Prince SultanUniversity
Department of Mathematical Sciences
SYLLABUS - CHEM 101 (Term 132, Second Semester2013/2014)

Title:General Chemistry
Credit Hours: 4 (3 Theory +1 Lab.)
Textbook: Chemistry, 3th Edition; By Julia Burdge.
Course Description:
Chemistry 101 is the first introductory course in general chemistry. The course governs basic concepts and terminology in chemistry. Topics presented include:
matter and measurement, molecules and molecular compounds, ions and ionic compounds, nomenclature, chemical reaction types, stoichiometry, atomic and molecular weights, the mole concept, calculations with balanced chemical equations, limiting reactant, the periodic table, general properties of aqueous solutions, concentrations, acid base titration, reactions in aqueous solutions, energy and energy changes, introduction to thermodynamics, the gas laws, quantum numbers and electronic configuration, periodic table trends in properties of elements, chemical bonding, electronic structure of atoms, molecular geometry and hybridization.
Whatever your ultimate academic career may be, you will gain an appreciation for the influence of chemistry in your life and you will be able to think critically about chemical issues as well as other scientific issues.

Week	Date	Sec.	Topic
1 and 2	Jan. 26--Feb. 06	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 09—Feb. 20	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. 23— March 06	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) Wednesday March12th			
7 and 8	March 09- March 20	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

Midterm Vacation (Sunday March 23th -Thursday March 27th)			
9 and 10	March 30- April 10	5.1 5.2 5.3 5.4 5.5 5.6	Energy and Energy Changes Introduction to Thermodynamics Enthalpy Calorimetry Hess's Law Standard Enthalpies of Formation
11	April 13- April 17	11.1 11.2 11.3 11.5	Properties of Gases The Gas Laws The Ideal Gas Equation Gas Mixtures
12	April 20- April 24	6.1 6.2 6.6 6.7 6.8	The Nature of Light Quantum Theory Quantum Numbers Atomic Orbitals Electron Configuration
Second Exam (Ch.4,5,6, and 11) Wed. April 30			
13	April 27—May 01	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
14	May 04—May 08	8.1 8.2 8.3 8.4	Lewis Dot Symbols Ionic Bonding Covalent Bonding Electronegativity and Polarity
15	May 11—May 15	8.5 8.6 8.7 8.8	Drawing Lewis Structures Lewis Structure and Formula Charge Resonance Exceptions of Octet Rule
16	May 18—May 19	9.1 9.4 9.5	Molecular Geometry Hybridization of Atomic Orbitals Hybridization of Molecules Containing Multiple Bonds
Final Exam (All Chapters)			

Grading Policy:

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

CHEM. 101 (Theory)				
First	***Second***	***Quizzes and Homework***	***Attendance***	***Final***
13	***13***	***6***	***3***	***40***
Total: 75 %				

Lab.			
Reports	***Quizzes***	***Mid. (practical)***	***Mid. (Theory + practical)***
8	***2***	***4***	***11 (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:

7 absences: first warning,
10 absences: second warning
16 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.**
- **3 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.
- **8 points are assigned for Quizzes and Home works.**

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Exams:

- There will be Two Major Examsgiven 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:
IHABSHAWISH

GOOD LUCK