

- Course title: **Structural Methods in Inorganic Chemistry.**
- Course code: 5291
- Type of course: compulsory
- Level of course: fundamental
- Year of study: 3
- Semester: 2
- Number of credits allocated: 6
- Names of lecturers: Aránzazu Mendía Jalón, Asunción Muñoz Santamaría and Arancha Carbayo Martín.
- Objective of the course: Having completed the course, students will be able to:
 - confidently apply the more common structural methods in inorganic chemistry in their practical work.
 - select the most appropriate techniques for a given problem and consider their pros and the cons .
 - develop structural characterization strategies adapted to different types of inorganic compounds.
- Prerequisites: It is recommended that students should have attended Physical Chemistry II: Spectroscopy and Statistical Thermodynamics before following this course.
- Course contents: applications of magnetic resonance spectroscopy; electron paramagnetic resonance spectroscopy; mass spectrometry; vibrational spectroscopy; electronic absorption spectroscopy; X-ray crystallography and electrochemical techniques in the identification and structural determination of inorganic compounds; development of suitable strategies in the structural characterization of inorganic compounds.
- Recommended reading:
 - E.A.V. Ebsworth, David W. H. Rankin, and Stephen Craddock, (1991) Structural Methods in Inorganic Chemistry, Second Edition, Blackwell.
 - E. A. V. Ebsworth, (1992) Solutions Manual for Structural Methods in Inorganic Chemistry, Blackwell.
 - G. H. Stout, L. H. Jensen, (1989) X-ray Structure Determination. A Practical Guide, 1st Edition, John Wiley & Sons.
 - H. Friebolin, (2005) Basic One- and Two-Dimensional NMR Spectroscopy, 4th Ed., Wiley-VCH.
 - N. N. Greenwood, A. Earnshaw, (2005) Chemistry of the Elements, 2nd Ed. reprinted with corrections, Butterworth-Heinemann.
 - Holleman-Wiberg, (2001) Inorganic Chemistry, 1st Ed., Academic Press-Walter de Gruyter.
- 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:
 - Continuous evaluation of theoretical-practical sessions:10%
 - Resolution of problems, issues and other proposals: 10%
 - Group and individual analysis, presentation and discussion of practices and problems: 40%
 - Written work and exams: 40%
- Language of instruction: Spanish and/or English