
MAE 1312-001: ENGINEERING STATICS
Spring 2018

Instructor: Dr. Hakki Erhan Sevil

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Office Hours: TuTh 8:30 – 10:30am

Section Information: MAE 1312-001

Time and Place of Class Meetings: Engineering Research Building (ERB) 130, MWF 9:00-9:50am

Course Website: UTA Blackboard - <http://elearn.uta.edu/>

Description of Course Content: A study of forces and force systems, resultants and components of force systems, forces due to friction, conditions of equilibrium, forces acting on members of trusses and frame structures, and centroids. Vector and index notation introduced.

Prerequisites: C or better in ENGR 1300 (or MAE 1104), MATH 1426 (or HONR-SC 1426), and PHYS 1443.

Student Learning Outcomes:

1. Students will be able to express forces in terms of equivalent force-couple system
2. Students will be able to apply equilibrium to the set of forces
3. Students will be able to perform structural analysis
4. Students will be able to perform equilibrium analysis with the forces of friction and gravity
5. Students will be able to calculate the center of gravity and centroid

Required Textbooks and Other Course Materials: Engineering Mechanics – Statics, 14th Edition, R.C. Hibbeler, Pearson

Descriptions of major assignments and examinations:

1. Quiz
There will be 5-10 unannounced in-class quizzes. The material covered on a quiz may include the day's lecture and/or previous homework or lecture materials. A pop quiz may take place at any time during the lecture period. There are no make-up quizzes.
2. Homework
There will be approximately weekly homework assignments. Homework is due at the beginning of class on the due date. 20% penalty for late submission before the solution is posted on Blackboard website, 100% penalty afterwards.
3. Midterm Exam
There will be two in-class midterm exams. Exams will be closed book, closed notes. There are no make-up exams (Unless the instructor is notified in advance and approve of it, and reasons for absence must be documented).
4. Final Exam
The final exam will be comprehensive, and closed book, closed notes. The exam will be given at the university scheduled time. There is no make-up final exam (Unless the instructor is notified in advance and approve of it, and reasons for absence must be documented).

Attendance: Attendance is required and strongly recommended. Students are expected to attend all class meetings and to arrive on time.

Grading:

Homework	10%
Midterm Exam 1	20%
Midterm Exam 2	30%
Final Exam	40%

A = 100-85%, B = 84-75%, C = 74-65%, D = 64-50%, F = below 50%.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>). Last day to drop classes is Mar 30, 2018; submit requests to advisor prior to 4:00 pm.

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

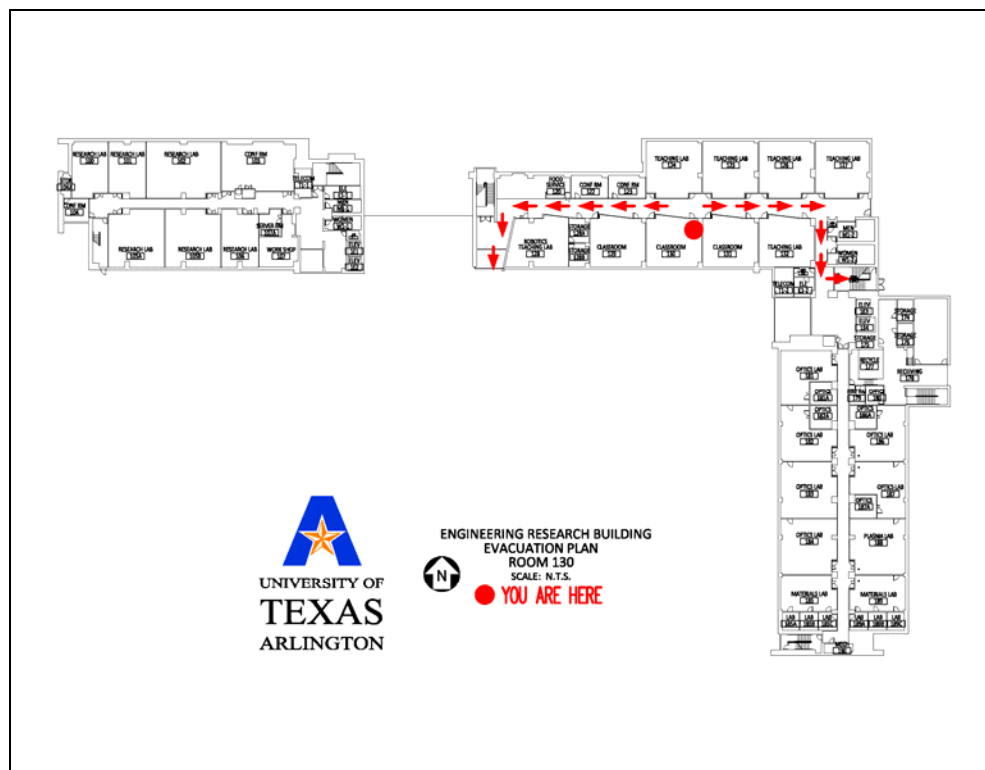
Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless*

specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit (see figure below). When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.



Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>

The IDEAS Center (2nd Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

Course Schedule: (tentative)

Week 1 ~ Jan 17	Ch 1: General Principles Ch 2: Force Vectors	
Week 2 ~ Jan 22	Ch 2: Force Vectors	HW-1
Week 3 ~ Jan 29	Ch 3: Equilibrium of a Particle	HW-2
Week 4 ~ Feb 5	Ch 4: Force System Resultants	
Week 5 ~ Feb 12	Ch 4: Force System Resultants	HW-3
Week 6 ~ Feb 19	Ch 5: Equilibrium of a Rigid Body	
Week 7 ~ Feb 26	Ch 5: Equilibrium of a Rigid Body Review	HW-4
Week 8 ~ Mar 5	Exam 1 Ch 6: Structural Analysis	Exam 1 (Mon, Mar 05)
Week 9 ~ Mar 12	Spring Break	
Week 10 ~ Mar 19	Ch 6: Structural Analysis	
Week 11 ~ Mar 26	Ch 7: Internal Forces	HW-5
Week 12 ~ Apr 2	Ch 7: Internal Forces	HW-6
Week 13 ~ Apr 9	Ch 8: Friction	HW-7
Week 14 ~ Apr 16	Ch 9: Center of Gravity and Centroid	
Week 15 ~ Apr 23	Review Exam 2	HW-8 Exam 2 (Wed, Apr 25)
Week 16 ~ Apr 30	Review	
Week 17 ~ May 7	Final Exam Wednesday, May 9, 8:00-10:30 am	

"As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. –Hakki Erhan Sevil."

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381
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