27200 - General Chemistry

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	452 - Degree in Chemistry
ECTS	15.0
Course	1
Period	Annual
Subject Type	Basic Education
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

5.3.Program

1- Introduction to current chemistry

2- Atoms and atomic theory

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3- Types of chemical compounds and their formulas

4- Chemical reactions and stoichiometry

5- Chemical Thermodynamics

6- Chemical kinetics

7- Electronic structure of the atom

8- Periodic Table and some atomic properties

9- Chemical Bonding I: Basic concepts

10- Chemical Bonding II: Bonding theories

11- Solids and intermolecular forces. Composition-bonding-structure-properties relationships

12- Gases

13- Liquids

14- Solutions

15- Principles of chemical equilibria

16- Acid-Base equilibria

17-Complex Formation equilibria

18- Solubility

19- Redox equilibria

20-Electrochemistry

21-Physical and chemical properties of the elements

22- Production of the elements

23- Stereochemistry of the organic compounds

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24-Introduction to the reactivity of the organic compounds

25-Nuclear Chemistry

5.4.Planning and scheduling

Lectures, practical sessions and examination dates will follow the scheduling fixed by the Science Faculty, which is published in its website (https://ciencias.unizar.es/calendario-y-horarios) and i n the learning platform Moodle within the *Química General* course.

5.5.Bibliography and recomended resources

BB	Atkins, Peter William. Principios de química : los caminos del descubrimiento / Peter Atkins, Loretta Jones . - 3ª ed. Buenos Aires : Editorial médica panamericana, cop. 2006
BB	Chang, Raymond. Química / Raymond Chang; revisión técnica, Rodolfo Álvarez Manzo, Silvia Ponce López, Rosa Zugazagoitia Herranz ; [traducción, Erika Jasso Hernán D' Bourneville] . - 10ª ed. México [etc.] : McGraw-Hill, cop. 2010
BB	[LIBRO RECOMENDADO] Química general : principios y aplicaciones modernas / Ralph H. Petrucci ... [et al.] ; traducción, Concepción Pando García-Pumarino, Nerea Iza Cabo ; revisión técnica, Juan A. Rodríguez Renuncio . 10ª ed. Madrid [etc.] : Prentice Hall : Person educación, 2011 [LIBRO RECOMENDADO]
BB	Peterson, W. R.. Introducción a la nomenclatura de las sustancias químicas / W. R. Peterson Barcelona [etc.] : Reverté, D. L. 2010
BB	Química : la ciencia central / Theodore L. Brown...[et al.]; con la colaboración de Patrick Woodward ; traducción , Laura Fernández Enríquez ; Revisión técnica, María Aurora Lanto Arriola . - 11ª ed. México : Pearson Educación, 2009
BB	Química : un proyecto de la American Chemical Society / [versión española por

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	Roberto Martínez-Alvárez, Mª Josefa Rodríguez Yunta, Luis Sánchez Martín] Barcelona [etc.] : Reverté, D.L. 2005
BC	Belarra Piedrafita, Miguel Ángel. Cálculos rápidos para los equilibrios químicos en disolución / Miguel Angel Belarra Piedrafita Zaragoza : Prensas Universitarias de Zaragoza, 2002
BC	Housecroft, Catherine E.. Química inorgánica / Catherine E. Housecroft, Alan G. Sharpe ; traducción, Pilar Gil Ruiz ; revisión técnica, José Ignacio Álvarez Galindo ... [et al.] . - 2ª ed. Madrid [etc.] : Pearson Prentice Hall, D.L. 2006
BC	Levine, Ira N.. Fisicoquímica / Ira N. Levine ; traducción, Angel González Ureña ; con la colaboración de Antonio Rey Gayo ... [et al.] . - 5ª ed. Madrid [etc.] : McGraw-Hill, cop. 2004
BC	Soto Cámara, José Luis. Química orgánica. I, Conceptos básicos / José Luis Soto Cámara . - 2ª ed. rev. y aum. Madrid : Síntesis, 2003