



Hankuk University of Foreign Studies

2018 Summer Session

CHEM 101 Introduction to Chemistry with Lab

Course Outline

Course Code: CHEM 101

Instructor: TBA

Office Hours: By Appointment

Credits: 4

Class Hours:

This course will have 72 class hours, including 40 lecture hours, professor 10 office hours, 10-hour TA discussion sessions, 2-hour review sessions, 10-hour extra classes.

Course Description

This course is a general introduction to chemistry that incorporates both lectures and lab in developing an understanding of chemical concepts and practices. Students will consider how scientific knowledge is acquired, applied, and communicated, as they explore many of the key concepts central to the science of chemistry. By working through example cases and practice problems, students will further develop their chemical content knowledge, critical thinking abilities, and problem solving skills. By the end of the course, successful students will be able to demonstrate a basic understanding of the structure and properties of chemical systems using the tools of the discipline including: models, data analysis, and the use of symbolic representations.

Course Objectives

The main course goal is to allow students to reach a comprehensive understanding of the issues and methods in Chemistry, in order to decide whether to pursue studies in the field. In the process of reaching this goal, our objectives are that each student will:



- Become familiar with current scientific theories and research in the major topic areas of Chemistry;
- Discover the personal relevance of course material in their everyday and professional lives, in order to make fully informed decisions;
- Develop the skills necessary to evaluate and think critically about information concerning biological phenomena obtained from research, the general public, and the media;
- Be well prepared for advanced courses in Chemistry/Life Sciences.

Required Textbooks

Introductory Chemistry, David Ball, ISBN 13: 978-1-4533110-7-3, Saylor Foundation.
<https://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=22>

Several readings will be required throughout the course, either to prepare for class or to complete an assignment. Additional material will be posted online to provide a free and easy access to everyone.

Grading & Evaluation:

Assignments/Labs (30%) – Midterm exam (30%) – Final exam (40%)

Intermediary assignments will be posted throughout the course, to help students assess their needs and to ensure that all the important topics are well understood. Assignments and labs are also an opportunity for students to ask questions concerning unclear notions, as the main objective is not to grade but to help everyone reach an optimal level of comprehension.

Midterm and final exams will target all topics previously covered in class. Lecture notes, labs and assignments are important to succeed in the midterm and final exams, yet some questions will be specifically intended to stimulate students' critical thinking.

Attendance is extremely important for success in this class. It is expected that each student will commit fully to the assignments and readings required. Exams will cover the required texts as well as material presented or discussed in class.

Since scores on examinations reflect the student's ability, instructor's grading tendencies, and the difficulty of the test, a rigid contract grade schedule for this course



would be inappropriate. However, this course will guarantee that these percentages will result in at least these letter grades. For example:

A	94-100	B+	88 – 89.99	C+	78 – 81.99	D	67 – 71.99
A-	90-93.99	B	85 – 87.99	C	75 – 77.99	D	64 – 66.99
		B-	82 – 84.99	C-	72 – 74.99	F	Below 64

Course Policies

Academic Integrity – I expect nothing less. Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Using any electronic devices or talking during an exam will be construed as cheating.

Cell Phones, Electronic Recording Devices, and Computers - All cell phones are to be turned off. Should a phone ring in class, I will be more than happy to answer that phone and talk to the caller. Anticipated emergency phone calls can be pre-arranged with the instructor, but the call must be answered outside of the classroom. Electronic recording devices for recording lectures must be pre-approved by the instructor. Computers for note taking only are permissible as a reasonable accommodation at instructor's discretion.

Respect - Please be respectful of your peers' thoughts and opinions. You are responsible for keeping your instructor updated on any information pertaining to you regarding this course. Check your email regularly for instructions.

Course Schedule:

Week 1:

Lecture 1: Course Introduction – Syllabus
Lecture 2: Chemistry: Methods and Measurements
LAB 1: Experimental designs

Week 2:

Lecture 3: The Scientific Method: Basics & Core Principles
Lecture 4: Experimental Design in Science
Lecture 5: Atom and Periodic Table
Review Session
LAB 2: Hypothesis testing

Week 3:



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Lecture 6: Chemical Equation and Calculations

Lecture 7: Matter and Solutions

Lecture 8: Energy, Rate and Equilibrium

LAB 3: Data analysis

Week 4:

Lecture 9: Acids and Bases and Oxidation-Reduction

Lecture 10: Organic Chemistry

Lecture 11: Biological Chemistry

Lecture 12: Cell Division & Differentiation

LAB 4: Personal project

Week 5:

Lecture 13: Analyzing Scientific Data

Review Session

Lecture 14: General Review

FINAL EXAM

Final Exam Q&A – Course Wrap-up

