UCONN
UNIVERSITY OF CONNECTICUT

Syllabus – Fall 2019

Course and Instructor Information

Course Title: Basic Structural Analysis
Credits: #3
Format: Lecture
Prerequisites: CE2110 Applied Mechanics I (Statics); CE3110 Mechanics of Materials

Professor: Wei Zhang, Ph.D., P.E.
Associate Professor
Email: wzhang@uconn.edu
Telephone: 860-486-5642
Other: Office location: CAST321
Office Hours/Availability: Friday 1:00PM-2:00PM or by appointment

Teacher Assistants:

1. **Zhixia Ding,** Email: zhixia.ding@uconn.edu
2. **Yianis Bagtzoglou,** Email: yiannis.bagtzoglou@uconn.edu
3. **Office Hours & locations:**

M 3:30-4:30PM	**CAST123**	**Ding**
T 12-1pm	**CAST123**	**Bagtzglou**
W 3:30-4:30pm	**CAST123**	**Ding**
Th 1-2pm	**CAST123**	**Bagtzglou**

Midterms Review sessions:

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Monday Sept. 23	5:30pm-6:30pm	Location MCHU 107
Tuesday Sept. 24	3:30pm-4:30pm	Location MCHU 305
Monday Oct. 21	5:30pm-6:30pm	Location MCHU 305
Tuesday Oct. 22	3:30pm-4:30pm	Location MCHU 305
Monday Nov. 18	5:30pm-6:30pm	Location MCHU 305
Tuesday Nov. 19	3:30pm-4:30pm	Location MCHU 305

Email Communications:
Please include CE3610 as part of your email subject.

Required course materials should be obtained before the first day of class.
Texts are available through a local or online bookstore. The UConn Bookstore carries many materials that can be shipped via its online Textbooks To Go service. For more information, see Textbooks and Materials on our Enrolled Students page.

Required Materials:

Text book: Structural Analysis
R.C. Hibbeler
Pearson, 10th
ISBN-10: 0134610679
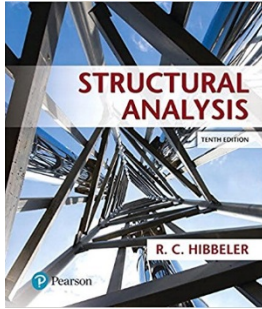
Class includes total of 14 week, [08/26/2019 to 12/06/2019]
Please check separate document for Course schedule.

Course Objectives and Course Outcomes

The aim of this course is to give students the ability to analyze statically determinate and statically indeterminate structures. In this course, the objectives include
1. To discuss some of the simplifying assumptions and idealizations used in structural analysis and design.
2. To introduce some methods of determinate and indeterminate structural analysis.
3. To compare output from structural analysis software with results from "hand calculation" methods.
4. To provide a lead-in to more advanced courses in structural analysis and design.

After completion of the course students should be able to:
1. Given adequate information, construct the bending moment, shear, and axial force diagrams for a typical element of a framed structure.
2. Given a two-dimensional structure, evaluate whether the structure is determinate or indeterminate and assess its stability.
3. Given a simple determinate structure, be able to analyze the structure. (Analysis includes calculation of reactions, internal forces and moments, deflections at key points.)
4. Given a simple indeterminate structure, be able to analyze the structure using flexibility methods, stiffness methods and virtual work methods.
5. Ability to identify different types of structural systems.
6. For a simple determinate structure, construct the influence line for some response quantity of interest.
7. Given an influence line, understand how to interpret it and use it for positioning live loads.
8. Given a two-dimensional structure, be able to create a computer model of the structure. (This involves understanding boundary conditions, element releases, specification of loads, and specification of member properties.)
9. Given a distributed floor or wall loading, use tributary load and load path concepts to evaluate how the load is resisted by the structure

Course Requirements and Grading

Summary of Course Grading:

Course Components	Weight
Home works	20%
Midterm exams (3 sets)	40%

Course Components	Weight
Pop Quizs	10%
Final project	30%

Home works
- Homework will be assigned at the end of lecture once a week, and will be collected in 5 minutes after class begins. The solution will be uploaded to HuskyCT at 12PM of the next day after each submission date. Late homework will be graded only for the case of submission from <u>3:30PM - next day 12PM: 50% credit</u>.

- To receive full credit on your homework, you must:
    - Write neatly;
    - Note any given values and the value you seek to calculate;
    - Write your solution including all equations and calculations; and,
    - Circle or box your final answer.

