



College of Arts and Sciences
Department of Mathematics and Natural Sciences

CHEM101L
General Chemistry Laboratory
Course Syllabus for Spring 2022

Instructor: **Raghda El-Dessouky**
Instructional Modality: Hybrid (**Onsite and Online**)

Office Hours (on-campus or via Zoom meeting accessible through Moodle via the link

e-Office Hours):

U 05:30 p.m. – 06:45 p.m.

T 08:00 a.m. – 11:15 a.m.

W 09:30 a.m. – 11:00 a.m.

Office Location: **SB A328**

Office Phone: **1802040, Ext. 3722**

E-mail Address:

reldessouky@auk.edu.kw

Class Meeting Times and Location

CHEM101L-01 **M** 03:30 pm – 06:15 pm C015

CHEM101L-02 **M** 09:30 am – 12:15 pm C015

CHEM101L-03 **W** 11:00 am – 01:45 pm C015

AUK Mission Statement

The American University of Kuwait is a liberal arts institution based on the American model of higher education. It is dedicated to providing students with knowledge, self-awareness, and personal growth experiences that can enhance critical thinking, effective communication, and respect for diversity. AUK seeks to create leaders and lifelong learners who aspire to the highest standards of moral and ethical responsibility in their societies.

The College of Arts and Sciences (CAS) Mission statement

The College of Arts and Sciences (CAS) is committed to cultivating lifelong learning that empowers students to pursue technical competency in professional fields, self-awareness, a

sense of civic and moral responsibility, and a breadth of vision in the tradition of liberal arts education. The College offers quality undergraduate programs leading to a bachelor's degree.

The Department of Mathematics and Natural Sciences Mission statement.

The Department of Mathematics and Natural Sciences is committed to excellence in teaching, research, and scholarly activities. The department prepares AUK students in different disciplines with the fundamental scientific and analytical skills critical to a quality liberal education. The department strives to prepare students to be successful in their careers and promotes lifelong learning.

Course Description

CHEM101L is the laboratory component of General Chemistry I course CHEM101.

The General Chemistry Laboratory course is a one-credit hour course, which introduces students to the concepts of general chemistry through experimental work. The course establishes the students' knowledge and application of safety regulations in the laboratory environment. The students learn about the various laboratory glassware and devices, and how/when to use them. The students get hands-on experience on making measurements to learn about the aspects of matter such as mass, volume and density, melting and boiling points. Examples of chemical reactions, stoichiometry and chemical analyses are explained and applied through the course experiments. The students learn to adopt and apply analytical thinking and problem-solving skills, and acquire basic knowledge and tools that shall serve their core studies.

Course Learning Outcomes (CLOs)

Upon successful completion of this course, the students should be able to:

CLO 1: Understand and apply safety regulations in the chemistry laboratory.

CLO 2: Identify and correctly use the laboratory equipment.

CLO 3: Understand about uncertainty in making measurements and calculate the percentage error.

CLOc4: Understand the meaning of and the difference between accuracy and precision.

CLO 5: Understand how to extract the concepts of general chemistry from the conducted experiments.

CLO 6: Understand the correct definitions of mass, weight, volume and density.

CLO7: Use the appropriate laboratory equipment and devices for measuring mass, volume and density.

CLO 8: Understand the meaning of and the significance of melting and boiling points as intensive properties of matter.

CLO 9: Understand stoichiometry and apply its concepts through systematic calculations.

CLO 10: Understand calorimetry techniques for assessing chemical reactions.

CLO 11: Understand acid-base titrations and the correct use of the technique to identify unknown concentrations of solutions.

Course Delivery/Methodology

The course material is to be shared weekly on Moodle <https://lms.auk.edu.kw/>

The course will be taught in a hybrid format:

Based on the student ID number, each week, one group of students will be doing the experimental work on campus, while the other group will be assigned asynchronous material (pre-recorded experiment videos and explanatory presentations) to go over at home. Both groups of students will be assigned weekly lab report assignments that are to be submitted on Moodle.

The PowerPoint presentations will have all the study material needed, as well as the experimental procedures. If extra material is needed, it will be shared accordingly.

The gateway to accessing the lab sessions online is the link “e-Lab Sessions” on the top of the course Moodle page.

Required Textbook/Required Readings

No textbook is required for the course. The PowerPoint slides, the experiment videos and any pre-recorded presentations posted on Moodle are the main study material for this course.

