- Course title: **Separation Techniques in Analytical Chemistry**.
- Course code: 5283
- Type of course: compulsory
- Level of course: fundamental
- Year of study: 3
- Semester: 1
- Number of credits allocated: 3
- Names of lecturers: Olga Domínguez and Asunción Alonso.
- Objective of the course: the student is expected to become familiar with the basis of the most important separation methods, and their potential uses in the resolution of analytical problems; the student is also expected to gain independent laboratory skills in certain separation techniques, knowledge of their underlying principles and the construction of relevant instrumentation.
- Prerequisites: It is recommended that students should have attended Analytical Chemistry before following this course.
- Course contents: separation theory; extraction techniques; ionic-exchange resins; chromatographic theory; Gas Chromatography (GC); High Performance Liquid Chromatography (HPLC); Supercritical Fluid Chromatography (SFC); and electrophoresis. Students will learn about the basis of the different separation principles and techniques and will conduct laboratory analyses on a variety of samples.
- Recommended reading:
  - "Técnicas de separación en Química Analítica", R. Cela, , 2002, Síntesis, Madrid
  - "Principles of Instrumental Analysis", D. A. Skoog, F. J. Holler, T. S.R. Crouch, 2007, Thomson, USA.
  - "Analytical Chemistry", G.D. Christian, 2004, John Wiley & Sons, Inc.
  - "Analytical Chemistry", S. P. J. Higson, 1, 2003, Oxford, NY
  - "Chemical Analysis. Modern Instrumentation Methods and Techniques", F. Rouessac, 4, 2000, John Wiley & Sons, Chichester.
  - "Principles and practise of analytical chemistry", F.W. Fifield, D. Kealy, 5, 2000, Blackwell Science, London
- Teaching methods:
  - Lectures: teachers explain the contents of the lessons.
  - Seminars: students and teacher discuss the problems and other points raised in class.
  - Practicals: students apply their knowledge to solve laboratory experiments.
- Assessment methods:
  - Participation and attitude in the laboratory and seminars: 15 %
  - Laboratory work: 15 %
  - Group and individual work: 15 %
  - Group and individual analysis, presentation and discussion of practices and problems: 5 %
  - Written work and exams: 50 %
- Language of instruction: Spanish and/or English