



Prince Sultan University
Department of Mathematical Sciences
SYLLABUS - CHEM 101 (Term 122, second Semester 2013)

Title: General Chemistry

Credit Hours: 4 (3 Theory +1 Lab.)

Textbook: Chemistry, 2th Edition; By Julia Burdge.

Objectives: Chemistry 101 is the first introductory course in general chemistry. The course governs basic concepts and terminology in chemistry. Topics presented include electronic structure, chemical bonding and other basic concepts.

Structure, Chemical Bonding and other basic concepts.			
Week	Date	Sec.	Topic
1 and 2	Jan. 26—Feb. 06	1.1	Introduction
		1.3	The Study of Chemistry
		1.4	Scientific Measurements
		1.5	The Prosperities of Matter
		1.6	Uncertainty in Measurements
3 and 4	Feb 09—Feb. 20	2.1	Using Units and Solving Problems
		2.2	The Atomic Theory
		2.3	The Structure of Atom
		2.4	Atomic Number, Mass Number, and Isotopes.
		2.6	The Periodic Table
5 and 6	Feb. 23— March 06	2.7	Molecules and Molecular Compounds
		3.1	Ions and Ionic Compounds
		3.2	Molecular and Formula Masses
		3.3	Percent Composition of Compounds
		3.4	Chemical Equations
		3.5	The Mole and Molar Masses
		3.6	Composition Analysis
		3.7	Calculation with Balanced Chemical Equations
7	March 09- March 13	4.1	Limiting Reactants
		4.2	General Properties of Aqueous Solutions
		4.3	Precipitation Reactions
8	March 16- March 20	4.4	Acid Base Reactions
		4.5	Concentration of Solutions
		4.6	Aqueous Reactions and Chemical Analysis
9 and 10	March 23-March 27 (Midterm Vacation)	5.4	Calorimetry
		5.5	Hess's Law
		5.6	Standard Enthalpies of Formation
9 and 10	March 30- April 10	6.1	The Nature of Light
		6.2	Quantum Theory

		6.6 6.7 6.8 7.2 7.3 7.4	Quantum Numbers Atomic Orbitals Electron Configuration The Modern Periodic Table Effective Nuclear Charge Periodic Table Trends in Properties of Elements
11	April 13- April 17	7.4 7.5 7.6	Periodic Table Trends in Properties of Elements Electron Configuration of Ions Ionic Radius
12	April 20—April 24	11.1 11.2 11.3 11.4	Properties of Gas The Gas Laws The Ideal Gas Equation Gas Mixtures
Second Exam (Ch.4 + Ch.5 + Ch.6 + Ch.11) April 27th			
13	April 27-May 01	8.1 8.2 8.3 8.4 8.5	Lewis Dot Symbols Ionic Bonding Covalent Bonding Electronegativity and Polarity Drawing Lewis Structures
14	May 04—May 08	8.6 8.7 8.8	Lewis Structure and Formula Charge Resonance Exceptions of Octet Rule
15	May 11—May 15	9.1 9.4 9.5	Molecular Geometry Hybridization of Atomic Orbitals Hybridization of Molecules Containing Multiple Bonds
16	May 18- May 20		Final Exams Preparation period
Final Exam (All Chapters) May 21-June 02			

Grading Policy:

4 Credit Hours 100%: (3 Theory 75% + 1 Lab. 25%)

CHEM. 101 (Theory)					
<i>First</i>	<i>Second</i>	<i>Quizzes</i>	<i>Homework</i>	<i>Attendance</i>	<i>Final</i>
13	13	3	3	3	40
Total: 75 %					

Lab.			
<i>Reports</i>	<i>Quizzes</i>	<i>Mid. (practical)</i>	<i>Final. (Theory + practical)</i>
8	2	4	12 (7 +4)
Total: 25 %			

Class attendance:

- It is not allowed for any student to **miss** any class lecture unless absolutely necessary.

- In case a student **misses** a class, he must contact any one of his classmates to get all information and topics covered of classes he **missed**.
- The University's policy on absence is as follows:

5 absences: first warning,

9 absences: second warning

13 absences: recommendation for DN (Denial Notice), which results in dismissal from the course after being issued an official DN.

- It is your responsibility to **check** your number of absences regularly.
- It is very important that you be in class **on time**.
- The attendance will be taken during the **first 5 minutes** of the class. If you come to class after 5 minutes, you will be marked **absent**.
- **5 points are assigned to attendance.**

Quizzes and Homework:

- Between 3-5 Quizzes will be given during some lessons. The quiz covers the materials discussed during the previous lectures or the Material covered during the same lecture. **(Absent students will take zero with no chance to repeat the quiz)**
- For the best performance in the course you need to do the HOMework PROBLEMS assigned by the instructor to be ready for the quizzes and the exams.
- **5 points are assigned for Quizzes and Home works.**

Exams:

- There will be Two Major Exams given during the term.
- A Final Exam at the end of the term covers all the Chapters covered during the term and it is worth 40% of your total grade.

Course Instructor:

IHAB SHAWISH

GOOD LUCK