

American University of Central Asia

EMSD-101 General Chemistry

Course Syllabus-Fall 2021

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Class Times: Wed/Fri – 14:10 **Prerequisite:** no

Mid Term Exams: In Class, October **Final Exam:** In Class, December

Course Description

General Chemistry is a standard's based university preparatory lab science course. It fulfills one semester of the science required at TSI AUCA. Chemistry in the community is a major attempt to enhance science literacy through university curriculum that emphasizes the impact of chemistry on society. Each unit centers on chemistry-related technological issues now confronting our world.

Methodology

The traditional lecture-seminar method will be used, with the lecture encompassing only the basic information on the topic. At the end of each lecture the questions are discussed and several additional topics for independent studying during the seminars will be offered to students. Students get trainings on doing chemical experiments in the environmental laboratory. Students will make one 20 minutes presentations (both individual and group presentations) on these additional topics. Every presentation will be assessed by the Instructor in accordance with the grading scheme presented below. In case of group presentation the number of points is divided between the students prepared presentation proportionally. Majority of assignments will be intended to facilitate the work in groups.

Evaluation and Assessment

The students' performance is assessed on the basis of their participation during the lectures, including the familiarity with the reading material, note-taking, making assignments, oral presentations and written exams. Students are expected to pass all the above in order to obtain a credit for the semester.

Examination

The students will take two exams: the first one is a mid-term test and the second one is a final examination. The test consists of questions on short definitions and multiple-choice questions. Exam papers are composed of resolving chemical assignments (e.g. determination of molecular weight of substance etc.). No books, papers etc. can be used during the exam. Exam questions are compiled from the questions discussed during the lectures. Evidence of using additional sources of information related to the course content will be marked in the form of additional points for examination paper.

Assignments:

The assignments in this course will be a combination of classwork/homework exercises, formal laboratory experiments, projects, quizzes, and tests.

You can use pens, pencils, paper, scientific calculator, & a red correcting pen.

Make-up work and late assignments:

It is YOUR RESPONSIBILITY to find out from the teacher what work was missed when you were absent and to complete and hand in the make-up assignment on time. Labs, if missed, will be made up through the “What do I do if I missed a Lab???” assignment.

1. Excused Absences: For absences of three days or less, students will have the same amount of time to complete the work as those who were in class to receive full credit. For longer absences, a schedule will be made as to when the work is to be completed.

2. Unexcused Absences: Unless a student has special permission to make-up work from university administration, he or she will receive zero points for graded work on the days of unexcused absences.

3. Late Assignments: All assignments not turned in when they are due will receive half credit. All missing/late assignments are due the day of the Unit Exam. Nothing after.

Grading scheme: All grades will be awarded in accordance with the scheme given below. *Your points for the class work cannot exceed the maximum of 40.*

Assignment Points

Mid-term test and final examination 20 and 30, **total 50**(maximum)

1 presentation and one home or class assignment 10 (maximum for each), **total 30**

Active participation, note-taking **2** each

Bonus for attending classes **10**

Withdrawal of grades in case of poor attendance without reason **Minus 5 for each failure to attend**

A 100-95 **B-** 76-71 **D+** 47-42

A- 94-89 **C+** 70-60 **D** 41-36

B+ 88-83 **C** 59-54 **D-** 35-30

B 82-77 **C-** 53-48 **F** < 30

Work and Attendance

The work and attendance of all students will be monitored. Students are expected to attend all lectures and seminars. Attendance is regarded as a part of the course. This is for the benefit of the students and helps to ensure that they are coping with the work and managing to comprehend all the information and complete all the tasks given to them. Students must come to class on time not to disturb others, being more than 10 minutes late is counted as an absence. Students are not allowed to use mobile phones during classes and consultations. Using a laptop is allowed for keeping records of discipline. It is not allowed to use these or other electronic devices during the lesson (to conduct video and audio recordings), for purposes not

related to academic discipline, in case of violation of this rule, the teacher is entitled to pick up the device before the end of the lesson.

Documentation of reasons for absence

Any valid reasons for absence should be reported to the Instructor as soon as possible. Legitimate excuses are the following: illness, confirmed by a doctor's note next class; a death in the family; participation in conferences or seminars with preliminary notification of the Instructor and submission of the relevant supporting documents. Unless the correct procedure is followed no allowances can be made.

Lab license: During the first month of university we will emphasize safety in a chemistry lab. When you pass the written safety test, you will receive a lab license. If you break the safety rules during the year, violations will be marked on your license. Three violations mean your license is revoked; you are excluded from lab work and will receive zero points for all remaining labs. A safe working environment is important for all to learn and achieve.

Classroom rules

1. **All students** will learn in my class. **Any** behavior that interferes with the learning of others will result in appropriate consequences.
2. No **Cheating**. Cheating will result in zero points for all students involved and administrative discipline will follow.
3. **Safety First**. Use common sense. Pay attention. No horseplay.

Reading material

The course materials are available in the electronic course of AUCA library and additional sources for using by students independently are welcomed.

1. A. Truman Schwartz, Diane M. Bruce, Robert G. Silberman. 1997. *Chemistry in Context* 2nd edition. A Division of the McGraw-Hill Companies.
2. Charles G. Gebelein 1997. *Chemistry and Our World*. Youngstown, Ohio.
3. David E. Goldberg 2001. *Fundamentals of Chemistry*. 3rd edition. Brooklyn College.

Library Materials:

Many useful reference materials are to be found in the AUCA's library on the AUCA's campus. Library materials are recommended for reading as homework assignments.

All chapters of the textbook are very important for the study of the course, but you should pay more attention for the following chapters.

1. David E. Goldberg 2001. *Fundamentals of Chemistry*. 3rd edition.

Chapter 1 (Basic Concepts). Chapter 3 (Atoms and Atomic Masses). Chapter 4 (Electronic Configuration of the Atom). Chapter 5 (Chemical Bonding). Chapter 6 (Nomenclature). Chapter 7 (Formula Calculations). Chapter 8 (Chemical Reactions). Chapter 19 (Organic Chemistry). Chapter 20 (Nuclear Reactions).

2. Charles G. Gebelein 1997. *Chemistry and Our World*.

Chapter 2 (Matter, States of Matter, and Temperature). Chapter 5 (Energy, the Nucleus, and Nuclear Chemistry). Chapter 8 (Solutions, Acids, and Bases). Chapter 9 (Organic Chemistry – The Wonderful World of Carbon).

TENTATIVE CLASS SCHEDULE (SUBJECT TO CHANGE) Week	Reading Topics
1	Basic Concepts
2	Order in Chemistry, The Periodic Table.
3	Atoms and Atomic Masses, Electronic Configuration of the Atom
4	Chemical Bonding, Nomenclature
5	Formula Calculations
6	Chemical Reactions
7	Midterm Examination
8	Net Ionic Equations
9	Molarity, Solutions, Acids and Bases.
10	Solids and Liquids Energies of Physical and Chemical Changes.
11	Organic Chemistry
12	Isomerism
13	Nuclear Reactions
14	Final Examination