

BMEN2320 Statics Course Syllabus

Course Information

Course Number/Section BMEN 2320 Section 1
Statics
Term Summer 2017
Days & Times 001: Monday/Wednesday 1-5:15pm GR2.530

Professor Contact Information

Professor Dr. Allison Case
Office Phone 972-883-4949
Email Address Allison.Case@utdallas.edu
Office Location BSB13.534
Office Hour/Problem Solving Sessions see eLearning for up to date times and locations
Or by appointment (email me for a time)

Teaching Assistant Contact Information

TBD

Office
Office Hours See eLearning or by appointment

*Students from both sections can attend office hours for all TAs.

Supplemental Instructor (SI) Contact Information

TBD
Office
Office Phone
Office Hours See eLearning

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisites and Co-requisites: ENGR 2300, MATH 2420, PHYS 2326/2126

Course Description

Statics will introduce students to the basic concepts that form the foundation of structural and mechanical design. This lecture and problem-solving focused class will cover static equilibrium of particles, the study of force vectors and force resultant systems, equilibrium of a rigid body, structural analysis, internal forces, friction, and center of gravity. This class will also incorporate biomechanical examples of statics at work in biological and biomedical applications.

Student Learning Objectives/Outcomes

Introduce various types of force systems at rest or in motion using classical Newtonian mechanics that govern physical systems at rest and in motion. The primary objectives of the course are:

1. Acquire the ability to represent and manipulate forces and moments through vector addition, multiplication and manipulation (A)
2. Learn to represent and interpret elementary structural, mechanical and biomechanical systems and their interactions using free body diagrams. (A)
3. Solve statics problems for systems modeled as particles and planar rigid bodies (E)
4. Solve force-acceleration, work-energy, load-shear- moment, and friction problems (E).

Required Textbooks, Materials and Resources

Required Texts- Engineering Mechanics: Statics Plus Modified Mastering Engineering with Pearson eText -- Access Card Package, 14th Edition (Acceptable ISBNs are as follows. Investigate the different versions for yourself before purchasing: ISBN 9780134229287; ISBN 9780134246192; ISBN 9780134481173). You DO need

access to Modified Mastering Engineering. Either hard copy or digital copy of the book is ok with me as long as you purchase an edition that includes modified mastering engineering. STUDENTS CANNOT USE MASTERING ENGINEERING ACCESS CODES TO REGISTER FOR MODIFIED MASTERING ENGINEERING. MODIFIED MASTERING AND MASTERING ACCESS CODES ARE NOT INTERCHANGABLE.

DO NOT BUY: Engineering Mechanics: Statics, 14/e ISBN 9780133918922. This DOES NOT HAVE access to Mastering Engineering.

Other Resources: Other materials (updated syllabus, solutions, and handouts) will be available on eLearning.utdallas.edu.

Supplemental Instruction:

Supplemental Instruction (SI) is offered for this course. SI sessions are free group study opportunities, scheduled two or three times per week. Sessions are facilitated by an SI Leader, who has recently taken the course and received a high final grade. Attendance is voluntary. For information about the days, times, and locations for SI sessions, refer to www.utdallas.edu/studentsuccess/leaders/si.html.

Course Policies

Late work and Make-up exams.

Late work will not be accepted without the prior consent of the instructor, with the exception of unusual, documented, circumstances. In such circumstances, late work and make up exams will be dealt with on a case by case basis and the instructor's decision will be final. Missed exams without notice will receive a zero. Missed exams with advanced notification of absence for documented and permissible reasons (illness) can be replaced by a make-up exam. However, be advised that make up exam grades cannot be dropped. If you have a university related conflict and do not want to take a makeup exam, which cannot be dropped, you may arrange to take the test early. Good communication between us will prevent situations where late work is not accepted. The responsibility to communicate with me and the TA is yours.

Class Attendance and Citizenship

Attendance is mandatory and can factor into the students grade. Use of cellular phones and other electronic devices as well as arriving to class late will result in your being marked absent. To be present, you must be both physically and mentally present.

Academic Integrity.

Copying other's assignments or copying from the solution manual will result in a zero on the assignment and potential academic and program consequences. No collaboration during tests/exams/quizzes is tolerated. If you are caught cheating on an exam, a grade of zero will be assigned and the student referred to the Dean of Students. All homework, quizzes, exams and extra credit are to be individual efforts. You are not to collaborate with other students, or to discuss homework or any individual assignments with other students prior to submission. Copying of homework, extra credit, quizzes, or exams, in whole or in part, from other students or from assignments from previous semesters will be considered to be an act of academic dishonesty.

Tentative Course Calendar

The academic calendar and course schedule is posted on eLearning. The schedule is subject to change. Note the dates of the three mid-unit quizzes, and three exams. Again, these dates are subject to change based on the pace of the course, weather, etc. The final exam date will be scheduled by the university sometime mid semester. Check online to find the date and time of the final exam.

Important Dates:

Last Day to Drop without W:

Last Day to Drop with WL:

Last Day of Class:

Name Tags

Please make yourself a name plate (8 inches x 2 inches that will stand up by itself) to place at your seat each class day for the first 2 or 3 weeks. This will help me learn your names.

