

- Course title: **Materials Science.**
- Course code: 5294
- Type of course: compulsory
- Level of course: advanced
- Year of study: 4
- Semester: 1
- Number of credits allocated: 6
- Name of lecturer: Teacher will be appointed prior to the start of the course (4th year, 2010/11).
- Objective of the course: to provide students with basic training on the structure, physical properties, chemical properties and synthesis of metal materials, electronic, magnetic, optical, polymer, ceramic and materials compounds.
- Prerequisites: It is recommended that students should have attended Organic chemistry, Inorganic chemistry, Instrumental Analysis and Physics before following this course.
- Course contents: Basic training on the structure, physical and chemical properties of materials. Preparation of metal materials, electronic, magnetic, optical, polymer, ceramic and composite materials.
- Recommended reading:
 - Basic Solid State Chemistry, A.R. West, 2nd edition, 1998, John Wiley & Sons.
 - The Science and Engineering of Materials, D.R. Askeland y P.P. Phule, 5th edition, Thomson, 2005
 - Materials Science and Engineering: An introduction, W.D. Callister, 7th edition, 2006, John Wiley & Sons
 - Introduction to Solid State Physics, C. Kittel, 8th edition, 2004, John Wiley & Sons
 - Ciencia de los Materiales, W. González-Viñas y H.L. Mancini, 2003, Ariel
 - Introduction to materials chemistry, Harry R. Allcock, John Wiley & Sons, 2008
 - Nanoscale materials in chemistry, Kenneth J. Klabunde (Ed.), Wiley-Interscience, 2001
- 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: 30-40%
 - Group and individual work: 10-15%
 - Written work and exams: 50-60%
- Language of instruction: Spanish and/or English