Identification	**Subject**	CHEM 111 Chemistry 1 -6 ECTS	
	Department	Chemistry and Chemical Engineering	
	Program	Undergraduate	
	Term	Fall 2024	
	Instructor	Tahir Javadzade	
	E-mail:	tjavadzade@khazar.org	
	Phone		
	Classroom/hours	TBC	
	Office hours	Monday to Friday 09:30-17:30	
Prerequisites			
Language	English		
Compulsory/ Elective	Compulsory		
Required textbooks and course materials	**Main:** • Chemistry: A Molecular Approach by Nivaldo J. Tro in pdf published in 2019 [1] **Extra**: • Chemistry: The Central Science" by Theodore L. Brown, H. Eugene LeMay Jr., Bruce E. pdf published in 2011 [2] • Chemistry: An Introduction to General, Organic, and Biological Chemistry by Karen C. Timberlake [3] • General Chemistry: Principles and Modern Applications" by Ralph H. Petrucci, William S. Harwood, and F. Geoffrey Herring [4] • Chemistry: An Introduction to General, Organic, and Biological Chemistry" by Karen C. Timberlake [5] • Chemistry: The Molecular Nature of Matter and Change" by Martin Silberberg and Patricia Amateis [6] • Chemical Principles: The Quest for Insight" by Peter Atkins, Loretta Jones, and Leroy Laverman [7] • Fundamentals of General, Organic, and Biological Chemistry" by John McMurry, David Ballantine, Carl Hoeger, and Virginia Peterson [8]		
Website of course	This course is based on traditional face-to-face classes.		
Teaching methods	**Lecture**		**X**
	Group discussion		**X**
	Practical tasks		**X**

Evaluation	**Methods**	**Date/deadlines**	**Percentage (%)**
	Activity		5
	Quiz	2nd week of each month	15
	Midterm Exam	TBC	30
	Presentation/Group work	1st week of May	10
	Final Exam	TBC	40
	Total		100

Course outline	The course of Chemistry 1 covers fundamentals of chemistry. The goal of this course is to give students a solid foundation in the ideas and theories that support the study of matter and its changes, chemical nomenclature, atomic structure, chemical bonds, states of matter and etc. It is a key subject for anyone interested in the natural sciences or engineering since it gives students the knowledge and abilities they need to comprehend and manipulate matter.

Course objectives	• Fundamental Knowledge • Scientific Method • Chemical Equations • Stoichiometry • Atomic and Molecular Structure • Chemical Bonding • States of Matter
Learningoutcomes	By the end of the course the students should be able: • To perform fundamental chemical calculations • To procure a fundamental knowledge in general chemistry. • To be ready to take advanced chemistry course
Policy	• **Precipitation** For a variety of reasons, participation in a classroom context is essential. It is essential to the learning process, promotes teamwork, and aids in the general success of both the individual students and the class as a whole. • **Presentation/Group work** Students frequently must explain difficult chemical ideas to their classmates when they work in groups or make presentations. As they must break it down into simpler terms and respond to inquiries from their classmates, teaching otherscan help students get a deeper knowledge of the content. • **Activity** The students should participate in the seminars, conferences, and other events related to their courses to build new connections between academic and non-academic institutions. • **Quiz** A consistent method of gauging your understanding of the content covered in class is through quizzes. They assist you and your teacher in evaluating your comprehension of important ideas and identifying any areas that can benefit from more explanation. Each quiz will consist of 5 to 10 questions and each question will be marked according to its difficulty. There will be two quizzes. • **Withdrawal (pass/fail)** The School Science and Engineering grading guidelines are carefully adhered to throughout this course. To pass, a student must typically receive a mark of at least 60%. If the student fails, the course. • **Cheating/plagiarism** Any form of plagiarism or cheating on a test, quiz, or project will result in the cancellation of the assignment. In this scenario, the student will receive a score of zero (zero) without any further consideration. • **Illness** Student with an illness may miss a quiz or presentation. This might be because the student needs to go to the hospital, recover at home, or attend regular medical appointments. In this case, the student must inform the instructor in advance about the illness and must present a document from their doctor. After considering the situation, the instructor may set a new date for the quiz or project presentation. Only one opportunity will be given to the student. The students who don't inform the instructor in advance will not be given a chance to retake the quiz or give a presentation. • **Professional behavior guidelines**

	During class hours, students are expected to conduct themselves in a way that fosters a positive academic and professional atmosphere. Discussions without permission and unethical conduct are absolutely forbidden. • **Ethics** In class, students must not be late. During class, mobile phones must be put away and turned off.

Tentative Schedule		
Weeks	**Topics**	**Reference books**
1	Introduction to Chemistry	[2] p. 2-31
2	Matter, measurement and Problem Solving	[1] p. 1-34
3	Atoms and Elements	[1] p. 49 - 79
4-5	Molecules and Compound	[1] p. 91-123
6	Chemical Reactions and Quantities	[1] p. 138 -158
7	**Midterm exam**	
8	Introduction to Solutions	[1] p. 166 -201
9	Gases	[1] p. 210 -250
10	Liquids, solids and intermolecular forces	[1] p. 494 -531
11	Chemical Bonding I	[1] p. 392 -427
12	Chemical Bonding II	[1] p. 436 -483
13	Solids	[1] p. 540 - 569
14	Solutions	[1] p. 578 - 619
15	Review	
Final Exam		