

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	542 - Master's in Chemical Research
ECTS	3.0
Course	1
Period	Second semester
Subject Type	Optional
Module	---

1.Basic info**1.1.Recommendations to take this course****1.2.Activities and key dates for the course****2.Initiation****2.1.Learning outcomes that define the subject****2.2.Introduction****3.Context and competences****3.1.Goals****3.2.Context and meaning of the subject in the degree****3.3.Competences****3.4.Importance of learning outcomes****4.Evaluation****5.Activities and resources****5.1.General methodological presentation****5.2.Learning activities****5.3.Program**

- Magnetic materials and its applications

- Materials used in batteries

- Advanced alloys
- Surface treatment of metals
- Inorganic polymers
- Advanced ceramics
- Nanoparticles
- Porous materials

5.4. Planning and scheduling**5.5. Bibliography and recommended resources****BIBLIOGRAPHY**

- Introducción a la Ciencia e Ingeniería de los Materiales. W.D. Callister, Limusa-Wiley, 2009.
- Fundamentos de la ciencia e ingeniería de los materiales (4º Edición). W. F. Smith, J. Hashemi. McGraw-Hill/ Interamericana de Mexico, 2006.
- Introducción al conocimiento de los materiales y a sus aplicaciones. J.R. Gil Bercero, S. Barroso Herrero, A. M. Camacho López. Editorial UNED, 2010.
- Powder Metallurgy: An Advanced Technique of Processing Engineering Materials. B.K. Datta. PHI Learning. 2012.
- Superalloys: Alloying and Performance. B. Geddes, H. Leon, X. Huang. ASM International, 2010
- Tecnología Cerámica Aplicada. Volúmenes 1 y 2. Asociación Española de Técnicas Cerámicas. 2004.
- Ceramic Materials: Science and Engineering. C.B. Carter, M. G. Norton. New York: Springer, 2006
- Introduction to fine Ceramics. N. Ichinoise Ed., John Wiley and Sons LTD, 1987.
- Introduction to the Principles of Ceramic Processing, J. S. Reed, John Wiley and Sons LTD, 1988.
- El Vidrio (3ª edición). J. M. Fernández Navarro. CSIC-Sociedad Española Cerámica y Vidrio. 2003.
- Chemistry of glass. W. Vogel. Columbus: American Ceramic Society, 1985.

- Inorganic Polymers. J.E. Mark, H.R. Allcock, R. West. Prentice-hall, 1992.
- Inorganic Polymers. [Roger De Jaeger](#) , [Mario Gleria](#) . Nova Science Publishers, 2007.

SPECIALISED BIBLIOGRAPHY

- Synthesis of Inorganic Materials. U. Schubert y N. Hüsing. Wiley-VCH. 2005.
- Inorganic Materials Synthesis and Fabrication. J. M. Lalena, D. A. Cleary, E. E. Carpenter, N. F. Dean. Wiley-VCH. 2008.
- Glass Engineering Handbook. G.V. McLellan, E.B. Shand. New York: MacGraw-Hill, 1994
- Advanced Ceramic Materials. Ed. Hamid Mostaghaci. Trans Tech Publications, 1996.
- Silicon Chemistry, from the atom to extended systems. P. Jutzi, U. Schubert, eds. 2003. Wiley-VCH.
- Inorganic and organometallic polymers II: advanced materials and intermediates : developed from a symposium sponsored by the Division of Polymer Chemistry, Inc., at the 205th National Meeting of the American Chemical Society, Denver, Colorado, March 28-April 2, 1993
- Silicon-based inorganic polymers. [Roger De Jaeger](#) , [Mario Gleria](#) . Nova Science, 2008
- Introducción a la química de los polímeros. R.B. Seymour, C.E. Carraher. Reverté, 1995
- Introducción a los cementos. J.M. Fernández Cánovas. Córdoba: Universidad de Córdoba, 2004.