Assignments

Exams: You can expect three exams and a cumulative final exam. The number of exams can change based on the pace of the course and is left to the discretion of the instructor.

Quizzes: You will have both announced quizzes and 'pop' quizzes. Only announced quizzes will be graded for correctness. Pop quizzes (mid-lecture quizzes), will be graded but only for completion.

Homework Policy: To be successful in this class, you must practice, practice, practice. Successful students will complete the homework, read their textbook and come to class. Homework consists of, on average, three to five problems per topic. Homework is due every 2 weeks at 11:59pm. Due dates are posted on eLearning. See the Late Work policy below for details on turning assignments in late. Homework is assigned and is turned in using MODIFIED MASTERING ENGINEERING. If you score less than a 70% on the Homework or if you skip any question within an assignment, you will be assigned 1 additional homework set (~15 minutes) to practice the skills you found difficult. Additional problems are due the following day by 11:59pm. The same late policy applies. The extra problem set is worth 1 point.

Notes: Hand written re-writes of your lecture notes are due every 2 weeks at 11:59pm along with your homework. Due dates are posted on eLearning. Notes are to be 1) hand written, 2) re-writes of your original lecture notes 3) in paragraph form. Hand writing material will hard wire it in a way that nothing else does. Writing in paragraph form will help you identify what gaps exist in your understanding. To submit notes, scan or take a picture and covert the pages into a single PDF for submission. See the late policy below for details on turning in assignments late.

Grading Policy

The following percentages will be used in calculating the final course grade:

- Exams 70%

Exams 1, 2, 3: 15% each; Final Exam 25%

Lowest non-final exam grade is dropped. The average of the two remaining exams will be taken and weighted 45% of the total course grade.

- Quizzes, In-Class Assignments, Classroom citizenship, Attendance 15%

There are two types of quizzes:
Announced quizzes: These quizzes will be announced ahead of time in class and will cover specified topics. Such quizzes will be graded for correctness. You will have three or four (depending on course progression/time) mid-unit quizzes that fall approximately half way through a unit.

Mid-lecture & participation quizzes: These interactive, mid-lecture quizzes will be graded for participation only. On a daily or almost daily basis, you will turn in one or more problems we work in class for me to view your problem solving strategy. This will also contribute to your participation grade.

The lowest announced quiz grade is dropped. The average of the remaining two quizzes is taken and weighted 15% of the total course grade

- Homework 15% . Homework is due every 2 weeks at 11:59 pm. Homework is assigned and submitted through Modified Mastering Engineering. Students who copy others work or copy the solution manual will receive a 0. See the late work policy below for details on how late work will be graded.

Late Work (Notes, Homework, Assignments)- A late penalty of 20% will be assessed for any portion of a day late. For example, if an assignment is submitted at 12:02pm, a 20% penalty will be assessed. After 5 days late, late work will not be accepted for any reason.

Grade Ranges

Letter grades including + and – will be assigned according to the following (with the exception of F which is any grade <60). For example, an A+ is a 96-99, an A is a 93-95 and an A- is a 90-92.

Grade+: X6-X9

Grade: X3-X5

Grade -: X0-X2

A: 90-100

B: 80-89

C: 70-79

D: 60-69

F: <60

Grading Errors: If you think I have made an error in grading, turn in the original assignment **within one week of getting it back** with a note that outlines what you perceive to be the error, problem or discrepancy and turn it in to the TA. No grade changes will be considered after the one week deadline has passed. Keep in mind that the entire assignment is subject to regrading when it is submitted.

Privacy: UTD takes your privacy very seriously. I am unable to email you your grade or even discuss grades by email. Grades will be posted on eLearning and all questions regarding grades should be handled in office hours.

How to be successful in Statics

1. Come to class
2. Read your textbook
3. Do your homework.
4. Work textbook problems, homework problems and understand them.
5. Come to class having read the chapters beforehand and with a clear understanding of the concepts being covered as well as with questions of materials you do not understand. I come to class to help you understand the material you've read on a deeper level and not to substitute for the learning you will do while reading your book and understanding the material.
6. If you are having trouble, come see me in office hours, ask for help, and ask for additional problems. Be proactive in your education.
7. If you need it, take advantage of the Student Success center, Supplemental Instruction, mentorship, tutoring, writing center, etc. There is a host of resources to help you learn to be an even better learner.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

Students with Disabilities

It is the policy and practice of The University of Texas at Dallas to make reasonable disability-related accommodations and/or services for students with documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required (see <http://www.utdallas.edu/studentaccess>). If you are eligible to receive disability-related accommodations and/or services and to ensure accommodations will be in place when the academic semester begins, students are encouraged to submit documentation four to six weeks in advance. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion.

The Office of Student AccessAbility provides:

1. Academic accommodations for eligible students with a documented permanent physical, mental or sensory disability
 2. Facilitation of non-academic and environmental accommodations and services
 3. Resources and referral information, and advocacy support as necessary and appropriate.
- OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu.

Letters of Recommendation

If you would like for me to write you a letter of recommendation, I request that you speak to me about it in person. Please give me 2 weeks notice to write letters of recommendation.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.