



Prince Sultan University
Department of Mathematical Sciences
SYLLABUS - CHEM 101 (Term 112, Sec. Semester 2011/2012)

Title: General Chemistry

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.

Week	Date	Sec.	Topic
1 and 2	Jan. 28--Feb. 08	1.1 1.3 1.4 1.5 1.6	The Study of Chemistry Scientific Measurements The Prosperities of Matter Uncertainty in Measurements Using Units and Solving Problems
3 and 4	Feb. 11-- Feb.22	2.1 2.2 2.3 2.4 2.6 2.7	The Atomic Theory The Structure of Atom Atomic Number, Mass Number, and Isotopes. The Periodic Table Molecules and Molecular Compounds Ions and Ionic Compounds
5 and 6	Feb. 25— March. 07	3.1 3.2 3.3 3.4 3.5 3.6 3.7	Molecular and Formula Masses Percent Composition of Compounds Chemical Equations The Mole and Molar Masses Composition Analysis Calculation with Balanced Chemical Equations Limiting Reactants
First Exam (From Ch.1 to Ch.3) Monday March 12th			
7	March 10- March 14	4.1 4.2 4.3 4.5 4.6	General Properties of Aqueous Solutions Precipitation Reactions Acid Base Reactions Concentration of Solutions Aqueous Reactions and Chemical Analysis
8	March 17- March 21	5.1 5.2 5.3	Energy and Energy Changes Introduction to Thermodynamics Enthalpy
Mid. Term Vacation (March 24-28)			
9	March 31--April 04	5.4 5.5 5.6	Calorimetry Hess's Law Standard Enthalpies of Formation
10	April 07--April 11	6.1 6.2 6.6 6.7 6.8	The Nature of Light Quantum Theory Quantum Numbers Atomic Orbitals Electron Configuration

11	April 14--April 18	7.2 7.3 7.4 7.5 7.6	The Modern Periodic Table Effective Nuclear Charge Periodic Table Trends in Properties of Elements Electron Configuration of Ions Ionic Radius
April 11, 2012 Last day for withdrawal from <u>all courses</u> with grade of "W"			
12	April 21--April 25	10.2 10.3 10.4 10.5	Classes of Organic Compounds Representing Organic Molecules Isomerism Organic Reactions
Second Exam (Ch.4,5,6,7 and 10) Monday April^{30th}			
13	April 28—May 02	8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8	Lewis Dot Symbols Ionic Bonding Covalent Bonding Electronegativity and Polarity Drawing Lewis Structures Lewis Structure and Formula Charge Resonance Exceptions of Octet Rule
14	May 05—May 09	9.1 9.4 9.5	Molecular Geometry Hybridization of Atomic Orbitals Hybridization of Molecules Containing Multiple Bonds
MAY 09, 2012 Last day for withdrawal from <u>all courses</u> with grade of "WP/WF"			
15	May 12-- May 16	11.1 11.2 11.3 11.5	Properties of Gases The Gas Laws The Ideal Gas Equation Gas Mixtures
Final Exam (All Chapters) May 17-may 29			

Grading Policy:

*First Exam I	22.5%
*Second Exam II	22.5%
*Quizzes	05%
*Home work	05%
*Attendance	05%
*Final Exam	40%
*Total	100%

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 HOMWORK 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