CEEN 3749 - Structural Analysis 1

Fall 2026 Syllabus, Section 01, CRN 40682,

Credit hours: 3

Instructor

Richard Deschenes

Email: radeschenes@ysu.edu

Public Instructor Information

Instructor Title: Associate Professor
Instructor Professional Qualifications:
P.E., Ohio Board of Engineers and Surveyors
Ph.D., Civil Engineering, University of Arkansas
M.S., Civil Engineering, University of Arkansas
B.S., Civil Engineering, University of Arkansas
Instructor Office Location: Moser 2445
Instructor Office Phone: 330 941 3029

Course Description

3749. Structural Analysis 1. The determination of shears, moments, and stresses in statically determinate beams, frames, and trusses. Consideration of dead, live, moving, and wind loads. Elastic deflections of simple structures. Introduction to the analysis of statically indeterminate structures using numerical and energy methods. Prereq.: CEEN 2602. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Structural Analysis, 11th edition	Hibbeler, R.C.	9780138026394

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
Mon	8/24	1.1-1.4	Introduction and Loading [1]	
Wed	8/26	2.1-2.3	Idealized Structures and Load Path [2]	
Mon	8/31	2.4-2.6	Stability and Equilibrium [3]	Problem Set 1
Wed	9/2	3.1-3.8	Truss Analysis [4]	
Mon	9/7		Labor Day	Problem Set 2
Wed	9/9	3.9	Space Trusses [5]	
Mon	9/14	4.1-4.2	Shear and Moment [6]	Problem Set 3
Wed	9/16	4.3	Shear and Moment: Beams [7]	
Mon	9/21	4.5	Shear and Moment: Frames [8]	Problem Set 4
Wed	9/23	4.6	Shear and Moment: Superposition [9]	
Mon	9/28	6.1-6.2	Influence Lines [10]	Problem Set 5
Wed	9/30		Reserved	
Mon	10/5	6.3	Qualitative Influence Lines [11]	Problem Set 6
Wed	10/7	6.4-6.5	Influence Lines: Girders and Trusses [12]	
Mon	10/12	6.6	Maximum Influence at a Point [13]	Problem Set 7
Wed	10/14	6.7	Absolute Maximum Shear and Moment [14]	

Mon	10/19	7.1-7.2	Deflection and Elastic Beam Theory [15]	Problem Set 8
Wed	10/21	7.3-7.4	Double Integration [15]	
Mon	10/26	7.4	Moment-Area Method [16]	Problem Set 9
Wed	10/28	7.5	Conjugate Beam Method [17]	
Mon	11/2	8.1-8.3	Principle of Virtual Work [18]	Problem Set 10
Wed	11/4		Reserved	
Mon	11/9	8.4	Virtual Work: Truss [19]	Problem Set 11
Wed	11/11	8.7	Virtual Work: Beams & Frames [20]	
Mon	11/16	9.1-9.3	Force Method: Beams [21]	Problem Set 12
Wed	11/18	9.5	Force Method: Frames [22]	
Mon	11/23	9.6	Force Method: Trusses [23]	Problem Set 13
Wed	11/25		Thanksgiving Break	
Mon	11/30	9.7	Force Method: Composite Structures [24]	Problem Set 14
Wed	12/2		Reserved	
Mon	12/7		Final Exam	

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