

**CE 2311 – Statics  
Sections 001/101  
Course Syllabus  
Spring 2015**

**Instructor:** Dr. James Leininger  
**Office:** 420 Nedderman Hall  
**Office Phone:** 817-272-3761  
**Email:** jleininger@uta.edu  
**Website:** <http://ce2311.utace.net>  
**Office Hours:** MWF 11:00 am – 12:00 pm  
or by appointment

**Class Meeting:** 001 – MW 10:00 – 10:50 am  
101 – F 9:00 – 10:50 am  
229 Nedderman Hall

**GTA:**  
**Office:**  
**email:**  
**Office Hours:**

**Faculty Profile:** <https://www.uta.edu/mentis/profile/?3463>

**Description of Course Content:** Vector algebra; composition and resolution of forces; equivalence of force couple systems; equilibrium of force systems acting on particles, and force - couple systems acting on rigid bodies, and systems of rigid bodies; internal forces in rigid bodies; shear and moment diagrams; centroids and moments of inertia; frictional forces.

**Prerequisite:** Grade of C or better in PHYS 1443 – General Technical Physics I.

**Student Learning Outcomes:** Student will be able to identify, formulate, and solve engineering problems incorporating the physical principles presented and present the problem solutions in a standardized form.

**ABET learning outcomes:**

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (e) an ability to identify, formulate, and solve engineering problems
- (g) an ability to communicate effectively
- (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

**Techniques, Skills, and Modern Engineering Tools Used in this Course:** Interpretation, formulation, and solution of engineering problems involving forces. The use of the computer aided mathematics tool Mathcad is optional.

**Required Textbook: Engineering Mechanics Statics and Dynamics, 13<sup>th</sup> edition;** R. C. Hibbeler, Pearson Prentice Hall; ISBN-13 978-0-13-291548-9

**Policies:** Normally, the class will be conducted in accordance with the policies given below. However, it is impossible to anticipate every possible circumstance. The instructor reserves the right to modify the given policies or to deviate from them in unforeseen or unusual circumstances. If there is a policy that you anticipate will affect you in a way that seems unfair, please bring it to the attention of the instructor before the end of the second week of class. After that, the reason for a student initiated change in policy must be compelling.

**Attendance:** University policy requires that attendance be taken through the first several days of class. Students, enrolled in this class, are expected to attend the class regularly and punctually. Absences will indirectly affect one's grade. The student is responsible for determining what was covered during missed classes. Class work that is missed through absence cannot be made up.

**Class Schedule:** In addition to the schedule provided in this syllabus, a class schedule is provided on the class website. The schedule will include topics to be covered in each class for the semester, listed as sections in the text book. The student should read the material to be covered before and after the specified class.

**Assignments:** A number of relevant homework problems, grouped into one or more problem sets, will be assigned on the class website for each lecture class. Students are encouraged to work the homework problems through the cooperative effort of a team consisting of a small number (3-5) of students. The required presentation format for problems solved in homework and examinations will be provided in a separate document. Students are responsible for checking their homework against the solutions provided on the class website. Students should bring their homework to class as it may be collected as part of the class participation grade. Homework may only be submitted when requested in class.

**Major Assignments and Examinations:** This class has no major assignments. There will be three midterm examinations and a comprehensive final examination. The dates of all the examinations are given below. There is always a small chance that a midterm examination will be rescheduled. Notice of such a change will be provided as soon as possible. The time of the final exam is set in the UTA final examination schedule.

Exam 1	Friday, September 25
Exam 2	Friday, October 23
Exam 3	Friday, November 20
Final Exam	Monday, December 14, 8:00 am – 10:30 am

**Grading:**

Component	Weight	Total (T)	Grade
Homework/Classwork	10%	$90 \leq T \leq 100$	A
Examination 1	20%	$80 \leq T < 90$	B
Examination 2	20%	$70 \leq T < 80$	C
Examination 3	20%	$60 \leq T < 70$	D
Final Examination	30%	$0 \leq T < 60$	F

Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see “Student Support Services,” below.

