

**53:034 Structural Design I: Reinforced Concrete**  
**Dept. of Civil and Environmental Engineering**  
**College of Engineering**  
**The University of Iowa**  
**Fall Semester 2006**

**Instructor**

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**Grader**

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**Text**

*Reinforced Concrete Design*, 7<sup>th</sup> Edition,  
 C-K. Wang, C.G. Salmon, J.A. Pincheira  
 Wiley Publishers, © 2007  
 ISBN 0-471-26286-2

**Reference Text**

*Building Code Requirements for Structural  
 Concrete, (ACI 318-05) and Commentary  
 (ACI 318R-05),*  
 American Concrete Institute, 2005.

**Objectives**

To provide a comprehensive course in the behavior, analysis, and design of reinforced concrete structures;  
 To provide background in the use of current ACI building codes, specifications, and recommendations.

**Prerequisite**

Mechanics of Deformable Bodies (57:019)

**Co-requisite**

Structural Analysis (53:033)

**Grading**

Homework*	20%
Design Project	10%
Midterm Exams	40%
Final Exam	30%

\* Homework is due one week after assignment, most of which would be Thursday, prior to the beginning of the lecture; 50% penalty for late homework submitted by the following day, otherwise 0% credit.

**Tentative Course Schedule**

<b>Week 1</b> (08/21-08/25):	Introduction (Chap. 1), Design Methods (Chap. 2)
<b>Week 2</b> (08/28-09/01):	Beam Design (Chap. 3)
<b>Week 3</b> (09/04-09/08):	Chap. 3 (Cont'd)
<b>Week 4</b> (09/11-09/15):	Chap. 3 (Cont'd)
<b>Week 5</b> (09/18-09/22):	Shear Design (Chap. 5)
<b>Week 6</b> (09/25-09/29):	Chap. 5 (Cont'd)

<b>Week 7</b> (10/02-10/06):	Development of Reinforcement (Chap. 6)
<b>Week 8</b> (10/09-10/13):	Chap. 6 (Cont'd), <b>Thursday – 1<sup>st</sup> Midterm Exam</b>
<b>Week 9</b> (10/16-10/20):	One-Way Slabs (Chap. 8)
<b>Week 10</b> (10/23-10/27):	Chap. 8 (Cont'd), <b>Design Project Assignment</b>
<b>Week 11</b> (10/30-11/03):	<b>AASHTO Bridge Specification</b> , T-Beams (Chap. 9)
<b>Week 12</b> (11/06-11/10):	Chap. 9 (Cont'd)
<b>Week 13</b> (11/13-11/17):	Columns (Chap. 13), <b>Thursday – 2<sup>nd</sup> Midterm Exam</b>
<b>Week 14</b> (11/20-11/24):	<b>No classes (Thanksgiving Recess)</b>
<b>Week 15</b> (11/27-12/01):	Chap. 13 (Cont'd)
<b>Week 16</b> (12/04-12/08):	Chap. 13 (Cont'd), Review, <b>Design Project Due Friday</b>
<b>Week 17</b> (12/11-12/15):	<b>Final Exam: Dec. 10, 2006, Tuesday, 2:15 PM – 4:15 PM</b>