

CE 2343 Structural Analysis 24783

Spring 2022 Syllabus

*Note: the instructor reserves the right to modify the following information as deemed necessary.

Lecture Session: TR 1:30pm – 2:50pm

Lecture Location: Education Bldg 313

Instructor: Joanne Moyer PhD

Email: jmmoyer@utep.edu

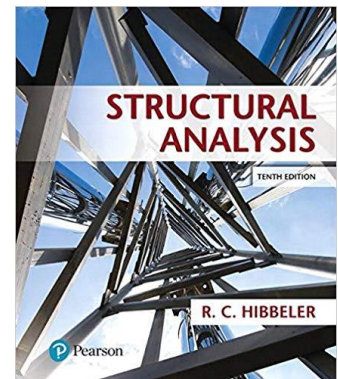
Office Hours: Monday 1:00pm – 2:00pm and Thursday 12:00pm – 1:00pm
Or by appointment

Office Location: A-212

REQUIRED MATERIALS:

Textbook: Structural Analysis.
10th Edition by: R.C. Hibbeler, 2018
ISBN-10: 0-13-461067-9
ISBN-13: 978-0-13-461067-2

Assignments: Pearson: Mastering Engineering
Course Name: CE 2343 24783 Structural Analysis
Spring 2022
Course ID: moyer96711



<https://www.pearsonmylabandmastering.com/northamerica/masteringengineering/>

Calculator: Only NCEES approved calculators will be permitted, as these are what is allowed for the Fundamentals of Engineering exam. Visit the NCEES website (<http://ncees.org/exams/calculator/>) for more information. No phones. The following are a few of the suggested calculators:

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

UNIVERSITY OF TEXAS AT EL PASO

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.

COURSE OBJECTIVES:

The objectives of CE 2343 are:

1. Identify structural form, components, applicable loads, and requisite analysis assumptions
2. Rapidly assess simple structures for stability and determinacy (review)
3. Apply mechanics principles to solve static equilibrium problems (review)
4. Solve for forces in statically determinate trusses (review)
5. Draw shear and moment diagrams for beams and frames (review)
6. Draw influence lines for reactions, forces, shears and moments
7. Determine internal forces in arches and cables
8. Estimate deflections in beams, frames, and trusses
9. Solve for simple statically indeterminate structures using classical methods
10. Develop an understanding of current structural engineering practice
11. Document structural calculations and understand the responsibility of an engineer
12. Use the internet as a resource to obtain information in support of structural analyses
13. Use and interpret results of structural analysis software

GRADING POLICY:

Your grade for this course will be determined on the basis of the following percentages:

Grading Scheme:	Exams:	25%
	Final Exam:	15%
	Quizzes:	15%
	Assignments:	15%
	Projects	20%
	Presentation	10%
<hr/>		Total 100%

Grading Structure:	A \geq 90
	90 > B \geq 80
	80 > C \geq 70
	70 > D \geq 60
	60 > F

UNIVERSITY OF TEXAS AT EL PASO

WHAT SHOULD YOU EXPECT FROM ME AS THE INSTRUCTOR?

1. I will provide you with clear instructions on class expectations.
2. I will check my e-mail at least three times per week and will answer back to you as soon as possible.
3. I will leave myself open to suggestions about improvement of the class and class related activities.
4. I will do all I can to enhance your learning and success in this class.
5. If any changes in the course are to be implemented, I will ensure that the class is notified in a timely manner.

ATTENDANCE & CLASS PARTICIPATION:

- *Students are expected to attend all lectures and read all course material assigned.*
- 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.
- Those who fail to complete the course material are inviting scholastic difficulty.

ASSIGNMENTS:

- *Assignment problems will be assigned via Pearson: Mastering Engineering.*
- *Written assignments may also be assigned during the semester.*
- *Assignments will be available after a subject has been covered.*
- Past experience clearly shows that a student's grade is strongly dependent upon the effort that is put into working and understanding the homework.
- **Late assignments will not be accepted. No exceptions!!**

QUIZZES:

Quizzes will be administered during the scheduled lecture time on-campus.

