



SYLLABUS

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab.	Tut.	Private study	Pre-requisites	Course Level	Language
CEM	105	General Chemistry Laboratory	1	0	2	0	3	1	English

A. Instructor information

Name	e-mail	Office phone	Office location	Office hours
.....@imamu.edu.sa	25-97143	Building 323A, Room T-019	Tues; 10:15-11:15 am

B. Course Description

This course is intended to introduce students to major concepts and techniques in general chemistry through laboratory experiments..

C. Course outcomes

At the end of this course the student will be able to:

To memorize the following basic experiments: density, mass-mass relationship, limiting reactant, acid-base titrations, solubility product, reactions in aqueous solution, Calorimetry and redox reactions.

D. References: Required Textbook & Internal Website

- Lab Manual

Students are required to purchase the textbook/materials (it is an obligation). The book contains the lecture notes as well as activities for the students to take part in; the book serves as a workbook. Other references:

- CHEMISTRY, T. Brown, H. Lemay Jr., B. Bursten and C. Murphy, Pearson International Edition, 11th Edition, 2009
- CHEMISTRY, Raymond Chang McGraw-Hill, 9th Edition, 2007

E. Topics Outline

	Topics to be covered (Laboratories)	No of Hours
Lab. 1	Safety and Laboratory equipments and measurements and How to make a report & Density of liquids & Density of regular and irregular solids	2
Lab 2	Stoichiometry: Mass-mass relationship	2



Lab. 3	The chemical composition by mass percentage	2
Lab. 4	Preparation of primary standard and dilution rule & titration	2
Lab.5	Determination of the empirical formula	2
Lab.6	Strong acid-strong base titration	2
Lab.7	Vinegar Analysis, Mass % & Reactions in Aqueous Solutions	2
Lab.8	Precipitation reaction & Limiting reactant	2
Lab.9	Redox titration of Fe ²⁺	2
Lab.10	Determination of the specific heat of metal	2

F. Exams & Grading System

The semi-official dates of the exams for this course, with all the caveats, that the word “semi-official” entails, can be found here:

Your course grade will be based on Final Exam, Midterms, Homework, Quizzes, Participation, Attendance and Project.

Final Exam: 30 %

Quizzes, Attendance, Participation, Lab. Reports: 70 %

	Teaching/learning activities	Contact Hours	Frequency	Total Contact hours	Self-study hours (hrs)	Total self-study hours	Student Learning Time
1	Lecture	0	0	0	0	0	0
2	Tutorial	0	0	0	0	0	0
3	Lab\Practical	2	10	20	0.5	5	25
4	Lab report	0	10	0	1.5	15	15
5	Homework	0	0	0	0	0	0
6	Quiz	0	0	0	0	0	0
7	Test (Midterm)	0	0	0	0	0	0
8	Final Exam	2	1	2	10	10	12
Total				22	12	30	52

Independent self-study = 30/10 \cong 3 hrs per week (as average)

Grading distribution:

A+: [95, 100], A: [90, 95], B+: [85, 90], B: [80, 85], C+: [75, 80], C: [70, 75], D+: [65, 70], D: [60, 65], F: [0, 60].



A. Student Attendance/Absence

Only three situations will be considered as possible excused absences:

- Occurrence of a birth or death in the immediate family will be excused. (“Immediate family” is defined by the University as spouse, grandparents, parents, brother, or sister).
- Severe illness in which a student is under the care of a doctor and physically unable to attend class will be excused. Students are not excused for a doctor's appointment. Do not make appointments that conflict with rehearsals. Notes from the University Health Center will be accepted.

[Executive Rules for Study Regulations and Exams](https://goo.gl/ykm7t3)

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