

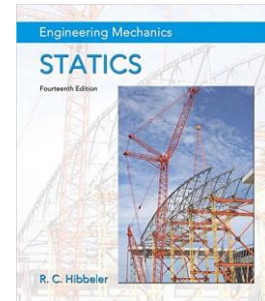
**CE 2315 Statics**  
**Lecture Session: MW 9:00-10:20 pm.**  
**Liberal Arts Bldg., LART 205**  
**Fall 2016**

**Instructor:** Reza Ashtiani, Ph.D. ([reza@utep.edu](mailto:reza@utep.edu))  
Engineering Annex. Room A-217

**Office Hours:** Students are always welcome

**Teaching Assistant:** Mohammad Ismael  
**TA Email:**

**Textbook:** Statics,  
14<sup>th</sup>, Edition by R.C. Hibbeler, 2016.



**COURSE OBJECTIVES**

The objectives of CE 2315 are:

Students will learn the principles that govern the behavior of rigid-body systems in static equilibrium. Specifically, students will be able to:

1. Identify an engineering problem appropriate for engineering mechanics analysis;
2. Draw a free-body diagram and identify all forces and moments acting on an object at rest;
3. Represent force and moment systems with equivalent systems;
4. Perform an analysis to identify all forces and moments acting internally or externally on an object; and
5. Determine geometric properties of one, two and three dimensional objects.

**SCHEDULE**

A tentative lecture schedule is on the class website. Reading assignments from your text and handouts will be assigned in class at the end of each lecture session. Prepared notes will occasionally be handed out in class to supplement, or in some cases to substitute for, reading material from the book. Be sure to save the notes because you will be examined over at least some of the material in them. Based on your text book we will cover the following chapters:

1. General Principles (Chapter 1)
2. Force Vectors (Chapter 2)
3. Equilibrium of a Particle (Chapter 3)
4. Force System Resultants (Chapter 4)
5. Equilibrium of a Rigid Body (Chapter 5)
6. Structural Analysis (Chapter 6)
7. Internal Forces (Chapter 7)
8. Friction (Chapter 8)

9. Center of Gravity and Centroid (Chapter 9)  
 10. Moment of Inertia (Chapter 10)

### GRADING POLICY

Your grade for this course will be determined on the basis of **1050 points** as follows:

1. Three mid-term exams (100 points each)
2. Final comprehensive examination (300 points)
3. Homework (200 points)
4. Quizzes (200 points)
5. Critical Assessment ( attendance and involvement in discussions) (50 points)

***In accordance with University regulations, students who miss examinations will receive grades of zero.*** Exceptions to this rule will be made only on a carefully considered individual basis and only if the student contacts the instructor **before** the exam. If you know in advance that you are going to miss an exam, it is **your** responsibility to inform the instructor before the exam.

### GRADE STRUCTURE

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage	Performance
A	90-100	Excellent Work
B	80-89	Very Good Work
C	70-79	Average Work
D	60-69	Below Average Work
F	0-59	Failing Work

### HOMEWORK

***All homework problems will be assigned in the class. The due date for homework submission is before the next lecture.*** Past experience clearly shows that a student's grade is strongly dependent upon the effort that is put into working and understanding the homework. Homework solutions will be available on due dates. Make sure to discuss the homework solutions with your teaching assistant, to properly understand the materials. We encourage that you team up with your other classmates for this activity. Please note that each student is responsible to submit the homework assignment individually.

## COURSE PORTFOLIO

Students are required to prepare a course portfolio documenting all materials relevant to the course. The portfolio shall contain Power Point lecture notes, class notes, handouts, exams, homework assignments, study notes, and any relevant materials accumulated during the semester. Students should submit their course portfolio to the instructor after the final exam. All portfolios will be returned to the students at the beginning of the following semester. I believe that you will benefit from the portfolio years later when you need to review the learned subjects for advanced courses or professional engineer licensure exam.

## STUDY GROUPS

Students should form study groups of about two to three persons. These groups will collaborate in the laboratory sessions. Group members are also encouraged to get together to solve the homework problems. Keep in mind that every student should submit the homework problems individually. The laboratory reports however submitted as a group effort.

## ATTENDANCE

*Students are expected to attend all lecture sessions and must attend all laboratory sessions.* Those who fail to attend classes regularly are inviting scholastic difficulty and, with the approval of the Dean of the College of Engineering, may be dropped from the course with a grade of F for repeated (4 or more) unexcused absences. *Homework assignments and other material will only be distributed in class and will be distributed electronically.*

*Note: The attendance for the laboratory sessions will be taken toward the end of the class.*

## CALCULATORS AND CELL PHONES

To prepare you for the Fundamental of Engineering (FE) and Professional Engineering (PE) exams (<http://www.ncees.org/exams/calculators/>), only the following calculators are allowed during class, labs and exams:

- Hewlett Packard – HP 33S
- Casio – FX 115MS or FX 115MSPlus
- Texas Instruments – TI 30X IIS
- Texas Instruments – TI 36X SOLAR

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.

It is a very good manner to turn off your cell phones during the class lectures and lab sessions. However, please make sure that you do not have a cell phone or any other electronic item with you during the exams.

*The mere possession of a disallowed calculator, any cell phone or any other electronic item on or near you during tests is the ground for dismissing you from the exam with a grade of zero.*

### **POLICY ON CHEATING**

Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts (Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22). Scholastic dishonesty harms the individual, all students, and the integrity of the university. Policies on scholastic dishonesty will be strictly enforced.

### **COURSE/INSTRUCTOR EVALUATION**

An online course/instructor evaluation will be conducted near the end of the semester. You're strongly encouraged to participate in the evaluations. Your input will be used to refine and shape the future direction of the course.

### **REFERENCES**

Students are encouraged to study materials related to the subjects discussed in the class. There are many books that can help students to improve their understanding of the subjects and their problem solving skills. Some of the books that you can find in the library are:

Beer and Johnston, *Vector Mechanics for Engineers: Statics and Dynamics*. TA350.B3552  
Meriam and Kraige, *Engineering Mechanics: Statics*. Fourth Edition. TA350.M458, 1997  
Wolstenholme and Cantab, *Elementary Vectors*. QA433.W64  
Davis and Snider, *Introduction to Vector Analysis*. QA433.D38  
Jensen and Chenoweth, *Statics and Strength of Materials*. TA351.J4  
Spiegel and Limbrunner, *Applied Statics and Strength of Materials*. TA351.S64

### **SUPPLEMENTARY READING MATERIAL**

One of the web sites the students may want to visit is <http://cw.prenhall.com/hibbeler/>. There are many exercise (multiple-choice and true-or-false) problems designed to help the students better understand the concepts. In addition, look at this website for further coverage of the topics presented in the class. <http://web.mst.edu/~bestmech/index.html>

### **FINAL COMMENT**

Good luck to all of you in this course. Please do not hesitate to ask questions in class, or if necessary, to see your professor outside of class. Any specific comments that students have on how the course might be improved are particularly welcomed, especially during the semester.