- **See tentative schedule for Quiz dates.**
- Quizzes are closed book – closed notes. Be sure to prepare and be ready to take quizzes.
- **The TWO lowest quiz grades will be dropped from your grades.**
- **No makeup quizzes will be administered. No exceptions!!**

Seven quizzes will be given. You must take the quizzes during the scheduled course time. These dates are announced on the first day of class although the dates may be changed according to the progress of the class.

EXAMS:

Exams will be administered during the scheduled lecture time on-campus.

- Exams are closed book – closed notes. No cell phones allowed.
- **No makeup exams will be administered. No exceptions!!**
- **See tentative schedule for Exam dates.**
- **The lowest exam grade will be dropped from your grades.**

Four mid-term exams will be given. You must take the exams during the scheduled exam times. These dates are announced on the first day of class although the dates may be changed according to the progress of the class.

In accordance with University regulations, students who miss examinations will receive grades of zero.

Make sure that you do not have a cell phone or any other electronic item in your possession during the exams.

The mere possession of a disallowed calculator, any cell phone or any other electronic item on or near you during exams is the ground for receiving a grade of zero.

FINAL EXAM:

The final exam will be administered during the scheduled lecture time on-campus

- Final Exam is closed book – closed notes. No cell phones allowed.
- **Students must take the final exam during the scheduled final exam time. No exceptions!!**
- Please see tentative schedule for Final Exam day and time.
- Final Exam is comprehensive.

COURSE PORTFOLIO:

Students are encouraged 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. 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

TUTORING

ACES provides tutoring for Statics. Please take advantage of this great resource located in Classroom Building Room C-001. See the link below for hours of operation.

<https://www.utep.edu/engineering/student-resources/student-resources-aces.html>

UNIVERSITY OF TEXAS AT EL PASO

- Contact the TA for help. The TA's contact information is provided on blackboard
- View Resources links provided for each subject under the "Weekly Content"
- Contact the Instructor for help. The Instructors contact information is provided on blackboard and this syllabus.

PERSONS WITH DISABILITY:

UTEP seeks to provide reasonable accommodations for all qualified individuals with disabilities, including learning disabilities. This university will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required affording equal educational opportunity. It is the student's responsibility to register with Center for Accommodation and Support Services (CASS) in the East Union Bldg., Room 106 within the first two weeks of classes, and inform the faculty member to arrange for appropriate accommodations.

Center for Accommodation and Support Services (CASS) can also be reached in the following ways:

Web: <http://sa.utep.edu/cass/>

Monday thru Friday 8:00a.m.-5:00p.m.

Union Building East Room 106

Phone:(915) 747-5148

cass@utep.edu

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. The Department of Civil Engineering has established the Honor Code because it has an obligation to the State and the public to prevent students from entering the profession who are not honest and trustworthy in their academic efforts. This Honor Code Policy allows the Department to recommend disciplinary action to the University Student Conduct Office and to remove students from the Department who have violated the Honor Code. This Honor Code is consistent with the *Student Conduct and Discipline* Chapter of the *Student Affairs* Section of the *Handbook of Operating Procedures* of the University of Texas at El Paso.

Course tutoring/homework help sites, such as Chegg, are strictly prohibited for use on exams and quizzes.

All students should sign the Honor Code Agreement and submitted to the Civil Engineering office for record keeping and be deeply familiar with the Honor Code Policy published in our website: <http://ce.utep.edu/honorcode.htm>

UNIVERSITY OF TEXAS AT EL PASO

TENTATIVE SCHEDULE:

NOTE: *Schedule may be modified to accommodate particular needs as the semester progresses.* It is to the students benefit that they read and study the chapters and sections as outlined in this calendar to reinforce the material that is presented in the class.

