Course Specifications

General Information

Course name	Inorganic Chemistry(1)
Course number	CHEM2308
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Teach students the basic aspects of atomic structure

2 - Provide students with all types of chemical bonding

3 - Teach students the basic aspects of solid state chemistry

4 - Provide students with all general properties of elements of periodic table

Intended Learning Outcomes

Knowledge and Understanding

* The students should understand and learn the difference between the properties of ionic , covalent compounds and how they differ from metals
* They should also learn how to resolve problem and understand all issues radius ratio and geometry.
* The students should understand the molecular structure of various covalent compounds.

Intellectual Skills

* Upon completion of this course students should learn and understand all topics and aspects relevant to atomic structure and its different theories relevant to the chemical bonding.

Course Contents

1 - This course include the atomic structure, atomic spectra and Bohr its refinements, schrodinger wave function and its solutions, pauling exclusion principle and Hunds rule, Electronic configuration of all elements and general trends.

2 - In this course we would deal with chemical bonding: Ionic bond,properties of ionic compounds. Structure of ionic solids, radius ratio, close packing, classification of ionic structures, lattice energy, stoichiometric and non-stoichiometric defects.

3 - This course involves covalent bonding and the relevant theories, Lewis theory, valence electron pairs repulsion (VSEPRT), Valence bond theory (VBT) treatment and hybridization and molecular orbital theory(MOT)treatments, sigma and bi types of bondings issues.

4 - Metallic bonding, properties of metallic compounds, and the relevant bonding theories. It also involves the general properties of periodic table elements.

Teaching and Learning Methods

1 - lectures and discussion

Teaching and Learning Methods for the Disabled Students

1 - none

Students Assessment

Assessment Method	TIME	MARKS
medterm exams	4th and 8th weeks	2 *25%
Final exam	end of semster	50%

Books and References

Essential books	Shriver and atkins inorganic chemistry, 5th edition(2010) Advanced Inorganic Chemistry, 6th Edition F. Albert Cotton, Geoffrey Wilkinson, Carlos A. Murillo, Manfred Bochmann ISBN: 978-0-471-19957-1