The textbook reference used for the preparation of the course material is:

“Experimental Chemistry”, 10th edition, by J. F. Hall, 2010, Houghton Mifflin, USA.

The experiment videos are either recorded in the AUK Chemistry laboratory, or shared from the Journal of Visualized Experiments (JoVE) and Youtube. Additional online learning tools and resources are also used for the online part of this course, such as: PhET interactive simulations and ChemCollective.

Evaluations and Grading

Participation

5%

The student's commitment to on-campus attendance and appropriate conduct in the lab.

Lab Reports

60%

Each experiment has its template lab report, and the student is required to fill it out with the measured experimental data, as well as answer a number of questions on the experiment. The lab report questions aim at evaluating the students' understanding of the concepts covered in the experiment, and stimulate their problem-solving skills.

Lab reports are to be submitted in person or on Moodle.

Final Exam

35%

The final exam is a written test that aims to assess the students' overall understanding of the basic topics covered throughout the course experiments. The test is mainly multiple-choice questions and short problems. The final exam will take place on campus.

Total

100%

AUK Official Grading Scale

Letter Grade	Percentage	University Points
A	94-100	4.0
A-	90-93	3.7
B+	87-89	3.3
B	84-86	3.0
B-	80-83	2.7
C+	77-79	2.3
C	74-76	2.0
C-	70-73	1.7
D+	67-69	1.3
D	64-66	1.0
D-	60-63	0.7
F	0-59	0.0

AUK Attendance Policy

Any student who misses more than 15% of class sessions of any course during a semester should expect to fail, unless she/he submits documented evidence to the course instructor of inpatient medical care, death of an immediate family member, academic instructional activities, or national athletic activities. If excused, students are required to satisfy all coursework due or assigned during their absence as determined by the course instructor. If a student does not submit documented evidence for her/his absence exceeding the limit, it is the student's responsibility to withdraw from the course by the specified deadline, as indicated on the academic calendar. Students who withdraw from a course receive a grade of "W". Students who do not withdraw from a course nor submit supporting documents for excessive absences will receive a grade of "FN" (failure for non-attendance).

Code of Academic Honesty and Integrity

Upon admission to the American University of Kuwait, students agree to act responsibly in all areas of academic, personal and social conduct and to take full responsibility for their individual and collective action. Such regulations are found in the American University of Kuwait Catalogue, Student Handbook, and the AUK website at www.auk.edu.kw. Any question of interpretation regarding the code of academic honesty and Integrity shall be reported to the appropriate academic dean. The Code shall be reviewed annually at the discretion of the academic deans. Any student or student organization found to have committed the cited violations or misconduct, either on or off campus, is subject to the disciplinary sanctions outlined in adjudication procedures.

Incidences of plagiarism and/or cheating are considered major offenses and in violation of the academic honesty and integrity code. The student will be penalized as the instructor sees appropriate. The penalties may range from declining the submitted work altogether to failing the whole course if the student's dishonest conduct is consistent.

What is Plagiarism?

The term "plagiarism" includes, but is not limited to, an attempt of an individual to claim the work of another as the product of his or her own thoughts regardless of whether that work has been published. Plagiarism includes, but is not limited to, quoting improperly or paraphrasing text or other written materials without proper citation on an exam, term paper, homework, or other written material submitted to an instructor as one's own work. Plagiarism also includes handing in a paper to an instructor that was purchased from a term paper service or downloaded from the Internet and presenting another person's academic work as one's own.

What is Cheating?

The term “cheating” includes but is not limited to, copying homework assignments from another student; working together with another individual on a take-home test or homework when not approved by the instructor, looking at and/or copying text, notes or another person’s paper during an examination when not permitted to do so. Cheating also includes the giving of work information to another student to be copied and/or used as his or her own. This includes but is not limited to giving someone answers to exam questions either when the exam is being given or after having taken an exam; informing another student of specific questions that appear or have appeared on an exam in the same academic semester; giving or selling a term paper, report, project or other restricted written materials to another student.

Academic Support

Learning Support Services focuses on empowering students to become independent and successful learners by developing their literacy skills, enhancing their understanding, and helping them improve their academic and study skills. Learning Support Services is comprised of two centers: the Tutoring Center and the Writing Center. The Tutoring Center provides free academic support in various subjects to AUK student. Email: tutoringcenter@auk.edu.kw.