Structural Analysis Spring 2022 Tentative Schedule					
Week	DATES	CLASS TOPICS	Quizzes	Exams	Projects
1	Jan 18 - Jan 23 (Monday, Jan 17 Martin Luther King Day-No Classes)	Syllabus, Chapter 1 (Structural Loads)	No Quiz		
2	Jan 24 - Jan 30	Chapter 2 (Statically Determinate Structures)	No Quiz		
3	Jan 31 - Feb 6	Chapter 3 (Trusses)	Quiz 1 Thursday Feb 3		
4	Feb 7 - Feb 13	Chapter 3 (Trusses)	Quiz 2 Thursday Feb 10		Project 1 due Friday Feb 11
5	Feb 14- Feb 20	Chapter 4 (Internal Loadings, Shear and Moment Diagrams)	No Quiz	Exam 1 Thursday Feb 17	
6	Feb 21 - Feb 27	Chapter 4 (Internal Loadings, Shear and Moment Diagrams)	Quiz 3 Thursday Feb 24		
7	Feb 28 - March 6	Chapter 5 (Cables and Arches)	Quiz 4 Thursday March 3		
8	March 7 - March 13	Chapter 6 (Influence Lines)	No Quiz	Exam 2 Thursday March 10	Project 2 due Friday March 11
9	March 14 - 20 Spring Break				
10	March 21 - March 27 (Friday, March 25 Cesar Chavez Day-No Classes)	Chapter 7 (Deflections)	No Quiz		
11	March 28 - April 3 (*Friday, April 1 Drop/Withdrawal Deadline)	Chapter 7	Quiz 5 Thursday March 31		April 1 deadline to submit group presentation names of teammates
12	April 4 - April 10	Chapter 8 (Deflection Using Energy Methods)	NO Quiz	Exam 3 Thursday April 7	Project 3 due Firday April 8
13	April 11 - April 17 (Friday, April 15 Spring Study Day-No Classes)	Chapter 8	Quiz 6 Thursday April 14		
14	April 18 - April 24	Chapter 9 (Force Method)	Quiz 7 Thursday April 21		
15	April 25 - May 1	Chapter 10 (Slope Deflection Equations)	No Quiz		
16	May 2 - May 5 (Friday, May 6 Dead Day-No Classes)	Group Presentations Tuesday May 3 and Thursday May 5	No Quiz	Exam 4 Thursday May 5	Project 4 due Friday May 6
Thursday, May 12					
Final Exam: 1:00pm - 3:45pm					

GROUP PRESENTATION:

The group term project consists of a 10-minute group presentation during the last week of classes.

Structural engineers design the structural components of a structure before it can be built. In order to design, it is helpful for structural engineers to understand how structures are constructed. Each group will choose a structure and explain how the structure was constructed. The following are some suggestions:

Burj Khalifa
Brooklyn Bridge
Golden Gate Bridge
Taipei 101
Nuclear Reactors
Lincoln Tunnel
Offshore Oil Rig

Mountain Tunnels
Hoover Dam
Three Gorges Dam
Dome Stadium Structure

You may also propose a structural topic.

Presentation Requirements:

- You may work alone, but must contact the instructor/TA by April 1 for approval along with your proposed topic. The project requirements for individuals are the same as for groups.
- Groups will consist of up to **three members** and email the instructor/TA of members names and proposed topic for approval before April 1.
- Each group will have a different topic.
- If a team member is not participating and provided minimal contribution, their final project/presentation grade will be reduced in accordance with their evaluation.
- If a team member is not participating, inform the instructor/TA ASAP. The team member may be required to submit the final project individually.

PowerPoint Presentation:

The PowerPoint Presentation (10 minutes) shall consist of each group member presenting on May 3 and May 5 to explain the topic.

- Please use appropriate font size to prepare slides.
- The text should be clearly visible
- Remember this is a group presentation, so help each other to present as if you all are presenting in-person.

UNIVERSITY OF TEXAS AT EL PASO

Project Grading Rubric:

Team Members:

Report				
		Max Pts Allowed	Pts Earned	Comments
1	References: cited	10		
2	Professionally presented/Each team member presented	20		
3	Detailed explanation of how constructed	30		
4	Discuss concepts from class	20		
5	Peer evaluations	20		
	Total Points	100		

FINAL COMMENT:

I wish you all the best in the course. Please do not hesitate to ask questions. **Any specific comments that students have on how the course might be improved are particularly welcome, especially during the semester.**