CE 331 – Reinforced Concrete Design

Lecture: WF 11-12 (ECJ 1.204)
Lab: M 3-6 (ECJ 6.406)

Instructor: Wassim M. Ghannoum
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Office Hours M 10-12, W 1-3, whenever I'm there or by appointment
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TA: To be announced

Textbooks: "Reinforced Concrete: Mechanics and Design", 5th Edition, MacGregor and Wight (2008). Prentice Hall – on reserve in the library

Building Code Requirements for Structural Concrete (ACI 318-08)

Prerequisites: CE329: Structural Analysis
CE314K: Properties and Behavior of Engineering Materials

Course Organization

The first hour of the lab session will be a regular lecture session. The remaining 2 hours will be dedicated to review of homework and individual or team problem solving (some sessions will be graded as homework).

Homework problems will be assigned on a regular basis and will typically be due one week later at the beginning of class (unless otherwise noted). A hardcopy of homework assignments is requested.

The course will have a blackboard site where handouts, homework, and homework solutions will be posted. Please check the site before each class for handouts you need to print and bring to class.

Grading

2 Exams (2 hours each)	50%
Homework	20%
Comprehensive Final Exam	30%

A homework average of 60% is required to pass the course

Homework late submission penalty: 30% if presented before 5PM same day, not accepted after that.

Course Outline

1. Introduction to reinforced concrete construction and design practices
2. Review of structural analysis
3. Review of material properties
4. Concepts of equilibrium, compatibility, and constitutive laws
5. Flexure:
    a. Analysis of sections in flexure
    b. Design for flexure
6. Serviceability considerations: cracking and deflections
7. Shear:
    a. Analysis
    b. Design for shear
8. Analysis and design of columns
9. Design of footings
10. Bond, anchorage, development, and splices of reinforcement
11. Continuous structures

Important Dates

March 2, Monday (tentative)	Exam 1
March 16-21, Monday-Saturday	Spring Break
April 13, Monday (tentative)	Exam 2
May 8, Friday	Last class
May 18, Monday, 9:00–12:00 am	Final Exam

Course/Instructor Evaluation

The standard Instructional Assessment and Evaluation form will be used.

School of Engineering Drop Policy

Undergraduate Students- drop policy for long sessions:

From the 1st through the 12th class day, an undergraduate student can drop a course via the web and receive a refund if eligible. From the 13th through the 20th class day, an automatic Q is assigned, no refund; approval from the Dean and departmental advisor is required. From the 21st class day through the mid-semester deadline, approval is required from the Dean, instructor of the course and departmental advisor.
See site: http://registrar.utexas.edu/calendars/08-09/index.html for add/drop dates

Scholastic Dishonesty Policy

All faculty should inform students at the beginning of each semester that scholastic dishonesty will not be tolerated and that incidents of dishonesty will be reported. Faculty can virtually eliminate cheating by specifying the ground rules, by challenging students to practice engineering ethics, and by creating a testing environment that discourages cheating.

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, visit the Student Judicial Services web site http://deanofstudents.utexas.edu/sjs/, and the General Information Catalog information at http://registrar.utexas.edu/catalogs/gi08-09/app/gi08.appc03.html#chapter-11-student-discipline-and-conduct.

Class Web sites and student privacy

The University must inform students in advance if their name will be appearing on an electronic class roster. Because these rosters exist in many class Web sites, we must inform students of this fact. The following paragraph regarding class web sites can be incorporated into your syllabus.

Web-based, password-protected class sites will be associated with all academic courses taught at the University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging e-mail, engaging in class discussions and chats, and exchanging files. In addition, electronic class rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information, see the General Information Catalog or go to: http://registrar.utexas.edu/catalogs/gi08-09/app/gi08.appc02.html#chapter-9-educational-records.

The University of Texas at Austin provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Division of Diversity and Community Engagement at 471-6259 as soon as possible to request an official letter outlining authorized accommodations. For more information, contact that office at 471-6259, Video Phone 232-2937, or the School of Engineering Director of Students with Disabilities at 471-4321.