Midterm exam
- **In-Class** Midterm exams (3 Midterm exams):

Midterm exam 1: Wednesday, September 25, 2019 (50 minutes)
Midterm exam 2: Friday, October 25, 2019 (50 minutes)
<mark>Midterm exam 3: Wednesday, November 20, 2019 (50 minutes)</mark>

- Midterm exams contain 3-6 questions. You have 50 minutes to answer questions.

- Exams are NOT open book/open notes. You can only have your calculator, pencil and eraser. Please DO NOT use Pen to answer questions. There is no restriction on the calculator model for the exam

- There are review sessions in the class before midterm exams. You can send your questions to instructor in advance to be addressed in the review sessions.

- Solution to midterm exams will be available in HuskyCT under Course Resources/Exam Solutions.

- **Make up exams** will be offered to students only in following cases.

a) Students with disability can contact CSD to schedule exam in a private room with extended time.
b) Athletic team members also can reschedule exam with a letter from their coach (in case of conflict between exams and their tournaments).
c) Other case (Medical emergency, family emergency,...): <mark>**Friday, November 22th 1:25 PM-2:15 PM.**</mark>

Pop Quiz:
- **In-Class** random pop quiz will be set several times during the semester.

Final Project: Final project description will be sent out separately.

Grading Scale: (Subjected to change)

Undergrad

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

Due Dates and Late Policy

All course due dates are identified in the calendar available in HuskyCT under Syllabus& Calendars. Deadlines are based on Eastern Standard Time; if you are in a different time zone, please adjust your submittal times accordingly. *The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.*

<div align="center">Student Responsibilities and Resources</div>

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. This section provides a brief overview to important standards, policies and resources.

Student Code

You are responsible for acting in accordance with the University of Connecticut's Student Code Review and become familiar with these expectations. In particular, make sure you have read the section that applies to you on Academic Integrity:

- Academic Integrity in Undergraduate Education and Research
- Academic Integrity in Graduate Education and Research

Cheating and plagiarism are taken very seriously at the University of Connecticut. As a student, it is your responsibility to avoid plagiarism. If you need more information about the subject of plagiarism, use the following resources:

- Plagiarism: How to Recognize it and How to Avoid It
- Instructional Module about Plagiarism
- University of Connecticut Libraries' Student Instruction (includes research, citing and writing resources)

Copyright

Copyrighted materials within the course are only for the use of students enrolled in the course for purposes associated with this course and may not be retained or further disseminated.

Netiquette and Communication

At all times, course communication with fellow students and the instructor are to be professional and courteous. It is expected that you proofread all your written communication, including discussion posts, assignment submissions, and mail messages. If you are new to online learning or need a netiquette refresher, please look at this guide titled, The Core Rules of Netiquette.

Adding or Dropping a Course

If you should decide to add or drop a course, there are official procedures to follow:
- Matriculated students should add or drop a course through the Student Administration System.
- Non-degree students should refer to Non-Degree Add/Drop Information located on the registrar's website.

You must officially drop a course to avoid receiving an "F" on your permanent transcript. Simply discontinuing class or informing the instructor you want to drop does not constitute an official drop of the course. For more information, refer to the:

- Undergraduate Catalog
- Graduate Catalog

Academic Calendar

The University's Academic Calendar contains important semester dates.

Academic Support Resources

Technology and Academic Help provides a guide to technical and academic assistance.

Students with Disabilities

Students needing special accommodations should work with the University's Center for Students with Disabilities (CSD). You may contact CSD by calling (860) 486-2020 or by emailing csd@uconn.edu. If your request for accommodation is approved, CSD will send an accommodation letter directly to your instructor(s) so that special arrangements can be made. (Note: Student requests for accommodation must be filed each semester.)

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from http://www.blackboard.com/platforms/learn/resources/accessibility.aspx)

Software Requirements and Technical Help
- Word processing software
- Adobe Acrobat Reader
- Internet access

 (add additional items as needed and link to http://ecampus.uconn.edu/plug-ins.html)

This course is completely facilitated online using the learning management platform, HuskyCT. If you

have difficulty accessing HuskyCT, online students have access to the in person/live person support options available during regular business hours in the Digital Learning Center (www.dlc.uconn.edu). Students also have 24x7 access to live chat, phone and support documents through www.ecampus24x7.uconn.edu.

Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

(add additional items as needed and link to http://ecampus.uconn.edu/plug-ins.html)

University students are expected to demonstrate competency in Computer Technology. Explore the Computer Technology Competencies page for more information.

Evaluation of the Course

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.