

Fall 2015

Department: Civil Engineering
Number: CE3343
Title: STRUCTURAL ANALYSIS I
Class Reference Number(CRN): 12568

Class Credit: 3 credits
Prerequisites: CE 2334

Textbook: **Structural Analysis , 9th Edition**
By R.C. Hibbeler

Class/Laboratory Schedule:

Lecture: 7:30 am – 8:50 am, MW
Location : Physical Science Building 314

Start Date: Aug. 24, 2015
End Date: Dec. 3, 2015

Instructor: Methaq S. Abed, Ph.D., P.E.
Civil Engineering Department
Office: E224
E-mail : msabed@utep.edu
Office Hours:(11:00 - 12:30) am.TR, other time by APPOINTMENT

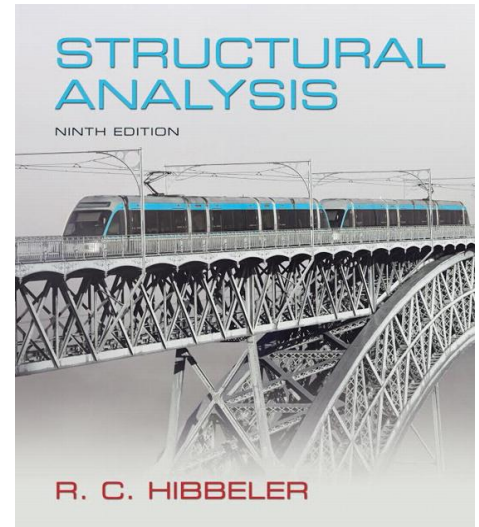
Teaching Assistant: *To be announced*

Catalog Description:

A study of framed structures, trusses, girders, and beams including applications of static and moving loads on bridges.

Course Objectives:

1. Identify structural loads, system loading, and behavior
2. Apply mechanics principles to solve for static equilibrium and deformation problems
3. Draw influence lines for reactions, forces, shears and moments
4. Draw shear and moment diagrams for beams and frames
5. Solve for forces in statically determinate trusses
6. Estimate deflections in beams, frames, and trusses
7. Solve for simple statically indeterminate structures using classical methods
8. Document structural calculations
9. Use the Internet to obtain information
10. Use and interpret results of structural analysis software
11. Understand the professional responsibility for accurate structural calculations



Fall 2015

Grades: Your grade for this course will be assessed based on your performance in

Exams average	55%
Final Exam	25%
Homework	12%
Project	8%

Three exams will be given during the semester. **If you miss more than one exam, you will get an “F” grade for the class.** Makeup exam will not be given. ***Lowest exam score will be eliminated.*** Every student is required to take the final exam at the end of the semester.

The instructor reserves the right to revise this grading plan. However, students will be informed of any changes during the semester.

Grading Policy:

The grading scale is:

A	≥ 88
B	≥ 78 but < 88
C	≥ 68 but < 78
D	≥ 58 but < 68
F	< 58

Homework:

Homework is due on the scheduled dates. Students are encouraged to solve all problems contained in the book. **Late homework for only one week will be accepted with 20% deduction; late homework for more than one week will not be accepted.**

Start a problem with one new sheet. Use only one side of a sheet. Write down the course number, problem number, and student name on the top line of each sheet. Staple each set of homework problems. Discuss the problems with your classmates, the teaching assistant, or the instructor, but do not copy homework from each other. All parties involved in copying homework will automatically receive zero grades for that set of assignment. You will do well in the class if you understand thoroughly all the problems you solved.

All problems should contain a free body diagram. Neatness is essential. Give necessary details in the solution so that people can easily follow your calculations.

Fall 2015

Project:

Every student has to submit a project contains twelve problems that are solved by using RISA software program. The problems contain 4 trusses, 4 beams, and 4 frames. The problems can be selected from the homework problems and attached with analytical solution. **The due date for project will be the last day for class (Dec.2th)**. A Student can submit the project whenever he/she has a chance to complete it before the due date. **There is no submission for the project during the week of the final exams.**

CELL PHONES AND PAGERS OFF OR ON VIBRATE !!!!!!!!!!!!!!!**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 of 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.

