

Identification	Subject	Structural Analysis (CIV384)(6 ECTS)	
	Department	Civil Engineering	
	Program (Undergraduate, Graduate)	Undergraduate	
	Term	Autumn 2026	
	Instructor	Aghabagir Aliyev	
	Email:	aliyevaghabagir@gmail.com	
	Classroom/hours	Microsoft Teams; +994 77 109 48 96(WhatsApp)	
Prerequisites	Engineering Mechanics – Statics – Strength of materials		
Language	English		
Compulsory/Elective	Compulsory		
Textbooks and course materials	1. Validyanadhan, R and Perumal, P, “Comprehensive Structural Analysis – Vol. 1 & Vol. 2”, Laxmi Publications Pvt. Ltd, New Delhi, 2003. 2. L.S. Negi & R.S. Jangid, “Structural Analysis”, Tata McGraw Hill Publications, New Delhi, 6th Edition, 2003. 3. Punmia.B.C, Ashok Kumar Jain and Arun Kumar Jain, “Theory of structures”, Laxmi Publications Pvt. Ltd., New Delhi, 2004. 4. Russel C. Hibbeler “Structural Analyses” Eight Edition. <i>Note: Where multiple editions exist, students should use the latest available edition of each title.</i>		
Course description	This course deals with the structural models and is looking for a solution to analyze them subjected to applied loads. This is a traditional field in engineering education, and is taught in almost all civil engineering curricula.		
Course objectives	The basic theory and concepts of structural analysis and the classical methods for the analysis of buildings will be introduced to the students.		
Learning Outcomes	Students will be able to • Structural analysis of beams, columns, trusses, and frames. • Learning basis of Structural analysis for static loads. • Calculation and assigning loads as per AzDTN 2.1-1 • Conversant with classical methods of analysis. • Selection of sections as per moment and shear force results. • Introduction to FEM analysis.		
Teaching methods	Case analysis		
	Group discussion		
	Lecture		x
	Simulation		
Evaluation Criteria	Methods	Date/deadlines	Percentage (%)
	Midterm Exam (written exam covering Weeks 1–7)	TBA	35
	Quizzes (two short unannounced quizzes, 10% each)	TBA	20
	Practical Assignments (not used in this course)	–	–
	Class Activity (participation and in-class problem solving)	TBA	10

	Attendance (not separately graded in this course)	–	–
	Final Exam (comprehensive, covering Weeks 1–14)	TBA	35
	Total		100
Use of Generative AI	Generative AI tools (e.g., ChatGPT, Claude, Copilot) may be used only for study support such as clarifying concepts, checking terminology, or organizing notes. Generative AI must not be used to produce graded homework, quiz, or exam solutions or to perform structural calculations submitted as the student's own work. Any use of generative AI in preparing an assignment must be disclosed by the student, and the student remains fully responsible for the accuracy and originality of submitted work. Undisclosed or unauthorized use of generative AI is treated as an academic integrity violation under university policy.		
Class Policy	• NO CELL PHONES are allowed during lecture and lab sessions. PLEASE turn them off before lecture! (Not silent or vibrating mode) • No late assignments will be accepted without prior arrangement with the instructor for acceptable excuses. Medical and family emergency will be considered on a case-by-case basis. • No late homework will be accepted. Homework is to be completed on an individual basis. Students may discuss homework with classmates, but students are responsible for your own work. If students have consulted classmates, please note the individuals name on the top of students' assignment. • Quizzes may be given unannounced throughout the term and will count as one homework. There will be no make-up quizzes. • No make-up exams. If students miss an exam, a zero score will be assigned to the missed exam. • If students should miss class due to personal emergency or medical reasons, please notify the instructor by email immediately. A doctor's note will be required for make-up work. • Students are responsible for completing the reading assigned from the textbook related to the covered topics and for checking email regularly for important information and announcements related to the course. • University policy on academic honesty concerning exams and individual work will be strictly enforced. • BE ON TIME!		
Tentative Schedule			
Week	Date/Day (tentative)	Topics	Textbook/Assignments
1		Introduction to structural analysis	Chapter 1
2		General Principles	Chapter 1
3		Loads / Equilibrium and support reactions	Chapter 2
4		Trusses	Chapter 3
5		Freedom and indeterminacy	Chapter 3
6		Beams shear and bending moment diagrams	Chapter 4
7		Frames shear and bending moment diagrams	Chapter 4
8		Midterm exam	–
9		Deflection of beams, Geometric methods	Chapter 5
10		Deflection, work-energy methods	Chapter 5
11		Moment Distribution Method	Chapter 6
12		Moving Loads	Chapter 6
13		Influence line	Chapter 7

14		Indeterminate Structural Analysis	Chapter 8
15		Matrix Method of Analysis	Chapter 9
		Final exam	—

Note: Exact page ranges within each chapter should be specified according to the edition of the textbook actually used.

Academic integrity: All submitted work must be the student's own. Plagiarism in any form is prohibited and will be handled under the university's academic integrity policy.

This syllabus is a guide for the course and any modifications to it will be announced in advance.