- Course title: **Analytical Chemistry**.
- Course code: 5272
- Type of course: compulsory
- Level of course: fundamental
- Year of study: 2
- Semester: 1
- Number of credits allocated: 6
- Names of lecturers: Mª Angeles García and Celia Reguera
- Objective of the course: Main goals: (a) understand the fundamentals of analytical chemistry, its objectives and its methods; (b) understand the appropriate steps of the analytical process for each sample; (c) distinguish between different analytical techniques; (d) consider the reliability of an analytical measurement; (e) acquire the principles of qualitative and quantitative analysis; (f) recognize the different types of titrations and their applications, and (g) understand the fundamentals of gravimetric analysis and its possibilities.
- Prerequisites: It is recommended that students should have attended Unit Operations Laboratory and General Chemistry II before following this course.
- Course contents: The topics of this subject are: (1) concept and method of analytical chemistry; (2) collection, preparation and preservation of the sample; (3) measurement quality in analytical chemistry; (4) foundations of qualitative analysis; (5) quantitative analysis: volumetric methods; (6) quantitative analysis: gravimetric methods; (7) fundamentals of instrumental analysis.
- Recommended reading:
  - O. BUDEVSKY, "Foundations of Chemical Analysis", Ellis Horwood, New York, 1979.
  - G.D. CHRISTIAN, “Analytical Chemistry”, 6th Ed., John Wiley & Sons Inc. New Jersey 2003.
  - D. HARVEY, “Química Analítica Moderna”, McGraw-Hill, Madrid, 2002.
  - D.A. SKOOG, D.M. WEST, F.J. HOLLER and S.R. CROUCH "Fundamentals of Analytical Chemistry", 8th Ed., Thomson, 2004.
  - D. C. HARRIS, “Análisis Químico Cuantitativo”, 6th Ed., Reverté, Barcelona, 2007.
  - F. BURRIEL, F. LUCENA, S. ARRIBAS and J. HERNANDEZ "Química Analítica Cualitativa" 18th Ed., Ed. Thomson, Madrid, 2003.
- 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 experimental laboratory problems.
- Assessment methods:
  - Group and individual analysis, presentation and discussion of practices and problems: 25 %
  - Resolution of problems, issues and other proposals: 15%.
  - Group and individual work: 10%.
  - Written work and exams: 50%.
- Language of instruction: Spanish and/or English