



CHEM 011: General Chemistry I (with Lab)

Term: Summer, 2019

Time: Monday – Friday, 6 Weeks

Class Sessions per Week: 5

Class Session Length (minutes): 150

Total Contact Hours: 75

Credit Hours: 4

Course Description

The course will introduce the student to the world of chemistry and emphasis on the structure of matter. Problem solving, data evaluation, and analysis are dressed. Applications of chemistry to daily life are included. The lab complements topics in lecture, with lab calculations providing opportunity to use the data that students have gathered.

Textbook(s)

Tro, Nivaldo J. Chemistry: A Molecular Approach. 4th ed. Upper Saddle River: Pearson, 2016.

Course Requirements

Laboratory

There will be five 2.5-hour-laboratory sessions each week under the supervision of Xihua University staff. Students will perform and analyze experiments on selected topics using state of the art laboratory equipment.

Homework

Two homework sets will be assigned per week. Students should write each assignment clearly and legibly. Copying the solutions from fellow students or from other external sources constitutes cheating.

Midterm Exam

There will be one midterm exam. No notes, books, cell phones, electronic devices, calculators, or communication between students will be permitted during exams.

Final Exam

A final exam will be administered on the last day of class. The exam will include all material covered in class.



Grading

Attendance	10%
Exams	20%
Laboratory Exercises	25%
Homework	15%
Final Exam	30%
Total	100%

A: 90-100 A-: 85-89 B+: 82-84 B: 78-81 B-: 75-77 C+: 72-74 C: 68-71 C-: 64-67 D: 60-63

F: <60

Schedule

Week 1

Matter and Measurement

Atoms and Elements

Molecules and Compounds

Stoichiometry I

Lab 1: SOLVAY PROCESS: Preparation of Sodium Bicarbonate NaHCO_3

Week 2

Stoichiometry II

Gas Laws

Ideal Gas Law

Kinetic Molecular Theory

Lab 2: Molar Volume: Measuring the Molar Volume of Oxygen

Week 3

Thermochemistry I

Thermochemistry II

Quantum Chemistry I

Quantum Chemistry II

Midterm Exam

Week 4

Periodic Trends I

Lewis Theory I

Lewis Theory II

VSEPR Theory I

Lab 3 : Copper Analysis: A Spectrophotometric Analysis

Week 5

VSEPR Theory II

Valence Bond Theory



Organic Structure I

Lab 4: Molecular Weight by Dumas Method

Week 6:

Organic Structure II

Lab 5: Distillation

Review session

Final Exam

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Policies

Exam and Attendance

No make-ups for missed exams. Absence of midterm exam can be excused with legitimate reason. Attendance is mandatory. Students are responsible for missing class by any reason. We will be covering a lot of material quickly, so it is detrimental to miss a day of class.

Academic Honesty

Xihua University expects all students to do their work individually. Instructors will fail assignments that show evidence of plagiarism or other forms of cheating, and will also report the student's name to the University's administration. A student reported to the University for cheating will be placed on disciplinary probation; a student reported twice will be suspended or expelled from Xihua University.

Special needs

Students with disabilities and special needs should consult with the professor early in the semester. Recording of lectures is permitted.