

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	430 - Bachelor's Degree in Electrical Engineering
ECTS	6.0
Year	1
Semester	Half-yearly
Subject Type	Basic Education
Module	---

1.General information**1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview**

Mixed methodology based on interactive lecture class, problem-solving activities with computing support in small groups and elaboration of group assignments.

5.2.Learning tasks

The learning process is based on the following:

- Lectures in large group: 42 hours
- Problem-solving activities with computing support in small groups: 12 hours
- Team work activities: 3 hours.
- Final exam: 3 hours.
- Online quizzes.

5.3.Syllabus

1. Direct methods for solving linear systems.
2. Matrices.
3. Vector Spaces and Subspaces.
4. Finite Dimensional Vector Spaces.
5. Inner Product Spaces.
6. Orthogonal Projections and Fourier approximations.
7. Eigenvalues, Eigenvectors and Diagonalization of Matrices.
8. An Introduction to Laplace Transform.
9. Differential Geometry.

5.4.Course planning and calendar

- The class schedule is established by the Centre and published on its website.
- The timetable for submission of assignments and quizzes will be provided on the first day of class.

5.5.Bibliography and recommended resources

[BB: Basic bibliography / BC: Complementary bibliography]

- [BB] Ferrer López, María Pilar. Manual sobre álgebra lineal : fundamentos matemáticos / M^a Pilar Ferrer López, M^a Dolores Lerís López, Javier Ribera Pascual . - 1^a ed. Zaragoza : Pressas Universitarias de Zaragoza, 2003
- [BB] Grossman, Stanley I. : Álgebra lineal / Stanley I. Grossman S., José Job Flores Godoy ; revisión técnica, Elsa Fabiola Valencia ... [et al.] . - 7^a ed. México [etc.] : McGraw-Hill, D.L. 2012
- [BB] Larson, Ron. Introducción al álgebra lineal / Roland E. Larson, Bruce H. Edwards . - 1^a ed., 5^a reimp. Mexico [etc] : Limusa Noriega, cop. 2002
- [BB] Zill, Dennis G.. Cálculo con geometría analítica / Dennis G. Zill México, D.F. : Grupo Editorial Iberoamérica, 1996
- [BC] Kreyszig, Erwin. Matemáticas avanzadas para ingeniería / Erwin Kreyszig . - 3a. ed. México : Limusa, cop. 2000
- [BC] Larson, Ron. Cálculo y geometría analítica / Roland E. Larson, Robert P. Hostetler, Bruce H. Edwards ; Con la colaboración de David E. Heyd . - 6a ed. en español Madrid [etc.] : McGraw-Hill, D.L. 1999
- [BC] Lipschutz, Seymour. Álgebra lineal / Seymour Lipschutz ; traducción, Celia Martínez Ontalba ; revisión, Lorenzo Abellanas . - 2^a ed. Madrid [etc] : McGraw-Hill, D.L. 2003
- [BC] Marsden, Jerrold E.. Cálculo vectorial / Jerrold E. Marsden, Anthony J. Tromba ; Versión en español Javier Páez Cárdenas ; Colaboración técnica Purificación González Sancho . - 4a. ed México [etc.] : Addison-Wesley Longman, 1998
- [BC] Nakos, George. Álgebra lineal con aplicaciones / George Nakos, David Joyner
- [BC] Strang, Gilbert. Álgebra lineal y sus aplicaciones / Gilbert Strang ; revisión técnica, Edmundo Palacios Pastrana . - 4^a ed. México D. F. : International Thomson, cop. 2007