

STRUCTURAL DESIGN I (DESIGN OF CONCRETE STRUCTURES)
CE 412
SPRING SEMESTER 2006
MWF 9:00- 9:50
211 Carrier Hall

Instructor: Dr. A. Al-Ostaz
Office: 202 CARRIER HALL
Phone: 915-5364
Email: alostaz@olemiss.edu
Office Hrs: MWF 10:00-10:50 pm.

TEXTBOOKS:

- Design of reinforced Concrete, Seventh Edition by Jack C. McCormac.
- Building Code requirements for Reinforced Concrete (ACI 318-05).

OBJECTIVES:

Design methods and requirements of concrete members. Rectangular sections in bending, shear strength and shear reinforcement, continuity in building frames of reinforced concrete, design of one-way and two way slabs, T-sections in bending, members in compression and bending, design of two-way floor system, ACI building code and commentary.

Co-requisite: CE 411.

TOPICS

	# of Lectures
➤ Basic Concepts and Introduction	
○ ASCE 7 minimum design loads for structural systems	2
➤ Flexural Analysis of Beams	
○ Design of Rectangular Beams and One Way Slabs	5
➤ Analysis and Design of T Beams and Doubly Reinforced Beams	5
➤ Serviceability	2
➤ Test # 1	1
➤ Bond, development Length, and Splices	3
➤ Shear and diagonal Tension	4
➤ Introduction to Columns	
○ Design of Columns Subjected to Axial Load and Bending	3
➤ Test # 2	1
➤ Slender Columns	4
➤ Continuous Reinforced Concrete Structures	4
➤ Two-Way Slabs Direct Design and Equivalent Frame Methods	6
➤ Beam Column Joints	3

Grade Distribution

Attendance	10%
First exam	20 %
Second exam	20%
Home works and projects	20%
Final exam	30%