

60063 - Fate and behaviour of nanomaterials in the environment

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	544 - Master's in Environmental Nanotechnology
ECTS	7.0
Course	1
Period	Annual
Subject Type	Compulsory
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

Program

1. **Introduction.** Use of bibliographic databases, searching tools and writing of scientific/ technical documents in the context of nanosafety.

60063 - Fate and behaviour of nanomaterials in the environment

2. **Transformations of nanomaterials in aqueous media** . Natural waters and biological fluids. Colloidal stability and aggregation phenomena. Interaction with natural dissolved organic matter and inorganic colloids. Physical, chemical and biological degradation processes. Dissolution. Redox and photochemical processes. Generation of reactive oxygen species (ROS).
3. **Transformations of nanomaterials in the atmosphere**. Stability of nanomaterials in the atmosphere. Interaction with natural/anthropogenic aerosols and atmospheric vapours including water. Physical, chemical and photochemical degradation.
4. **Transformations of nanomaterials in soils, sediments and other solid matrices**. The soil solution. Stability of nanomaterials in soils and sediments. Adsorption on solid surfaces. Physical, chemical and biological degradation processes.

5.4.Planning and scheduling

5.5.Bibliography and recommended resources