

Identification	Subject	Steel structures	
	Department	Civil Engineering	
	Program (Undergraduate, Graduate)	Bachelors	
	Term	Autumn 2026	
	Instructor	Vugar Sharifov	
	Email:	vuqar.sharifov@khazar.org	
	Classroom/hours		
Prerequisites	Construction materials, Strength of Materials, Structural Analysis		
Language	English		
Compulsory/Elective	Compulsory		
Textbooks and course materials	1) Steel Design (7th Edition) — William T. Segui & Sayed M. Soleimani (2018) 2) Design of Steel Structures — Lingyu Zhou, Liping Wang & Liqiang Jiang (2022) 3) Ağayev N.H, Zeynalov L.M. Metal konstruksiyaları (2008) 4) AzDTN 2.3-1 Seysmik rayonlarda tikinti (2010) 5) AzDTN 2.1-1 Yüklər və təsirlər. Layihələndirmə normaları (2015) 6) AzDTN 2.18-1 Polad konstruksiyalar. Layihələndirmə normaları (2015)		
Course description	This course introduces the fundamental principles of analysis and design of steel structures. It covers the behavior, design, and detailing of structural steel members and connections in accordance with relevant design codes and standards.		
Course objectives	To provide students with a foundational understanding of the behavior and design of steel construction materials (steel and aluminum alloys) and structural steel members, including tension and compression members, restrained and unrestrained beams, beam-columns, and connections, while developing practical skills in the analysis and design of building structures.		
Learning Outcomes	Upon successful completion of this course, students will be able to: • Understand the mechanical properties and behavior of structural steel under various loading conditions. • Design and detail bolted and welded connections for steel structures. • Apply load combinations and design philosophies such as limit state or allowable stress design. • Interpret structural drawings and prepare basic design calculations for steel structural elements using applicable design codes. • Develop an appreciation for safety, economy, and constructability in steel structure design.		
Teaching methods	Case analysis		+
	Group discussion		+
	Lecture		+
	Practical problem solving		+
Evaluation Criteria	Methods	Date/deadlines	Percentage (%)
	Midterm Exam	TBA	30
	Quizzes	October and November	10
	Practical Assignments	October and November	10
	Activity		10
	Final Exam	TBA	40
	Total		100
Class Policy	• The use of cell phones is prohibited during lectures and laboratory sessions. All phones must be in silent or vibrate mode before class begins.		

	• Late assignments will not be accepted unless prior arrangements have been made with the instructor for valid and documented reasons. Medical issues and family emergencies will be considered on a case-by-case basis. • Late homework submissions will not be accepted. Homework must be completed individually. Students are encouraged to discuss problems with classmates; however, all submitted work must be their own. If assistance was received from classmates, their names must be clearly listed at the top of the assignment. • There will be no re-exams. Students who miss an exam will receive a score of zero. • In the event of a personal or medical emergency, students must notify the instructor immediately by email. A doctor's note or appropriate documentation will be required to be considered for any re-exam. • Students are responsible for completing all assigned readings related to the course topics and for checking their university email regularly for course announcements and important updates. • University policies regarding academic honesty and use of AI will be strictly enforced for all exams, homework, and individual work. • In this course, the use of GAI tools is permitted for the purpose of supporting the learning process. Students may use GAI during the comparison and informative stage. However, the student must disclose all GAI tools used and explain how they were used in the work. The student also bears full responsibility for the accuracy and reliability of any results obtained through GAI. The final work must, in all cases, reflect the student's own analysis, critical thinking, and intellectual contribution.
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Tentative Schedule

Week	Date/Day (tentative)	Topics	Textbook/Assignments
1		Fields of application and characteristics of Steel structures	1) Chapter 8
2		Materials used in Steel structures Behavior of Steel structures under load	1) Chapter 10
3		Fundamentals of Steel structures calculations Calculations on ASD and LRFD	1) Chapter 12
4		Loads and load combinations	1) Chapter 3
5		Welded connections	1) Chapter 26
		Midterm exam	
7		Welds classifications. Butt Joints. Lap joints. Composite Joints. Tee and Corner Joints	1) Chapter 26
8		Riveted connections. Behavior of riveted connections	1) Chapter 25
9		Bolted connections. Types and specifications	1) Chapter 25
10		Analyzing welded connections	AzDTN 2.18-1
11		Analyzing bolted connections	AzDTN 2.18-1
		Final exam	
			All mentioned textbooks were used but only main one written here