SCHOOL OF STEM SYLLABUS

TERM:

INSTRUCTOR:

COURSE CODE: CHP-100

OFFICE HOURS:

COURSE TITLE: Introduction to Chemistry

OFFICE LOCATION:

DAY(S) AND TIME(S):

EMAIL:

LOCATION:

PHONE:

COURSE PREREQUISITE: None

CREDITS: 3

COURSE DESCRIPTION:
This course is designed for students who have not had high school chemistry and for those who wish to review the subject. The course emphasizes descriptive chemistry. Topics include measurements and units, the periodic table, the atom, nuclear radioactivity, bond formation, simple stoichiometry, acid-base reactions, redox reactions, and introduction to organic chemistry. The laboratory experiments involve common measurement techniques and are parallel to lecture materials presented.

STUDENT LEARNING OUTCOMES:
Upon successful completion of this course students will be able to:

1. Define science and cite at least three characteristics of science
2. Define a possible scientific process
3. Apply scientific method to analyze problems and report the outcome
4. Describe and discuss scientific theory and scientific law and technology
5. Name and correctly apply units of measurements in metric units (SI) and foot-pound-second (FPS) system
6. Define components of an atom, arrange electron distribution
7. Classify bond types
8. Balance a simple chemical equation
9. Define acids and bases and pH value
10. Describe redox reactions
11. Describe organic chemistry and name at least three functional groups
12. 12

Laboratory

1. Follow laboratory safety rules
2. Apply a scientific method and validate the application of:
    a. Different laboratory balance and identify the precision in balances
    b. laboratory glassware to measure volume of liquids and compare results
3. Measure temperature of solutions and critique your results with published literature
4. Work with the laboratory burner and use scientific reasoning to explain your results
5. Make compounds using models provided
6. Use indicators to determine acids, bases, and pH
7. Determine if an element is oxidized or reduced

TEXTBOOK AND SUPPLEMENTAL MATERIALS:

Optional Lecture Text:
Chemistry for Changing Times Edition: 15th
Author: Hill
Publisher: Pearson

Lab Manual: CHP 100 Lab Manual provided

Other Resources:

Online Resources	Scientific Journals
http://www.khanacademy.org/	Journal of Chemical Education
http://www.chemtutor.com/	Journal of Organic Chemistry
http://www.chemguy.com/	Journal of American Chemical society
http://chemserv.centre.edu/muzyka/spectralzoo/	Chemical and Engineering News
http://www.youtube.com	Science

GRADING POLICY:

The maximum possible score will be 1000 points, to be earned as follows:

Examinations: Three exams each worth 240 points totaling 720 points

Lab: There are 10 labs, and each is worth 20 points totaling 200 points

Writing Assignment: 40 points

LC Project: 40 points

Students are strongly encouraged to attend and participate in the lecture and lab. They are required to complete all assignments.

Attendance in class is expected. A single missed class may prove to be a major impediment in understanding the course material. Students who miss a session, are RESPONSIBLE to obtain any material presented during that session, which may include materials not present in the textbook/manual. Students are expected to arrive a few minutes before the class is scheduled to start. **You must take the final exam at the assigned scheduled time to pass the class.**

A calculator is required for this course. Calculators will be checked during exams. You may not use any other type of electronic device for exams.

A total of three exams will be given, with each exam being worth 240 points. The format of each exam will be multiple choice.

Test 1: Chapters 1-4

Test 2: Chapters 5-8

Test 3: Chapters 9,11,16

As a final, *minor* factor in grade determination *in borderline cases*, elements such as the following may be considered: evidence of improvement, effective use of office hours, and contributions during class.

Testing Policy:

1. Students may not leave the room once they have started the test unless they hand in their test as finished.
2. Students may not have written material of any kind within their view; no talking; etc.
3. Students arriving late may be considered to have missed the test. Once the first student finishes and leaves the room, no test papers will be given to any entering students.

4. Attendance for all exams, as scheduled, is required.
5. There will be no makeup tests and quizzes unless it has been requested and approved at least one day before the scheduled test or exam by the instructor. Make-up quizzes/exams will be given only in the event of a validated medical absence, death in the family or court duty. Each case will be dealt with on an individual basis by the instructor.
6. All electronic devices and watches (cell phones, etc.) must be turned off and stored off desks and out of sight during all exams. If the electronic device is used, goes off, or is visibly observed by the instructor during a testing session, the student may be given a failing grade, as low as zero.
7. Bring sharpened #2 pencils, scientific calculator and an eraser for all exams. Periodic tables and conversion factor sheet will be provided.
8. Students must carry their student ID during the testing sessions.

Writing Assignment:

Two other chapters seen in the book that most students find enjoyable are Chapters 17 and 19. Students are to read these Chapters on their own and write a two-page report on how Chemistry is seen in both chapters. The format of the report is double spaced, Times New Roman, font size 12. One page will be devoted to Chapter 17, and one page will be devoted to Chapter 19. Each page will also need a title that is associated with the chapter. The report will be checked for plagiarism, and students must work individually for this assignment. No groupwork or collaboration is allowed for this assignment at all. The report reflects how you feel Chemistry is seen in both chapters and essentially what you learned about Chemistry from reading both chapters, so writing in first person form is allowed. In addition, the more creative a person is with this assignment, the better.

LC Project:

This is a learning community class, and a project needs to be completed for Learning Community Day. Details of the project will be discussed throughout the semester, and it is worth 40 points.

SAMPLE COURSE SCHEDULE:

Week	Unit/Content
1	Introduction and overview of the course; Lab: Safety Rules
1	Chapter 1 Lab: Measurements lecture
2	Chapter 2

	Lab: Measurements in the Lab
3	Chapter 3; Lab: Density
4	Chapter 4; Lab: Flame Tests and Atomic Spectra
5	Review Exam 1
6	Chapter 5; Lab: Lewis Structures and Molecular Shapes
7	Chapter 6; Lab: Electrical Conductivity of Aqueous Solutions
8	Chapter 7; Lab: Single Replacement Reactions
9	Chapter 8; Lab: Batteries
10	Review Exam 2
11	Chapter 9; Lab: Double Replacement Reactions
12	Chapter 11; Lab: Acids, Bases, and pH
13	Chapter 16; Lab: Making Soap- Saponification
14	Writing Assignment due
15	Review Final exam

HCCC POLICIES, STATEMENTS, AND SERVICES:

https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html