

Identification	Subject	CIV384 Structural Analysis 6 ECTS	
	Department	Civil Engineering	
	Program	Undergraduate	
	Term	Spring 2022	
	Instructor	Ziaaddin Zamanzadeh	
	E-mail:	zzamanzadeh@khazar.org	
	Phone (WhatsApp):	+989144167502	
	Classroom/hours	Microsoft Teams	
	Office hours		
Prerequisites	Engineering Mechanics – Statics – Strength of materials		
Language	English		
Compulsory/Elective	Compulsory		
Required textbooks and course materials	<p>1. Vaidyanadhan, R and Perumal, P, “Comprehensive Structural Analysis – Vol. 1 & Vol. 2”, Laxmi Publications Pvt. Ltd, New Delhi, 2003.</p> <p>2. L.S. Negi & R.S. Jangid, “Structural Analysis”, Tata McGraw Hill Publications, New Delhi, 6th Edition, 2003.</p> <p>3. Punmia.B.C, Ashok Kumar Jain and Arun Kumar Jain, “Theory of structures”, Laxmi Publications Pvt. Ltd., New Delhi, 2004</p>		
Course website			
Course outline	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. Degrees of freedom, analyzing trusses, Indeterminate structures, Energy methods, deformations.		
Learning outcomes	<p>Students will be able to, end of the course:</p> <ul style="list-style-type: none"> • Trusses, frames and arches analysis • learn basis of Structural analysis for moving loads • Conversant with classical methods of analysis. • Deformations • Matrix analysis. 		
Teaching methods	Lecture		x
	Experiential exercise		x
	Assisted work		x
	Assisted lab work		x
	Others		
Evaluation	Methods	Date/deadlines	Percentage (%)
	Midterm Exam		30
	Class activity		5
	Quizzes		20
	Project (3 phases)		10
	Final Exam		35
	Total		100
Policy	<ul style="list-style-type: none"> • 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 case-by-case basis. • No late homework will be accepted. Homework is to be completed on an 		

	<p>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.</p> <ul style="list-style-type: none">• 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!
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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	