جامعة : المنصورة
كـــلية : العلـــوم
قـســـــم:الكيمياء

توصيف مقرر دراسى

١ـ بيانات المقرر		
الرمز الكودى: Chem 121B	أسم المقرر: General and Inorganic Chemistry	المستوى : الأول (بيولوجي)
التخصص: علوم البيئة	عدد الوحدات الدراسية: ٧ نظرى ٣ تمارين ١ عملى ٤	

٢ـ هدف المقرر:	For students undertaking this course, the aims are to: • Introduce the basic principles of general chemistry, chemistry calculations, atomic structure and electronic configuration. • Introduce the basic principles of atomic spectra, geometrical shape of the molecule, bonding, ionic equilibria and their applications.
٣ـ المستهدف من التدريس المقرر:	
ا.المعلومات والمفاهيم:	a- Knowledge and Understanding : On completing this course, students will be able to: a1- identify the type of a compound and its nature. a2- determine the atomic structure and type of bonding. a3- describe the shape of the molecule, chemical equilibria and conductance.
ب.المهارات الذهنية	b- Intellectual Skills: On completing this course, students will be able to: b1- elucidate the bonding types, atomic structure, geometrical shape of the molecules. b2- predict the polarity of a molecule and the conductance of different electrolytes. b3- apply ionic equilibria and its applications.
ج- المهارات المهنية الخاصة بالمقرر:	c-Professional and Practical Skills: On completing this course, students will be able to: c1- identify the salt components practically. c2- separate a mixture to its components. c3- identify simple inorganic liquids.
د- المهارات العامة :	d-General and Transferable Skills: On completing this course, students will be able to: d1- use IT and web search engines for collecting information. d2- communicate effectively with his lecturer and colleagues. d3- work effectively both in a team, and independently on solving general and inorganic chemistry problems.
٤ـ محتوى المقرر:	• Chemical calculations

- Atomic structure- Atomic spectra- Bohr's theory
  - Principles of wave mechanics- Electronic configuration of atoms
  - Ionization potential
  - Types of atomic bonds- Hybridization of orbitals
  - Resonance- Molecular polarity- Oxidation state
  - Molecular geometry
- Ionic Equilibria: Common ion effect- pH and pOH- Solubility product- Buffer solutions
- Liquid state: Vapour pressure - Surface tension - Viscosity -Boiling point diagrams of miscible binary mixtures - Colligative properties

Practical: Qualitative inorganic analysis: Identification of salt components -Identification of simple inorganic liquids

- اساليب التعليم والتعلم:

4.1 - Lectures using data show and board
4.2 - Problem classes and group tutorial
4.3 - Reports and discussion groups
4.4 - Laboratory work and assignments

٥- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:

The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.

٦- تقويم الطلاب :

أ- الأساليب المستخدمة :

Student Assessment Methods

Final exam	to assess	a1-a3, b1-b3
Oral exam	to assess	a1-a3, b1-b3
Practi al exam	to as ess	c1-c3
Quizzes	to assess	a1-a3, b1-b3
Report	to assess	d1-d3

ب- التوقيت :

Assessment Schedule

Assessment 1	Week #	14
Assessment 2	Week #	14
Assessment 3	Week #	12
Assessment 4	Week #	4, 8, 12
Assessment 5	Week #	10

ج- توزيع الدرجات :

Weighting of Assessments

Mid-Term Examination	-
Final-Term Examination	70
Oral Examination	10
Practical Examination	20
Semester work	0
Other types of assessment	0
Total	100

٨- قائمة الكتب الدراسية والمراجع :	
أ- مذكرات:	General chemistry notes authorized and issued by the department of chemistry
ب- كتب ملزمة	Concise inorganic chemistry, J.D. Lee, 1996.
ج- كتب مقترحة :	Comprehensive Inorganic Chemistry. Sulekh Chandra, New Age International Limited Publishers, New Delhi, 2004 General chemistry and modern applications ,R.H. Petrucci,1985.
د- دوريات علمية أو نشرات..	www.chemweb.com

(أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
• Chemical calculations	1	a1,a2,a3	b1,b2		d3
• Atomic structure- Atomic spectra- Bohr's theory	2-3	a1,a2,a3	b1,b2		d3
○ Principles of wave mechanics- Electronic configuration of atoms	4-5	a1,a2,a3	b1,b2		d1,d2
○ Ionization potential	6-7	a1,a2,a3	b1,b2		d3
○ Types of atomic bonds- Hybridization of orbitals	8-9	a1,a2,a3	b1,b2		d1,d2
○ Resonance- Molecular polarity- Oxidation state	10-11	a1,a2,a3	b1,b2		d1,d2
○ Molecular geometry	12,13,14	a1,a2,a3	b1,b2		d3
• Ionic Equilibria: Common ion effect- pH and pOH- Solubility product- Buffer solutions	1-8	a3	b2,b3	c1,c2	d1,d2
• Liquid state: Vapour pressure - Surface tension - Viscosity -Boiling point diagrams of miscible binary mixtures - Colligative properties	9-14	a3	b2,b3		d3
Practical: Qualitative inorganic analysis: Identification of acidic and basic radicals -Identification of simple inorganic liquids- separate mixures.	٢-١١			c1,c2,c3	d3

أستاذ المقرر: جابر أبو الريش

رئيس مجلس القسم العلمى : أ.د. أحمد فوزي العاصمي