

# CE 2343 Structural Analysis 23308

## Spring 2023 Syllabus

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

**Lecture Session:** TR 1:30pm – 2:50pm

**Lecture Location:** Liberal Arts 107

**Instructor:** Joanne Moyer PhD

**Email:** [jmmoyer@utep.edu](mailto:jmmoyer@utep.edu)

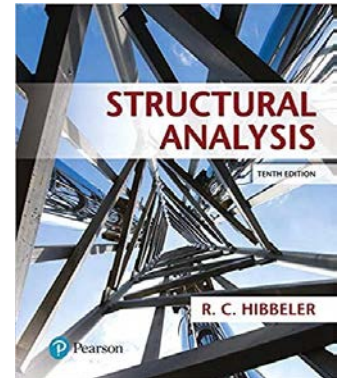
**Online Office Hours:** By appointment or weekly study sessions. Weekly study sessions to be announced.

**Office Location:** A-212

### REQUIRED MATERIALS:

**Textbook:** Structural Analysis.  
10<sup>th</sup> 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 Structural Analysis Spring 2023  
**Course ID: moyer49638**



<https://mlm.pearson.com/enrollment/moyer49638>

**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

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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.

## CELL PHONES:

Please be courteous, and turn off your cell phones during the class lectures.

*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.*

## 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:

<b>Grading Scheme:</b>	Exams:	30%
	Quizzes:	20%
	Assignments:	20%
	Group Term Presentation and Projects:	30%
		<hr/>
		<b>Total 100%</b>

<b>Grading Structure:</b>	A $\geq$ 90
	90 > B $\geq$ 80
	80 > C $\geq$ 70
	70 > D $\geq$ 60
	60 > F

## 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.*
- 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 lowest quiz grade will be dropped from your grades.**
- **No makeup quizzes will be administered. No exceptions!!**

**Five** 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.

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## 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!!**
  - **Final Exam grade will replace the lowest exam grade, provided the final exam score is higher than the lowest exam grade.**
- **See tentative schedule for Exam dates.**

**Three** 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.
- **Final Exam is optional**
- Please see tentative schedule for Final Exam day and time.
- Final Exam is comprehensive.
- **Final Exam grade will replace the lowest of the 3 Semester Exams provided the Final Exam grade is higher than the lowest Semester Exam.**

## XTRA-CREDIT:

There will be 2 Xtra-Credit opportunities:

- 1) During the last week of courses; you will be asked to provide advice to future students about the course. Xtra-Credit includes **10-points towards your exam grade.**
- 2) Centennial Museum visit of “Building the Borderlands: The Legacy of UTEP’s Civil Engineering”; see blackboard for details. **10-points towards your assignment grade.**

## 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>

## 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 Accomodation 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 Accomodation 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](mailto: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.**

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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>

## 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 class.

## **GROUP PROJECTS AND PRESENTATION INFORMATION AND INSTRUCTIONS WILL BE PROVIDED SEPARATELY AS ADDENDUM TO THIS SYLLABUS.**

<b>CE 2343 Structural Analysis Spring 2023 Tentative Schedule</b>					
Week	DATES	CLASS TOPICS	Group Project	Quizzes	Exams
1	Jan 17 - Jan 22	Syllabus, Chapter 1 (Structural Loads)			
2	Jan 23 - Jan 29	Chapter 1 (Wind Loads)			
3	Jan 30 - Feb 5	Chapter 2 (Statically Determinate Structures)	<b>Group Team Members Names Emailed to Instructor and TA by Friday Feb 3</b>	Quiz 1 Thursday Feb 2	
4	Feb 6 - Feb 12	Chapter 3 (Trusses)			Exam 1 Thursday Feb 9
5	Feb 13 - Feb 19	Chapter 4 (Internal Loadings, Shear and Moment Diagrams)			
6	Feb 20 - Feb 26	Chapter 4 (Internal Loadings, Shear and Moment Diagrams)	<b>Project 1 due Sunday Feb 26</b>	Quiz 2 Thursday Feb 23	
7	Feb 27 - March 5	Chapter 5 (Cables and Arches)			
8	March 6 - March 12	Chapter 6 (Influence Lines)			Exam 2 Thursday March 9
<b>9</b>	<b>March 13 - March 19</b>	<b>Spring Break</b>			
10	March 20 - March 26	Chapter 7 (Deflections)			
11	March 27 - April 2	Chapter 7		Quiz 3 Thursday March 30	
12	April 3 - April 9	Chapter 8 (Deflection Using Energy Methods)			
13	April 10 - April 16	Chapter 8	<b>Project 2 due Sunday April 16: Excel and Risa 2-D Beam Analysis</b>	Quiz 4 Thursday April 13	
14	April 17 - April 23	Chapter 9 (Force Method)		Quiz 5 Thursday April 20	
15	April 24 - April 30	Chapter 10 (Slope Deflection Equations)			Exam 3 Thursday April 27
16	May 1 - May 4	<b>Group Presentations Tuesday May 2 and Thursday May 4</b>	<b>Group Presentations</b>		
<b>Thursday, May 11</b>					
<b>Final Exam: 1:00pm - 3:45pm</b>					

## 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.**