Allowed Calculators

The following will be the only calculators allowed in exams:

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

Attendance and Tardiness:

Attendance is mandatory. Absence can be checked by the instructor through quizzes, exams, roll calling, randomly picked names for problem solving in class, or other mechanisms. **You could receive an “F” grade if you miss more than three classes without the instructor’s consent.** The instructor appreciates all efforts to attend the class. There will be no penalty for being late. However, all exams, and quizzes will be given at the beginning of the classes. No additional time will be allowed for late attendees.

Teaching Assistant:

There will be a teaching assistant (TA) assigned to CE 3343. The TA will assist the instructor in grading homework, proctoring exams, and answering questions. In addition to the instructor’s office hour, there will be TA’s office hours to answer your questions. The TA’s schedule will be announced in the second week of the class.



Fall 2015

Topics to be Covered:

1. Types of Structures and Loads
2. Analysis of Statically Determinate Structures
3. Analysis of Statically Determinate Trusses
4. Internal loading Developed in Structural Members
5. Cables and Arches
6. Influence Lines for Statically Determinate Structures
7. Approximate Analysis of Statically Indeterminate Structures
8. Deflections
9. Deflections Using Energy Methods
10. Analysis of Indeterminate Structures by the Force Method
11. Displacement Method of Analysis: Slope- Deflection Equations

Class Schedule

Week	Date	Chapter	Sections	H.W.#	Homework	Due date
1	8/24 8/26	1	1.1- 1.4	H.W.# 1	1.1, 1.2, 1.5,1. 1.8 1.14,1.15,1.18, 1.21	9/02
2	8/31 9/02	2	2.1 – 2.4 2.5	H.W.# 2	2.1,2.2,2.3 2.11, 2.13,2.15,2.17	9/09
3	9/07 9/09	2	Sep7, Labor dsay (no classes) 2.6	H.W.# 3	2.18,2.19,2.21,2.23,2.25,2.29 2.33,2.34,2.40	9/16
4	9/14 9/16	3	3.1-3.3 3.4- 3.6	H.W.# 4	3.1,3.2,3.3 3.5,3.6,3.11,3.14 3.19,3.23	9/21
5	9/21 9/23	4	4.1-4.2 Exam#1 (Ch. 1,2,&3)	H.W.# 5	4.1,4.2,4.6,4.11,4.15,4.18	9/28
6	9/28 9/30	4 5	4.3 4.4	H.W.# 6	4.24,4.24,4.27,4.28,4.29,4.30 4.39,4.42,4.45	10/05
7	10/05 10/07	5	5.1 – 5.3 5.4-5.5	H.W.# 7	5.1,5.5,5.7 ,5.8,5.10,5.18 5.21,5.29	10/12
8	10/12 10/14	6	6.1 – 6.3, 6.3-6.4	H.W.# 8	6.1, 6.4, 6.7, 6.8,6.15,6.22	10/19
9	10/19 10/21	6	6.4-6.5 6.7	H.W.# 9	6.26,6.29,6.31 6.38,6.42,6.43 6.62,6.73,6.78	10/26



Fall 2015

10	10/26 10/28	7	EXAM#2 7.1-7.4	H.W.# 10	EXAM#2 (cover ch.4,5,& 6) 7.1,7.2,7.10,7.13.,7.14,7.21 <i>Dead line for dropping classes (Oct.30)</i>	11/02
11	11/02 11/04	8	8.1 – 8.3 8.3-8.4	H.W.# 11	8.1,8.3,8.6 8.10,8.11,8.20,8.21,8.29	11/11
12	11/09 11/11	8	8.4-8.5 RISA Program			
13	11/16 11/18	9	9.1-9.4 9.7	H.W.# 12	9.1, 9.5,9.11 9.21, 9.26, 9.42,9.46	11/23
14	11/23 11/25	10	EXAM #3 10.1-10.4	H.W.#13	10.1,10.4, 10.7, 10.10	12/2
15	11/30 12/2	11	11.1-11.3 Review		11.2,11.7,11.11.	
16	12/11	Final Exam Friday Dec. 11th 7:00am- 9:45 am				

Exams Schedule

Exam # 1	Monday 09/23
Exam # 2	Monday 10/26
Exam # 3	Monday 11/23