ACADIA UNIVERSITY

COURSE OUTLINE

CHEM 1013: General Chemistry 1	September 8, 2021

Lectures			**Location**
Section 1013-FA01	John Murimboh	M/W/F: 8:30am – 9:30am	ELL 207
Section 1013-FA02	Cathy Murimboh	M/W/F: 9:30am – 10:30am	CAR 203
Section 1013-FA03	Nicoletta Farone	M/W/F: 10:30am – 11:30am	ELL 207
Section 1013-FA04	Amitabh Jha	M/W/F: 11:30am – 12:30pm	HSH 206
Section 1013-FA05	Vlad Zamlynny	M/W/F: 8:30am – 9:30am	BAC 207
Office Hours	**Instructor**	**Email**	**Location**
M: 1:00 – 4:00pm	Vlad Zamlynny	vlad.zamlynny@acadiau.ca	ELL 118
T: 1:00 – 4:00pm	Amitabh Jha	amitabh.jha@acadiau.ca	ELL 120
W: 1:00 – 4:00pm	Cathy Murimboh	catherine.murimboh@acadiau.ca	ELL 211
Th: 1:00 – 4:00pm	Nicoletta Farone	nicoletta.faraone@acadiau.ca	ELL 117
F: 1:00 – 4:00pm	John Murimboh	john.murimboh@acadiau.ca	KCI 034
H: 9:30 – 11:30 am (labs)	Ashley Parsons	ashley.parsons@acadiau.ca	ELL 204
Chemistry Help Centre			**Location**
Mon/Tue/Wed: 6:00 – 9:00 pm			ELL 303

Restrictions	
Pre-requisite	Nova Scotia grade 12 chemistry or equivalent with 60% or better

Textbook

Chemistry: A Molecular Approach (3rd Canadian Edition)
Tro, Nivaldo J., Travis Fridgen, and Lawton Shaw
Pearson Canada, 2019
Note: older editions are also acceptable

Alternate Textbooks

1. Principles of General Chemistry v1.0 (Averill and Eldredge) [HTML]
2. Chemistry Virtual Textbook (Stephen Lower, Simon Fraser University) [HTML]
3. Any first-year chemistry textbook

LEARNING, TEACHING, AND ASSESSMENT INFORMATION

Assessment		
Labs	20%	
Assignments	10%	Best 10 Assignments
Quizzes	5%	
Midterm 1	10%	Tuesday, September 28, 2021
Midterm 2	10%	Thursday, October 21, 2021
Midterm 3	10%	Thursday, November 18, 2021
Final Exam	35%	
Total	**100%**	

Students with a valid excuse (e.g. illness) must contact their instructor at least one hour prior to the start of the midterm, complete the Declaration of Cause form, and submit to the Registrar's Office in person, by fax, by mail, or by email. The weight of the midterm will be transferred to the final exam. **Students who miss all three midterms, regardless of the reason, will receive a failing grade in the course.**

Labs

Lab Instructor: Ashley Parsons, ashley.parsons@acadiau.ca, ELL 215
Monday – Friday: 1:00 – 4:00pm (ELL 204, 206)
Prelab (ELL 207)

Attendance is required for all scheduled laboratories. This includes all laboratory activities, including pre-lab meetings. Absences during laboratory time will be categorized as either 'excused' or 'unexcused'. Unexcused absences will result in a grade of zero for that laboratory session. A student who is absent for two (2) labs, with any combination of excused and/or unexcused absences per course, will receive a failing laboratory grade. The laboratory is an integral part of the course. **You must earn a passing grade in the laboratory to pass the course.**

The penalty for late lab reports is a deduction of 10% to a maximum of 4 days.

See the lab ACORN page CHEM 1010L/1110L All Sections CHEM 1113 Laboratory 2021 Fall for more details.

Lab Manual, Glasses, and Gloves: Purchase from the Chemistry Club (Elliott Hall Lobby) September 8 – 17th, 12:30 – 1:00pm.

Lab Coats and Notebooks: Available at the Acadia University Bookstore.

Assignments

Due: Thursdays at 11:30pm (NO EXCEPTIONS)
via ACORN

Late assignments automatically receive a grade of zero. There are no exceptions, including illness or power failures. i.e. Do not wait until the last minute to work on the assignments!

