

مختصر توصيف المقرر

(Course Information)

معلومات المقرر*

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| | الكيمياء العامة | اسم المقرر: |
| | كيم 101 | رقم المقرر: |
| | -- | اسم ورقم المتطلب السابق: |
| | -- | اسم ورقم المتطلب المرافق: |
| | الثاني | مستوى المقرر: |
| | (0+0+3) 3 | الساعات المعتمدة: |
| Module Title: | General Chemistry | |
| Module ID: | CHEM 101 | |
| Prerequisite: | -- | |
| Co-requisite: | -- | |
| Course Level: | Second | |
| Credit Hours: | 3 (3+0+0) | |



Module

وصف المقرر :

Description

The course covered the general concepts of chemistry and its application which includes matter and its physical and chemical properties, atomic theory and the periodic table, chemical formulas, chemical bonding, the mole concept and mass relationships in chemical reactions, physical properties of solutions, acids and bases, gas laws, thermochemistry, chemical kinetics and chemical equilibrium.

Module Aims

أهداف المقرر :

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| 1 | Studying the matter states, physical and chemical properties of matter, pure compounds and mixtures, in addition to the studying of quantities units and significant figures. | 1 |
| 2 | Studying the atomic theory, atoms, molecules and ions, periodic table, atomic number, mass number, chemical naming and formula and chemical bonding. | 2 |
| 3 | Studying the mole concept and the mass relationships in chemical reactions. | 3 |
| 4 | Studying the properties of acids and bases, the pH scale and the ionization of weak acid and bases and solving some problems. | 4 |
| 5 | Studying the chemical equilibrium and the factors that affect on it. | 5 |
| 6 | Studying the thermochemistry and the principles of thermodynamics and solving some problems. | |
| 7 | Studying the principles of chemical kinetics, rate of the reaction and solving some problems. | |

Learning Outcomes:

مخرجات التعليم:

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| 1 | Knowledge about the matter states and the physical and chemical properties of matter, pure compounds and mixtures, quantities units and significant figures | |
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| 2 | Knowledge about atom and atomic theories. | |
| 3 | Knowledge about the mole concept and chemical calculation such as number of moles, number of molecules, percent composition of compounds, empirical and molecular formula. | |
| 4 | Knowledge about the modern periodic table, the elements arrangements, periods and groups, properties of elements and their electronic configuration. | |
| 5 | Knowledge about the chemical formula and chemical naming of covalent and ionic compounds (IUPAC), in addition to the types of chemical bonding. | |
| 6 | Knowledge about the properties of acids and bases, the pH scale and the ionization of weak acid and bases and solving some problems. | |
| 7 | Studying the thermochemistry and the principles of thermodynamics and solving some problems. | |
| 8 | Studying the principles of chemical kinetics, rate of the reaction and solving some problems. | |

Course Contents:

محتوى المقرر:

| ساعات التدريس (Hours) | عدد الأسابيع (Weeks) | قائمة الموضوعات (Subjects) |
|--------------------------|-------------------------|--|
| 3 | 1 | Matter and Measurements |
| 3 | 1 | Atoms, Molecules and Ions |
| 3 | 1 | Mass Relationships in Chemical Reactions |
| 3 | 1 | Reactions in Aqueous Solutions |
| 3 | 1 | Gases |
| 3 | 1 | Thermochemistry |
| 3 | 1 | Chemical Bonding |
| 6 | 2 | Physical properties of solutions |
| 6 | 2 | Chemical Kinetics |
| 6 | 2 | Chemical Equilibrium |
| 3 | 1 | Acids and Bases |

Textbook and References:

الكتاب المقرر والمراجع المساندة:

| سنة النشر Publishing Year | اسم الناشر Publisher | اسم المؤلف (رئيسي) Author's Name | اسم الكتاب المقرر Textbook title |
|---------------------------------------|-------------------------|-------------------------------------|---|
| 2013 | Mc Graw Hil | Raymond Chang and Kenneth Golds | General Chemistry: The Essential Concepts 0073402753 |
| سنة النشر Publishing Year | اسم الناشر Publisher | اسم المؤلف (رئيسي) Author's Name | اسم المرجع Reference |
| 2010 (10 th edition) | Mc Graw Hill | Raymond Chang | Chemistry 9-127220-007-978 |
| 2009 First Edition (International) | McMurry PIE (PS) | John E.; Fay, Robert C | General Chemistry: Atoms 10: 0321571630 |

