جامعة : المنصورة

كـــلية : العلوم

قسم / الكيمياء

توصيف مقرر دراسى

١-بيانات المقرر		
الرمز الكود :ك١٢١	**أسم المقرر** :Principles of inorganic chemistry	**المستوى : الاول**
البرنامج : الكيمياء	**عدد الوحدات الدراسية: ٣ نظرى : ٢ تمارين: ١ عملى:٢**	

٢- هدف المقرر:	**For students undertaking this course, the aims are to:** 1 -Introduce the basic principles of general chemistry, chemistry calculations, atomic structure and electronic configuration**.** 2 -Introduce the basic principles of atomic spectra, geometric. Shape of molecule, bonding, ionic equilibria and their application.
٣- المستهدف من التدريس المقرر:	
أ-المعلومات والمفاهيم:	**a- Knowledge and Understanding :** **On completing this course, students will be able to:** a - 1 - Understand the type of a compound and its structure. a - 2- Recognize the atomic structure and type of bonding. a - 3-Know the shape of the molecule, chemical equilibria and conductance**.**
ب-المهارات الذهنية	**b- Intellectual Skills: On completing this course, students will be able to:** b - 1 -Elucidate the bonding types, atomic structure, geometrical shape of the molecules. b - 2-Predict the polarity of the molecule and the conductance of different electrolytes. b - 3-Apply ionic equilibria and its application.
ج- المهارات المهنية الخاصة بالمقرر:	**c-Professional and Practical Skills: On completing this course, students will be able to:** c - 1 -Identify the radical ,basic or acidic

c - 2 - Separate a mixture to its component.

c - 3 - Identify simple inorganic liquids.

د- المهارات العامة :

d-General and Transferable Skills: On completing this course, students will be able to:

d - 1 -Use IT and web search engines for collecting information**.**

d - 2 - Work effectively both on a team, and independently on solving general and inorganic chemistry problems.

d - 3 -Communicate effectively with his lecture and colleagues.

٤- محتوى المقرر:

1- Chemical calculations
2- Principles of wave mechanics- Electronic configuration of atoms.
3- Ionization potential.
4- Type of atomic bonds-Hybridization of orbitals
5- Resonance- Molecular polarity- Oxidation state.
6- Molecular geometry.
7- Practical: Identification of acid radical and basic radical.

٥- اساليب التعليم والتعلم:

5-Teaching and Learning Methods:

1- Group tutorial.

2- Home works reports and discussion group.

3- Lectures using data show and board.

4-Laboratoty assignment.

٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة:

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

٧- تقويم الطلاب :

أ- الأساليب المستخدمة :

7- Student Assessment Methods

Final exam	**to assess**	a1-a3,b1-b3
Oral exam	**to assess**	a1-a3,b1-b3
Practical exam	**to assess**	c1-c3

Quizzes	**to assess**	a1-a3,b1-b3		

ب- التوقيت :

Assessment Schedule

Assessment 1	**Week # Final exam**	**week12**
Assessment 2	**Week # Oral exam**	**week12**
Assessment 3	**Week # Practical exam**	**week4,8,12**
Assessment 4	**Week # Quizzes**	**week10**

ج- توزيع الدرجات :

Weighting of Assessments

Mid-term examination	**0 %**
Final-Term Examination	**60 %**
Oral Examination	**10%**
Practical Examination	**20 %**
Semester work	**10%**
Other types of assessment	**0%**
Total	**100%**

٨- قائمة الكتب الدراسية والمراجع :

1 - General Chemistry	**أ- مذكرات:**
	ب- كتب ملزمة
1 - Concinse inorganic chemistry ,J D Lee, 1996 2 - Chemical principles and reaction, W I Mustertun, 1977 3 - General Chemistry ,by Linus Pauling, 1988	**ج- كتب مقترحة :**
1 - www.Elisevier.com/	**د- دوريات علمية أو نشرات..**

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1- Reactivity, Atomic and Molecular Weights	**1**	a1	b1		d1
2- Stoichiometry : Chemical Formulas and Equations: Empirical Formulas from Analyses, •Quantitative Information from Balanced Equations, Limiting Reactants, Solution Composition	**2**	a1	b1		d1
3- Electronic Structure of Atoms: The Wave Nature of Light, Bohr	**3**	a1-**a2**	b1-2		d1
4- Quiz + Electronic Structure of Atoms: Electron Configurations	**4**	a1-2	b1-2		d1-2
5- Electronic Structure of Atoms: Development of the Periodic Table	**5**	a1-2	b1-2		d1-2
6- Periodic Properties of the Elements	**6**	a1-2	b1-2		d1-2
7- Basic Concepts of Chemical Bonding: Lewis Symbols and the Octet Rule	**7**	a1-2	b1-2		d1-2
8- Quiz + Drawing Lewis Structures, Resonance Structure, Exceptions to the Octet Rule	**8**	a1-3	b1-2		d1-2
9- Molecular Geometry and Bonding Theories: Molecular Geometries	**9**	a1-3	b1-3		d1-3
10- The VSEPR Model, Polarity of Molecules	**10**	a1-3	b1-3		d1-3
11- Hybrid Orbitals , Multiple Bonds	**11**	a1-3	b1-3		d1-3
12- Quiz + Molecular Orbital Theory	**12**	a1-3	b1-3		d1-3
13- practical	**1-12**			**c1-3**	

أستاذ المادة : أ.د./مجدى محمد بخيت محمد

رئيس مجلس القسم العلمي : أ.د /سالم السيد سمرة