

CEEN 5855 - Reinforced Concrete Design

Fall 2026 Syllabus, Section 01, CRN 40883,

Credit hours: 3

Instructor

Anwarul Islam

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Public Instructor Information

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Course Description

5855. Reinforced Concrete Design. An introduction to the behavior, analysis, and design of reinforced concrete members. Included are singly and doubly reinforced beams, tee-beams, slabs, short and long columns. Prereq.: CEEN 3749. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Design of Reinforced Concrete, 10th Edition	Jack C. McCormac, Russell H. Brown	9781118879108
Required	ACI 318-2025 Building Code Requirements for Structural Concrete	ACI	9781641953092

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25	Syllabus, Chapter 1	Ch. 1: Introduction to Reinforced Concrete	Read the chapter carefully.
Thu	8/27	Chapter 2	Ch. 2: Flexural Analysis of Beams	Read the chapter carefully and solve problems.
Tue	9/1	Chapter 2	Ch. 2: Flexural Analysis of Beams	Read the chapter carefully and solve problems.
Thu	9/3	Chapter 2	Ch. 2: Flexural Analysis of Beams	Read the chapter carefully and solve problems.
Tue	9/8	Chapter 2	Ch. 2: Flexural Analysis of Beams	Read the chapter carefully and solve problems.
Thu	9/10	Chapter 2	Ch. 2: Flexural Analysis of Beams	Read the chapter carefully and solve problems.
Tue	9/15	Chapter 3	Ch. 3: Strength Analysis of Beams	Read the chapter carefully and solve problems.
Thu	9/17	Chapter 3	Ch. 3: Strength Analysis of Beams	Read the chapter carefully and solve problems.
Tue	9/22	Chapter 4	Ch. 4: Design of Rectangular Beams and One-Way Slabs	Read the chapter carefully and solve problems.

Thu	9/24	Chapter 4	Ch. 4: Design of Rectangular Beams and One-Way Slabs	Read the chapter carefully and solve problems.
Tue	9/29	Chapter 4	Ch. 4: Design of Rectangular Beams and One-Way Slabs	Read the chapter carefully and solve problems.
Thu	10/1	Chapter 4	Ch. 4: Design of Rectangular Beams and One-Way Slabs	Read the chapter carefully and solve problems.
Tue	10/6	Chapters 1, 2, 3, 4	Test on Chapters 1, 2, 3, 4	Test 1
Thu	10/8	Chapter 5	Ch. 5: Analysis and Design of T-Beams and Doubly Reinforced Concrete Beams	Read the chapter carefully and solve problems.
Tue	10/13	Chapter 5	Ch. 5: Analysis and Design of T-Beams and Doubly Reinforced Concrete Beams	Read the chapter carefully and solve problems.
Thu	10/15	Chapter 5	Ch. 5: Analysis and Design of T-Beams and Doubly Reinforced Concrete Beams	Read the chapter carefully and solve problems.
Tue	10/20	Chapter 6	Ch. 6: Serviceability	Read the chapter carefully and solve problems.
Thu	10/22	Chapter 6	Ch. 6: Serviceability	Read the chapter carefully and solve problems.
Tue	10/27	Chapter 6	Ch. 6: Serviceability	Read the chapter carefully and solve problems.
Thu	10/29	Chapter 7	Ch. 7: Bond, Development Length, and Splices	Read the chapter carefully and solve problems.
Tue	11/3	Chapter 7	Ch. 7: Bond, Development Length, and Splices	Read the chapter carefully and solve problems.
Thu	11/5	Chapter 7	Ch. 7: Bond, Development Length, and Splices	Read the chapter carefully and solve problems.
Tue	11/10	Chapter 9	Ch. 9: Introduction to Columns	Read the chapter carefully and solve problems.
Thu	11/12	Chapters 5, 6, 7	Test on Chapters 5, 6, 7	Test 2
Tue	11/17	Chapter 9	Ch. 9: Introduction to Columns	Read the chapter carefully and solve problems.
Thu	11/19	Chapter 9	Ch. 9: Introduction to Columns	Read the chapter carefully and solve problems.
Tue	11/24	Chapter 8	Ch. 8: Shear and Diagonal Tension	Read the chapter carefully and solve problems.
Thu	11/26	No Class		
Tue	12/1	Chapter 8	Ch. 8: Shear and Diagonal Tension	Read the chapter carefully and solve problems.
Thu	12/3	Chapter 8	Ch. 8: Shear and Diagonal Tension	Read the chapter carefully and solve problems.
Tue	12/8	No Class		
Thu	12/10	Chapters 4, 5, 8, 9	Final Exam on Chapters 4, 5, 8, 9; in class, 10:30-12:30	Final Exam

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.