National Commission for Academic Accreditation & Assessment

Course Specification

Institution: **Taibah University**
College/Department: **Deanery of Academic Services**

A Course Identification and General Information

1. Course title and code: **Chem_١٠١**
2. Credit hours: **Three**
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) **Preparation Year**
4. Name of faculty member responsible for the course **Dr Abdulilah Dawoud, Dr Musa Afif**
5. Level/year at which this course is offered : **Preparation Year**
6. Pre-requisites for this course (if any)
7. Co-requisites for this course (if any)
8. Location if not on main campus

B Objectives

1. Summary of the main learning outcomes for students enrolled in the course:

It is anticipated that by the end of the course the student shall be able to :

- Demonstrate familiarity with a range of principles of chemistry that belong to the major fields of chemistry including physical, organic, inorganic, analytical, and biochemistry.
- Understand and classify chemical reactions and bonding, and to conduct basic stoichiometric calculations related to various of types of chemical reactions.
- Study, analyse, and classify the structures, physical and chemical properties, and functions of various kinds of molecules.
- Understand the basic concepts of chemical kinetics and chemical thermodynamics.
- Identify names and structures of organic and biomolecules.
- Link basic principles of chemistry with the modern technology, new materials in particular.

2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field):

- Electronic materials will be utilized to support the lecture course material.
- The course material will be posted on the Website that could be accessed by the students enrolled in the course.

C. Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

1 Topics to be Covered

List of Topics	No of Weeks	Contact hours
1. Introduction: Matter and measurements	1.0	3
2. Atoms, molecules, ions, and periodicity	1.3	4
3. Stoichiometry: Calculations with chemical formulas and Equations	1.7	5
4. Chemical Bonding & Chemical Reactions	1.0	5
5. Aqueous solutions & acids –bases equilibria	1.7	5
6. Reaction kinetic and thermodynamics	1.7	4
7. The Chemistry of Life: Organic & Biological Chemistry	2.0	6
8. Modern and Smart Materials	1.0	3

2 Course components (total contact hours per semester): **42 hours**