- Course title: **Organic Chemistry Laboratory**.
- Course code: 5288
- Type of course: compulsory
- Level of course: fundamental
- Year of study: 3
- Semester: 2
- Number of credits allocated: 6
- Name of lecturer: Tomás Torroba.
- Objective of the course: safe and efficient usage of chemical apparatus for laboratory scale synthesis of organic compounds; spectroscopic characterization of organic compounds and application of these methods for the determination of product structure; introduction to the use of scientific literature, databases and bibliographic searches; logical application of chemical knowledge to problem solving; written and oral skills applied to communication of scientific information
- Prerequisites: It is recommended that students should have attended Organic Chemistry II and III before following this course.
- Course contents: introduction to organic synthesis; spectrometric methods for the identification of organic compounds: mass spectrometry, infrared spectroscopy, ^{13}C- and ^{1}H-NMR spectrometry; functional group transformations; carbon-carbon bond formation; carbon-heteroatom bond formation; heterocyclic synthesis; natural product synthesis.
- Recommended reading:
  - James W. Zubrick, (2008) The organic chem lab survival manual: a student's guide to techniques , 7th Ed., John Wiley & Sons, New York.
  - John A. Langrebe, (2005) Theory and practice in the organic laboratory: with microscale and standard scale experiments, 5th Ed., Brooks/Cole-Thomson Learning, Belmont.
  - John C. Gilbert, Stephen F. Martin, (2006) Experimental organic chemistry: a miniscale and microscale approach , 4th Ed., Brooks/Cole Thomson Learning , Madrid.
  - John W. Lehman, (2009) Operational organic chemistry: a problem-solving approach to the laboratory course, 4th Ed.., Prentice Hall, cop., Upper Saddle River.
  - Kenneth L. Williamson, Robert Minard, Katherine M. Masters, (2007) Macroscale and microscale: organic experiments, 5th Ed., D.C. Heath and Company, Lexington, Massachusetts.
  - Lutz-Friedjan Tietze, (2007) Reactions and syntheses in the organic chemistry laboratory, Wiley-VCH , Weinheim.
- Teaching methods:
  - Lectures: teachers explain the contents of the lessons.
  - Seminars: students and teacher discuss the problems and other points raised in the laboratory.
- Assessment methods:
  - Continuous evaluation of theoretical-practical sessions: 30 %
  - Laboratory work: 40%
  - Written work and exams: 30 %
- Language of instruction: Spanish and/or English