Course Description

An introductory treatment of the fundamentals of chemistry: atoms, molecules, ions, chemical equations, stoichiometry, enthalpy, electronic structure and periodic properties of the elements, chemical bonding, and molecular structure, acids and bases, and gases.

Assessment will be by assignments, examination, and submission of laboratory reports.

Topics

Unit 1: Fundamentals (Review)
Unit 2: Atomic Theory
Unit 3: Periodic Trends
Unit 4: Nuclear Chemistry
Unit 5: Lewis Structures
Unit 6: Intermolecular Forces
Unit 7: Bonding Theories
Unit 8: Organic Chemistry
Unit 9: Acids and Bases
Unit 10: Salts, Buffers, and Titrations
Unit 11: Gases

Learning Outcomes	
Course Outcomes	1. Communicate fundamental concepts in chemistry using appropriate vocabulary, units, symbols, and notations. 2. Apply chemical principles, scientific reasoning, and appropriate mathematical techniques to solve quantitative problems. 3. Explain real-world applications of chemistry (e.g. lake acidification, nuclear energy, soap, hydrogen bonding in DNA, homeostasis, etc.) in terms of fundamental chemical principles. 4. Analyze and interpret data collected in the laboratory.
Learning Outcomes	1. Properly use and apply significant figures to calculations 2. Convert between metric units 3. Convert between mass and moles 4. Balance chemical reactions 5. Name compounds 6. Describe and apply the Bohr model of the atom 7. Describe and apply the quantum mechanical model of the atom 8. Write electron configurations of atoms and ions 9. Describe periodic trends of elements using the Periodic Table 10. Write Lewis structures 11. Predict the shape and properties of molecules 12. Name, draw, and identify functional groups of organic compounds 13. Calculate the pH of strong acids and bases 14. Perform equilibrium calculations of weak acids and bases 15. Perform equilibrium calculations of salts and buffers 16. Understand and use titration curves 17. Apply gas laws and the ideal gas equation

OTHER DETAILS

Accessible Learning Services
If you are a student with documentation for accommodations or if you anticipate needing supports or accommodations, please contact Ian Ford, Accessibility Resource Facilitator at 902-585-1520, disability.access@acadiau.ca or Marissa McIsaac, Manager, disability.access@acadiau.ca. Accessible Learning Services is located in Rhodes Hall, rooms 111-115.

Equity and Diversity
Acadia University is committed to becoming a culturally safe and anti-oppressive community. This can only be achieved where there are simultaneous efforts to eliminate all forms of discrimination and harassment from our campus community, including the elimination of all discrimination, harassment and violence based on one's identity, including but not limited to, gender, race, class, ethnicity, sexual orientation, disability, gender identity, gender expression, and Indigeneity. The Equity, Diversity and Inclusion Officer is available to **students, staff, and faculty**. The fundamental objective of the Equity Office is to **prevent discrimination, sexual harassment, and personal harassment** from occurring, in part by managing Acadia's Policy Against Harassment and Discrimination. For more information, as well as for resources for students who believe they may have experienced or witnessed discrimination, sexual harassment, or personal harassment please contact Acadia's Equity, Diversity and Inclusion Officer, Polly Leonard, MSW, RSW (she/her/hers) at equity@ACADIAU.CA, and check out the website.

Academic Integrity

It is your responsibility to acquaint yourself with the university policy on academic integrity. Academic dishonesty such as cheating and plagiarism are not tolerated. Any form of academic dishonesty in examinations, tests, labs, or assignments is subject to serious academic penalty. The full description of the penalties associated with academic dishonesty is outlined in the 2020/2021 Academic Calendar.

- Cheating is copying or the use of unauthorized aids or the intentional falsification or invention of information in any academic exercise
- Plagiarism is the act of presenting the ideas or words of another as one's own. Students are required to acknowledge and document the sources of ideas that they use in their written work.
- Self-plagiarism is also a form of plagiarism. It is the presentation of the same work in more than one course without the permission of the instructors involved.
- A student who knowingly helps another to commit an act of academic dishonesty is equally guilty.
- Penalties are levied in relation to the degree of the relevant infraction. They range from failure on that piece of work, to failure in the course, to dismissal from the university.