SCHOOL OF STEM SYLLABUS

TERM:

INSTRUCTOR:

COURSE CODE: CHP-211

OFFICE HOURS:

COURSE TITLE: College Chemistry II

OFFICE LOCATION:

DAY(S) AND TIME(S):

EMAIL:

LOCATION:

PHONE:

COURSE PREREQUISITE: CHP-111

CREDITS: 4

COURSE DESCRIPTION:
This course is a continuation of College Chemistry I and an introduction to physicochemical concepts. Topics cover reaction rate, chemical equilibria, precipitation, acid-base, complexion, redox, electrochemistry, nuclear reactions and thermodynamic quantities. Laboratory work introduces experiments pertinent to lecture subjects and consists of semi qualitative analysis.

STUDENT LEARNING OUTCOMES:

Upon completion of this course students should:

- Explain Intermolecular forces
- Understand Solution Properties and able to do concentration analysis
- Understand basic principles of reaction rate and chemical equilibrium
- Apply the equilibrium concepts to acid-base, precipitation, and metal-complex formation
- Relate redox concept to electrode reactions
- Familiarize with radioactivity and mass-energy conservation
- Use laws of thermodynamics to account for heat change, PV-work, randomness change, and reaction direction to establish an equilibrium state.
- *Apply proficient laboratory skills:*
    - select proper sample size, equipment size, and experimental setup
    - correctly use laboratory equipment;
    - apply lecture concepts in the laboratory

STEM STUDENT HUB
Information & Resources tailored towards students taking any STEM courses
STEM Magnified | STEM Syllabi | Clubs & Organizations | Scholarships & Organization | Internships & Work | Upcoming/ Past Events | Current STEM News | Career Coach Research Guides And More!

TEXTBOOK AND SUPPLEMENTAL MATERIALS:
"*Chemistry: The Central science"* 13th Edition, Prentice Hall Publishing

Author(s): Theodore L. Brown; H. Eugene LeMay; Bruce E. Bursten; Catherine J. Murphy; Patrick M. Woodward; Matthew W. Stoltzfus

ISBN-13: 978-0-321-91041-7

Lab Manual specific to CHP-111 (available at book store)

GRADING POLICY:

Three Exams	75 points
Lab	10 points
Homework	5 points
Research Paper	5 points
Class Participation	5 points

SAMPLE COURSE SCHEDULE:

Week 1 Introduction to the course, grading policy, course Requirements. **Safety Rules** in the laboratory, Glassware
Chapter 14 - Chemical Kinetics

Lab 1: Reaction Rate of An Iodine Clock

Week 2 Chapter 14 - Chemical Kinetics
Chapter 15 - Chemical Equilibrium

Lab 2: Chemical Equilibrium Shifts

Week 3 Chapter 13 - Properties of Solution

Week 4 **(Review ,13,14,15) EXAM I**

Week 5 Chapter 16 - Acid_Base Equilibria

Lab 3: pH of Salt Solutions

Week 6 Chapter 16 - Acid_Base Equilibria

Lab 4: Hardness of Water

Week 7	Chapter 17 - Aqueous Equilibria
	Lab 5 - Properties of Buffers
Week 8	Chapter 17 - Aqueous Equilibria
	Lab 6 - Neutralization of Antacid)
Week 9	Chapter 17 - Aqueous Equilibria
	Lab 8: So lubility of Ionic Precipitates
	(Review 16, 17)
Week 10	Exam 2
Week 10	Chapter 19 - Chemical Thermodynamics
Week 11	Chapter 19 - Chemical Thermodynamics
Week 12	Chapter 20 – Electrochemistry
Week 12	**Lab 11: Voltaic Cell Measurements**
Week 13	Chapter 20 – Electrochemistry
Week 14	Chapter 21 - Nuclear Chemistry
	(Review 19, 20, 21)
Week 15	***Final Exam***

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