The Writing Center provides multilingual support (English, Arabic, French, and Spanish) through individual or small-group consultations. Email: writingcenter@auk.edu.kw

Disability Accommodations

AUK provides equal and inclusive educational environment in order to enable all students to meet and perform requisite academic standards and to participate in the opportunities and activities of its community. If you believe you can benefit from accommodations for a learning, physical, or mental health disability, [click here to book a session through the Counseling Center/Disability Services Booking Page](#), to ask about disability services at AUK, initiate an accommodation plan, or receive disability services. You can also email counseling@auk.edu.kw if you need assistance in booking a session.

Course Policies/Student Responsibilities

The students must abide by the safety regulations introduced in the chemistry laboratory. The students will not be allowed to work in the lab without wearing their lab coat, gloves and goggles. The students must commit to wearing appropriate clothing and footwear on the days they attend the chemistry lab, to ensure optimal coverage of their skin and minimize exposure to any accidental spills in the lab.

Each student is expected to maintain a clean workspace and glassware after they are done with their work. No food or drinks are allowed inside the lab.

The students are expected to adhere to COVID-19 health safety measures: wearing a mask during class, maintaining social distancing, and frequent hand sanitization.

More information regarding the hybrid format of teaching, and e-learning guidelines can be reviewed in the link <https://www.auk.edu.kw/about-auk/elearning-resources>

Late and Missing Work Policy

Students submitting their lab reports past the due date will be subject to 50% deduction of points, if submitted within 48 hours of the deadline. Lab reports submitted later than that will not be accepted.

Communication Policy

Students must be sure to use their official AUK email account for any communication with the instructor. Kindly, write your **full name**, and **indicate which class and section you are taking** when you send me an email, as I teach different courses. If you have a question, please feel free to send an email and I will be happy to clarify. I respond to questions within 48 hours of receiving them. If I did not answer an urgent matter, kindly re-send your e-mail. Emails sent on weekends are expected to be responded to on Sunday.

Technology Issues

All lab reports must be submitted through Moodle. However, you may experience trouble during a submission due to technology or internet issues. If such a situation does arise and you are unable to submit your work through Moodle, please send me an email at reldessouky@auk.edu.kw and include the **completed** work.

Please make sure that you email me the report **before** the deadline as this documents that you did finish everything by the due date and time, but that you just had a technology issue. This will ensure that your work will be accepted, and you will not get a late submission penalty. Once the technology or internet issue is resolved, please upload the report to Moodle. In general, always be sure to frequently save your files and keep backups of your work.

Course schedule is in the following page.

Tentative Course Schedule

(the order of experiments is amenable to modification to suit the hybrid model and the student odd/even ID on-campus attendance pattern)

Week (Date M/W)	Experiment
Week 1 (Feb. 14 th – 16 th)	Introduction to the Chemistry Laboratory and Safety Regulations
Week 2 (Feb. 21 st and 23 rd)	Exp.1 The Determination of Mass
Week 3 (Feb. 28 th – March 2 nd)	National Liberation Holiday
Week 4 (March 7 th – 9 th)	Exp.2 The Use of Volumetric Glassware
Week 5 (March 14 th – 16 th)	Exp.3 The Determination of Density
Week 6 (March 21 st – 23 rd)	Exp.4 The Determination of Boiling Point
Week 7 (March 28 th – 30 th)	Midterms Week – (no lab sessions)
Week 8 (April 4 th – 6 th)	Exp.5 Recrystallization and the Determination of Melting Point
Week 9 (April 11 th – 13 th)	Exp.6 Stoichiometry: Limiting Reactants
Week 10 (April 18 th – 20 th)	Exp.7 Calorimetry
Week 11 (April 25 th – 27 th)	Exp.8 Acid-Base Titration <i>April 26th – Deadline for Withdrawal (Grade W)</i>
Week 12 (May 2 nd – 4 th)	Eid Al-Fitr Holiday
Week 13 (May 9 th – 11 th)	Exp.9 Finding the Molar Mass of a Volatile Liquid
Week 14 (May 16 th – 18 th)	Exp.10 Determination of the Empirical Formula of a Hydrated Salt
Week 15 (May 23 rd – 25 th)	Review and Q&A Session before the Final Test
Week 16 (May 30 th – June 1 st)	Final Exam (On-Campus for All Students)

Syllabus Changes

There may be changes to the schedule and syllabus during the semester to accommodate the hybrid format of learning and the odd/even ID student attendance pattern. Any changes will be communicated clearly beforehand.

Best of luck.