTEPMECH2103BanafshiSpring2026**
3. Subscribe using your UTEP email and UTEP ID

Note: For this course, you will be required to purchase textbook with Zybook as listed above (64 USD). You may choose not to buy a printed text since Zybook contains full reading experience as well as interactive practice sessions and an online lab environment. *Please be aware, if you purchase a used textbook, you will still need to purchase Zybook to complete required assignments that make up substantially all of your total course grade.*

SOFTWARE

Students are required to have **MATLAB® installed** on their personal laptop for this course. Instructions for installation and student licensing will be provided through UTEP resources (https://www.utep.edu/engineering/etc/software/) . You are expected to bring your **fully charged laptop to every class session**, as class activities and labs will be completed using MATLAB. Students are responsible for ensuring their laptop is functional and ready to use during class.

COURSE CONTENT**

TOPIC	WEEK LECTURE
1. Introduction	8/27
2. Variables	9/3
3. Scripts/Functions	9/10
4. Logic /1D Array Basics	9/17
5. 1D Array Basics /Advanced	9/24
6. 2D Array Basics + Branches	10/1
7. Midterm	10/8

8. Loops	10/15
9. Advanced/Custom Functions	10/22
10. Strings and Characters	10/29
11. Structures + Tables/Cells	11/5
12. Applied Math (Interpolation/Curve fitting/Numerical differentiation)	11/12
13. Linear Algebra I (Square matrices/gaussian elimination)	11/19
14. Thanksgiving-no class	11/26
15. Final	12/3

NOTES:

- ***Course Materials & Scheduling are tentative. The instructor may edit/change/amend the syllabus as needed. Always check the latest Syllabubs and Announcements uploaded on Blackboard.*

GRADE DISTRIBUTION

Weight	Total	Grade Range	Grade
Exams (Final + Midterm): 30%	100%	*Term Score* ≥ *90*	A
Labs/In-Class Participation: 35%		90 > *Term Score* ≥ 80	B
ZyBooks Assignments: 35%		80 > *Term Score* ≥ 70	C
		70 > *Term Score* ≥ 60	D
		60 > Term Score	F

Note: *Assignments must be submitted within the deadline (no extensions; overdue assignments will have a Zero grade). If there is any inconsistency/issue with any grade once it is posted on Blackboard, students need to inform the instructor no later than 1 week after grade posting. The final grade will be posted by May 12th (tentative).*

Deadlines

Census Day: 09/09/2026

Drop Deadline: 10/30/2026

ACADEMIC HONESTY

During exams you are not allowed to use any form of wifi electronic device, including cell phones or other electronic communication devices or methods (wristwatches, earbuds, etc.). No wristwatch or other electronic device may be worn. Calculators and watches may be subject to inspection. You may be asked to temporarily remove glasses to allow for their inspection. You may not bring backpacks, hats, bulky coats, or hoodies into the exam room. Lockers are not available at the exam site so plan and leave your belongings in a secure location. You may NOT sit them in a corner of the exam room. You must show your work for all problems. You must use the paper provided by the instructor. If no work is shown you may not receive credit. After the exam, the instructor may require you to explain how you solved a problem on the exam. If you refuse to or cannot explain your work, you may be subject to disciplinary action. No electronic version of the book, loose paper printouts of the book, or extra sheets of paper of any kind is 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 or an F in the class. Other actions including suspension may also be pursued. No one will be allowed to leave the room during an exam. This includes restroom breaks. University-approved recording devices may 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. The instructor may create a record of your activity during the exam and may take photographs of your work during the exam. If you are suspected of scholastic dishonesty, you may or 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 may 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 take the examination. 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 drink may be brought into 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. No other IDs will be accepted. 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

A minimum attendance of 80% is REQUIRED to have a passing grade. 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. Anyone who is present and not registered in the class will be subject to disciplinary action unless the instructor gives prior approval.

EXCUSED ABSENCE FOR EXAMS

The UTEP catalog allows Exam Absence to be excused ONLY for University-Recognized Activities and very specific other situations. Medical absence is NOT allowed in the UTEP catalog. For consistency with the catalog, students will NOT be excused from exams due to illness.

HARASSMENT POLICY

The University (see Handbook of Operating Procedures 1.2.2.4) 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.

AMERICAN DISABILITIES ACT

If you feel you may have a disability that requires accommodations, contact the Center for Accommodations and Support Services (CASS) at 747-5148 or go to the Union East, Room 106.