GENERAL CHEMISTRY (CHE101)

SEMESTER: SPRING 2020

Department of Biochemistry and Microbiology

North South University

Instructor: Dr. Sultana Bedoura (SB)
Office : SAC 810
Mobile : Contact to your CR
E-mail : sultana.bedoura@northsouth.edu
FB group : https://www.facebook.com/groups/Che101section11spring2020

Day	Lecture time	Section	Room no	Office time
ST	8.00 – 9.30 am	21	NAC 621	9.40 – 12.00 pm
RA	8.00 – 9.30 am 9.40 – 11.10 am	10 11	SAC 403	11.10 – 12.00 pm

Text book:

1. **CHEMISTRY, 10th ed.** Author: Raymond Chang
2. **CHEMISTRY: The Molecular Nature of Matter and Change, 7th ed.** Author: Silberberg, Martin S.

Course description:

General Chemistry (CHE101) is a one semester course designed to teach the students to the systematic treatment of fundamental chemical and physical principles and their applications to the properties and transformations of materials, including the concept of energy and its uses, gas laws, kinetic molecular theory, laws of chemical combination, atomic and molecular structure, periodic classification of the elements, chemical bonding and introductory organic chemistry. **Credit 3 units**.

Learning outcomes:

After completing General Chemistry (CHE101), students will be able to:

1. Perform calculations involving chemical and physical processes, use the dimensional analysis method, record numerical answers with proper units, and attain proficiency in the proper use of scientific notation and significant figures, including the concept of uncertainty in scientific measurements.
2. Name ionsand compounds, write their chemical formulas, calculate their molar masses and percent composition, and determine the empirical and molecular formulas of compounds.
3. Classify substances, reactions, and processes according to various classification schemes.
4. Complete and balance chemical equations, determine whether or not a reaction actually occurs based on chemical and physical properties of the reactants and products, and solve stoichiometry problems.
5. Describe and calculate the energy changes involved in chemical reactions and physical processes.
6. Describe the atomic and electronic structure of the elements.
7. Predict the relative magnitudes of physical properties of elements based on their electronic structures.
8. Determine the structures, shapes and polarity of compounds/organic compounds.
9. Describe properties of real and ideal gases using the Kinetic Molecular Theory and solve gas law problems.

Class Rules:

1. Bring the following items to every class: Note book, Calculator, Periodic table, Text book.
2. No make-up quiz will be taken and no incomplete grade (I) will be given.
3. Make-up Mid will be taken only for considerable reasons and must be informed earlier by e-mail or via phone.

Grading:

NSU grading policy.http://www.northsouth.edu/academic/grading-policy.html

Methods of assessing outcomes:
The expected learning outcomes will be assessed through the use of quizzes and/or midterm exams, and the final exam.

Marks Distribution:

Attendance……..	5%
Class performance.....	5%
Quiz (best 3 out of 5).....	30%
Mid-Term Exam.....	25%
Final Exam.....	35%
Total	100%

***NB: A student having attendance less than 70% must bring a prior approval from the respective department chair to attend the exam.*

Courtesy:

This is a standard size class and can get noisy at times. Please respect those who want to hear by not participating in disruptive conversation, by not allowing cell phones to ring or by making derogatory remarks to others. You will be asked to leave if others complain about your behaviour.

Student code of conduct:

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students must be familiar with the Student conduct Code. The Code is available for review online at: *http://www.northsouth.edu/student-code-of-conduct.html*.

Disclaimer:
The instructor holds the right to make necessary changes to the syllabus and the grading policies outlined here to best accommodate the interest of the class.

Course Outline

(The chapter numbers refer to the book CHEMISTRY, Author: Raymond Chang, 10th ed.)

Lectures	Chapters	Contents in brief
Lecture 1	Chapter 1	Chemistry: The Study of Change (1st part)
Lecture 2	Chapter 1	Chemistry: The Study of Change (last part)
Lecture 3	Chapter 2	Atoms, Molecules, and Ions (1st part)
Lecture 4	Chapter 2	Atoms, Molecules, and Ions (last part)
Lecture 5	Chapter 7	Quantum Theory and the Electronic Structure of Atoms (1st part)
	Quiz-1	***on Chapters 1 & 2***
Lecture 6	Chapter 7	Quantum Theory and the Electronic Structure of Atoms (last part)
Lecture 7	Chapter 8	Periodic Relationships among the Elements (1st part)
Lecture 8	Chapter 8	Periodic Relationships among the Elements (last part)
Lecture 9	Chapter 9	Chemical Bonding I (1st part)
	Quiz-2	***on Chapters 7 & 8***
Lecture 10	Chapter 9	Chemical Bonding I (last part)
Lecture 11	Chapter 10	Chemical Bonding II (1st part)
Lecture 12	Chapter 10	Chemical Bonding II (lastpart)
Lecture 13	***Quiz-3***	***On Chapters 9&10***
		Review class on Midterm Exam
Lecture 14	***Midterm Exam- on Chapters 1, 2, 7, 8, 9 & 10***	
Lecture 15	Chapter 3	Mass Relationship in Chemical Reactions (1st part)
Lecture 16	Chapter 3	Mass Relationship in Chemical Reactions (last part)
Lecture 17	Chapter 5	Gases (1st part)
	Quiz-4	***on Chapters 3***
Lecture 18	Chapter 5	Gases (last part)
Lecture 19	Chapter 6	Thermochemistry (1st part)
Lecture 20	Chapter 6	Thermochemistry (last part)
Lecture 21	Chapter 4	Reactions in Aqueous Solutions (1st part)
	Quiz-5	***On Chapters 5&6***
Lecture 22	Chapter 4	Reactions in Aqueous Solutions (last part)
Lecture 23	***Review class on Final Examination***	
Final Week	***Final Exam on Chapter 3, 4, 5 & 6***	