

## 60647 - Renewable Raw Materials

### Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	540 - Master's in Industrial Chemistry
ECTS	3.0
Course	1
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

PROGRAM:

## 60647 - Renewable Raw Materials

1. Basic concepts of biorefinery.
2. Study of different raw materials: features and availability.
3. Pretreatment and treatment of the different renewable raw materials.
4. Interesting Products from renewable raw materials:
  - Biofuels (biogas, bioethanol, biodiesel, biooil).
  - Terpenes.
  - Proteins and other non-carbohydrated biopolymers.
  - Lipids and oils: fatty acids and glycerol.
  - Carbohydrates.
  - Lignins.

### **5.4.Planning and scheduling**

### **5.5.Bibliography and recommended resources**