UNIVERSITY OF CONNECTICUT
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
Structural Engineering & Applied Mechanics

TENTATIVE COURSE SYLLABUS

CE 3640 – Design of Reinforced Concrete Structures
Fall 2015

Kay Wille, Ph.D, CAST 324, 6-2074
kwille@engr.uconn.edu
Office hours: MWF 9-10am

Lecture:
MWF 8 – 8:50 AM Room: UTEB 175

Lab session:
Thursday 8 – 9:15 AM (E2 305), 9:30 – 10:45 AM (E2 305), 11 – 12:15 PM (E2 307), 2 – 3:15 PM (ITE 138)

Teaching assistant: John Winsor, Office: BRON 322, e-mail address: john.winsor@uconn.edu

Prerequisite: CE 3110 – Mechanics of Materials

No. of Classes	Topic	Reading in McCormac	HW assignment
2	Introduction Concrete and Reinforced Concrete	Ch. 1	#1
3	Flexural Analysis of Beams	Ch. 2	#2
2	Strength Analysis of Beams	Ch. 3	#3
3	Design of Rectangular Beams and One-way Slabs	Ch. 4	#4
4	Analysis and Design of T-Beams and Doubly RC Beams	Ch. 5	#5
1	*Review Bending Behavior, Analysis, Design*	*Ch. 1 – 5*	
2	Serviceability	Ch. 6	#6
2	Bond, Development lengths, and Splices	Ch. 7	#7
1	**Midterm Exam (tentatively 10/28/2015)**	------	
3	Shear and Diagonal Tension	Ch. 8	#8
2	Introduction to Columns	Ch. 9	#9
2	Design of Short Columns	Ch. 10	#10
4	Footings	Ch. 12	
4	Continuous RC Structures	Ch. 14	#11
	Thanksgiving Break (11/22 – 11/28/2015)	-------	
2	Torsion	Ch. 15	
4	**Review Sessions / Course Project Presentation**		
	Final Exam (tentatively 12/14/2015)		

Note: Any changes in course content will be announced in class or by UCONN administration.

Grading: Tentative Distribution of points

Assignment	No.	Points
Quizzes	-	5
Homework	11	20
Midterm	1	20
Course project	1	20
Final	1	35

Homework: Usually, homework will be assigned during class and will be due one week later. These homework assignments represent a large portion of your final grade for the class. They must be neat, solutions clearly presented, figures drawn with straight edges, on one side of the page only. Your solutions should be presented in a format similar to how you would present an engineering design in practice. For example, the problem should be clearly stated, the appropriate code requirements cited, and the basis for selection from different design alternatives described. Finally, high quality sketches should accompany your solutions. Collaboration on homework is acceptable. This does not mean that you divide up the assigned problems and copy one-another's solution. Part of learning is the thought process necessary to decide how to approach the solution of a homework problem. You should do this yourself without assistance from anyone before any collaboration.

Homework must be submitted during class on the assigned due date. Homework turned in later than the end of class is counted as late. Late homework will receive a 25% penalty per calendar day.

Course Projects: A course project is assigned to several teams of students (up to 4-5 in each group) in the middle of the semester. The project requires designing a multi-story building by using the design principles learned in class and practices in the home works. It is required to use hand calculation and to compare the results with the results obtained by the design software, which is weekly taught in the lab sessions.

Exams: There will be a midterm exam and a final exam. Exam problems will not be homework problems with different numbers. Exam problems will test your ability to synthesize and apply the principles you are expected to learn in this class.

Quizzes: There will be several quizzes that will be given unannounced at the beginning of class. These will usually cover the material covered in the previous class, the homework due that day, or the reading assignment for that day. If you are not present when a quiz is given, you will receive a grade of zero. The lowest quiz grade will be dropped.

Course Outcomes: Students completing this course will be able to do the following:

- Understand and explain the principles of reinforced concrete
- Assess proper dead, live and other structural loads
- Design and analyze reinforced concrete beams, slabs, columns, and footings for flexure, shear, axial loads, and torsion using ACI standard (ACI 318-14)
- Design and analyze reinforced concrete elements using a design software
- Work in a team during the group course project
- Write a group project report and present parts of the results in front of the class

ABET EAC Student Outcomes:

(c) **an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability:** A project will be assigned in which the students work in groups to design a multi-story building. Each student will receive a grade on his/her portion as well as a group grade on the overall project.

(k) **an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice:** This course employs the latest design codes and is constantly updated. This criterion will be assessed through questions on quizzes in class, online assessments using a pool of multiple choice questions, midterm exam and the final exam covering each of the specific course outcomes listed above.

Class attendance policy: Regular and punctual attendance at all class sessions is the responsibility of each student. In the event of any absence, it is the responsibility of the student to obtain the notes for that class as well as any handout materials or information that may have been announced.

Classroom expectations: You are expected to arrive before the class is scheduled to begin and remain in your seat during the entire scheduled class time. If you have a cell phone with you, silence the ringer before coming to class. Other electronic devices, such as tablets or laptops, are allowed during the lecture as long as no other students get distracted and find it more difficult to follow the lecture.

Academic Integrity: Students are expected to behave in a professional manner. Cheating, plagiarism, self-plagiarism, and copying

are considered to be severe offenses. Any collaborative behavior (talking, discussing, copying) during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

Final Exam: Final exam week for fall 2015 takes place from **Monday, December 14th through Sunday, December 20th**. Students are required to be available for their exam during the stated time. If you have a conflict with this time you must visit the Office of Student Services and Advocacy to discuss the possibility of rescheduling this exam.

Please note that vacations, previously purchased tickets or reservations, graduations, social events, misreading the exam schedule and over-sleeping are not viable excuses for missing a final exam. If you think that your situation warrants permission to reschedule, please contact the Office of Student Services and Advocacy with any questions. Thank you in advance for your cooperation.

Disability: The Center for Students with Disabilities (CSD) at UConn provides accommodations and services for qualified students with disabilities. If you have a documented disability for which you wish to request academic accommodations and have not contacted the CSD, please do so as soon as possible. The CSD is located in Wilbur Cross, Room 204 and can be reached at (860) 486-2020 or at csd@uconn.edu. Detailed information regarding the accommodations process is also available on their website at www.csd.uconn.edu.

Disclaimer: All information on this syllabus is tentative, and the instructor reserves the right to make revisions as necessary.