MECH 1321: Mechanics I - Statics

Fall 2025

Instructor:	Armanj D. Hasanyan	**Time:**	MW 3:00 pm to 4:20 pm
Email:	adhasanyan@utep.edu	**Classroom:**	Education Building 302

Course Prerequisite: MATH 1411 AND PHYS 2320 AND PHYS 2120 OR PHYS 2420
(Courses must be completed with a C or better)

Required Textbook: The official textbook for this course is: Engineering Mechanics: Statics (15th Edition) by R.C. Hibbeler. Reading assignments will complement material presented in lectures. You need a Statics textbook for the course, but you are also welcome to use previous editions of the Hibbeler Statics text. Homework assignments will be posted in PDF.

Office Hours: Regular office hours will be held on **Fridays, 10:00 am to 12:01 pm at A106, or by appointment**. If you want to meet Dr. Hasanyan outside of the office hours, please send an email at least 24 hours in advance for arrangements. Unexpected visits without an appointment or on short notice cannot be guaranteed. Additional office hours will be available depending on homework and exam due dates.

There will be a teaching assistant (TA) assigned (to be announced). The TA will assist the instructor in quizzes and exams, proctoring exams, and answering questions. In addition to the instructor's office hour, there will be TA's office hours to answer your questions. The TA's schedule will be announced on the second week of the class. **Please refer to the TA office hours for all daily/weekly homework and material needs**.

Students are reminded of the tutoring services available in the ACES and the library. These services are provided to you by the university. Check the schedules and make use of the services.

Course Objectives: Statics is the branch of engineering mechanics that is concerned with the analysis of forces on physical systems in static equilibrium. Statics will also help you interpret the forces supporting objects we encounter in our daily lives. Besides pure Statics, we will also cover topics to lay the foundation for Dynamics and Solids. At the end of the course, students will learn the principles that govern the behavior of rigid-body mechanical engineering systems in static equilibrium. Specifically, students will be able to do the following:

- Determine the components of 2D/3D forces and moments in rectangular coordinate systems.
- Manipulate geometric vectors to compute dot products, moments, and resultants as they relate to engineering problems.
- Draw complete and correct free-body diagram(s) (including support reactions), then write and solve the appropriate equilibrium equations from the free-body diagram(s).
- Determine the member forces within trusses and joint reactions in frames and machines.
- Compute and draw the shear-force and bending moment diagram for transverse loading on a beam.
- Locate the centroid of composite bodies.
- Calculate the moment of inertia for a given body and axes.

As a participant in this course, I ask you for your attention, hard work, and most of all respect. In return, I will work hard to meet your academic needs, create an atmosphere of learning, and respect and appreciate you as individuals.

Course Grade: Homework (15%), Pop-quiz (10%), Exam 1 (15%), Exam 2 (15%), Exam 3 (15%), Workshop/seminar (10%), and Final Exam (20%). The grade scale is as follows:

100 - 90 %	A
90 - 80 %	B
80 - 70 %	C
70 - 60 %	D
less than 60 %	F

Several pop-quizzes will be given randomly throughout the semester to ensure attendance. The content of the pop-quiz will be problems related to the material covered during the lecture. Successful submission at the end of the class will receive an automatic 100 %. Failure to submit due to missing the lecture, late attendance, or forgetting to submit the pop-quiz will receive an automatic 0. There will be no make-up quizzes. However, the lowest score quiz will be eliminated at the end of the semester.

Workshop/seminar sessions are a critical part of the course and will be held weekly. Grades will be attendance and participation-based. The sessions are designed to give students additional help and practice on the topics covered in-class.

Three exams will be given throughout the semester during class hours. Every student is required to take the departmental final exam at the end of the semester. Do not make travel plans that conflict with the exam dates. Accommodations will not be made for missing the exams.

Important Dates: Tentative dates for Exams:

Exam #1	September 23
Exam #2	October 21
Exam #3	November 25
Final Exam	To Be Announced

Homework: Homework is due at the beginning of class. Homework sets are given every 1 to 2 weeks (approximately), and you will get 1 to 2 weeks to complete them. **Late submissions will not be accepted**. Collaborations are allowed, but copying homework will be strictly prohibited and enforced. **Illegible solutions will be deducted at the grader's discretion.** In your homework, make sure to show your complete work and box the final answer to each problem, so that grader can easily grade your homework. Make sure handwriting and plots are clearly explained and legible. Use straightedge for drawing vectors and free-body diagrams. Homework solution will be posted after the submission.

Allowed Calculators: The following will be the only calculators allowed in exams:

- Casio: All fx-115 models. Any Casio calculator must contain fx-115 in its model name.
- Hewlett Packard: The HP 33s and HP 35s models, but no others.
- Texas Instruments: All TI-30X and TI-36X models. Any Texas Instruments calculator must contain either TI-30X or TI-36X in its model name.

These are the same calculators that are currently being allowed in the Fundamental of Engineering (FE) and Professional Engineering (PE) exams (http://www.ncees.org/exams/calculators/). It is your responsibility to get acquainted with the features of the calculator you decide to use. I recommend that you use this calculator for all your work (including other courses) since this will help you learn how to use all the features of your calculator.

Attendance and Tardiness: Attendance is mandatory and students are expected to be in the classroom at the start of the class. Pop-quizzes will be assigned randomly by the instructor to check for attendance. Failure to submit will result in a grade of 0. Excuse for late attendance to submit the Pop-quizzes and homework submissions will not be accepted. The instructor appreciates all efforts to be in the classroom on time and attend the lectures until the end, since it causes distraction.

Please note, anyone with five or more absences will be dropped from the class. A drop for not attending will count toward the State Allowed Six-Drop Limit. 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.

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.

Policy on Cheating: During exams and quizzes, you are not allowed to use any form of wifi-enabled electronic device, including cell phones or other electronic communication devices or methods (wristwatches, earbuds, etc.). No wristwatch or another 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 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 and an F in the class. Other actions, including suspension, may also be pursued.

If anyone leaves the exam room during an exam, they must be accompanied by a proctor. This includes restroom breaks. University-approved 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 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 drop you from the class administratively. This may adversely impact a visa and financial aid.

Any food or drink brought into the examination room is subject to careful inspection by a proctor.

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.

Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Please refer to the UTEP academic misconduct policy.