

27229 - Environmental Physical Chemistry and Photochemistry

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	452 - Degree in Chemistry
ECTS	5.0
Course	4
Period	Second semester
Subject Type	Optional
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. The environment: atmosphere and hydrosphere. Basic concepts.
2. Physical Chemistry of the atmosphere.
 - Photochemical processes.
 - Kinetics of tropospheric reactions.

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- Air pollution.
- Primary and secondary pollutants.
- Acid rain.
- Destruction of the ozone layer.
- 3. Physical Chemistry of the hydrosphere.
 - Physical properties of water and aquatic systems.
 - Acid-base reactions in water.
 - Redox reactions in aquatic systems.
 - Photochemical processes in aquatic systems.
 - Contamination of aquatic systems.
- 4. Fundamental of the physical removal of chemical contaminants.

5.4.Planning and scheduling

5.5.Bibliography and recommended resources

- **BB** Figueruelo, Juan E.. Química física del ambiente y de los procesos medioambientales / Juan E. Figueruelo, Martín Marino Dávila Barcelona [etc.] : Reverté, cop. 2004
- **BB** Baird, Colin. Química ambiental / Colin baird Barcelona [etc.] : Reverté, D.L. 2001
- **BR** Spiro, Thomas G.. Química medioambiental / Thomas G. Spiro, William M. Stigliani ; traducción, Yolanda Madrid Albarrán . - 2ª ed. Madrid [etc.] : Pearson Prentice-Hall, cop. 2004
- **BR** Manahan, Stanley E.. Fundamentals of environmental chemistry / Stanley E. Manahan . - 2nd ed. Boca Raton [etc.] : Lewis Publishers, cop. 2001
- **BR** Manahan, Stanley E.. Introducción a la química ambiental / S. E. Manahan . - 1ª ed. Barcelona ; México D. F. : Reverté, 2007