**Make-up Examinations:** Makeup examinations are not given unless required by UTA policy. For university authorized absences, the student is required to follow the university policy as described at: [http://web.uta.edu/catalog/content/general/academic\\_regulations.aspx#9](http://web.uta.edu/catalog/content/general/academic_regulations.aspx#9) and in the following section. If an examination is missed as a result of an illness, the following policy applies. It is the responsibility of the student to provide acceptable, written documentation from a recognized medical professional stating that the health of the student or his classmates would have been jeopardized by the student’s attendance at the examination. The documentation must be presented within one week of the student’s return to class. For excused absences, unless a makeup examination is required by university policy, the score on the final exam will be used to replace the first missed lecture exam. If arrangements are made well in advance, a lecture examination can usually be taken before the scheduled time and a more lenient excuse policy is applied. The treatment of missed examinations, not covered by this policy, will be determined on a case by case basis.

**Grade Grievances:** Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate catalog. See <http://catalog.uta.edu/academicregulations/grades/#undergraduatetext>.

**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. For Engineering students, added classes must be on the list approved by the academic advisor. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students and Freshmen 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 (Friday, April 3, 2015). 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://web.uta.edu/aao/fao/>).

**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](http://www.uta.edu/disability) or calling 817-272-3364. Counseling and Psychological Services, (CAPS) [www.uta.edu/caps/](http://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](http://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 does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://uta.edu/eos). For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**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.*

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.

**Electronic Communication Policy:** 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>.

In addition, the class has an internet website – <http://CE2311.utace.net>. The website includes the current class schedule, homework and examination solutions, and other resources.

**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, which is located south of the main elevators. 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](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**The English Writing Center (411LIBR):** [Optional.] Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In Quick Hits sessions during all open hours Mon-Thurs. Register and make appointments online at <http://uta.mywconline.com>. Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information.

**Librarian to Contact:** Gretchen Trkay, 817-272-7434, [gtrkay@uta.edu](mailto:gtrkay@uta.edu).

- Library Home Page ..... <http://www.uta.edu/library>
- Subject Guides ..... <http://libguides.uta.edu>
- Subject Librarians ..... <http://www.uta.edu/library/help/subject-librarians.php>
- Course Reserves ..... <http://pulse.uta.edu/vwebv/enterCourseReserve.do>
- Library Tutorials ..... <http://www.uta.edu/library/help/tutorials.php>
- Connecting from Off- Campus ..... <http://libguides.uta.edu/offcampus>
- Ask A Librarian ..... <http://ask.uta.edu>

**Course Schedule:**

A course schedule is provided on the class website. This schedule will include a reading assignment, the topic of each class, and a link to class notes as they become available. The student should read the material to be covered before and after the specified class. The schedule below is generally correct, but the schedule on the website will contain the most up to date information.

Aug 27	Sep 2	1:1-6 General Principles; 2:1-8 Force Vectors
Sep 3	Sep 9	2:9 Force Vectors; 3:1-2 Equilibrium of a Particle
Sep 10	Sep 16	3:3-4 Equilibrium of a Particle; 4:1-3 Force System Resultants
Sep 17	Sep 23	4:4-9 Force System Resultants
Sep 24	Sep 30	Exam 1: Chapters 1,2,3,4; 5:1-3 Equilibrium of a Rigid Body
Oct 1	Oct 7	5:4-7 Equilibrium of a Rigid Body; 6:1-4 Structural Analysis
Oct 8	Oct 14	6:5-6 Structural Analysis; 7:1-2 Internal Forces
Oct 15	Oct 21	7:3: Internal Forces
Oct 22	Oct 28	Exam 2: Chapters 5,6,7; 8:1-3 Friction
Oct 29	Nov 4	8 4-8 Friction; 9:1-2 Center of Gravity and Centroid
Nov 5	Nov 11	9:3-5 Center of Gravity and Centroid; 10:1 Moments of Inertia
Nov 12	Nov 18	10:2-4 Moment of Inertia
Nov 19	Nov 25	Exam3: Chapters 8,9,10:1-4; 10:5-8 Moments of Inertia
Nov 26	Dec 2	11:1-3 Virtual Work;
Dec 3	Dec 9	11:4-7 Virtual Work; Review
Dec 14		Final Exam

I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.

**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