27015 - Numerical Analysis II

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	453 - Degree in Mathematics
ECTS	9.0
Course	3
Period	Annual
Subject Type	Compulsory
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

Lectures are complemented with problem sessions, where the concepts are traines with practical cases. The different computational methods and algorithms are performed in a scientific programming language, checking the different algorithms and methods with test problems.

Individual study, complemented with tutorial sessions, are fundamental in the learning process.

5.2.Learning activities
- Lectures
- Problems session in small groups
- Computer sessions in small groups
- Tutorial sessions
- Study and work of the student

5.3.Program
1. Polynomial interpolation
2. Spline interpolation
3. Numerical differentiation
4. Numerical quadrature

5.4.Planning and scheduling

See the academic calendar of the Universidad de Zaragoza and the scheduling established by the Faculty of Sciences.

5.5.Bibliography and recomended resources
- Gasca, Mariano. Cálculo numérico : unidad didactica 1 / preparada por Mariano Gasca González. - [6a. ed.] Madrid : Universidad Nacional de Educación a Distancia, 1991
- Burden, Richard L.. Análisis numérico / Richard L. Burden, J. Douglas Faires . - 6a ed.,rev. México [etc.] : International Thomson, cop. 1998
- Faires, J. Douglas. Métodos numéricos / J. Douglas Faires, Richard Burden; traducción y revisión técnica Pedro J. Paul Escolano . - 3a ed. Madrid [etc] : Thomson, D.L. 2004
- Kincaid, David. Análisis numérico : las matemáticas del cálculo científico / David Kincaid y Ward Cheney ; versión en español de Rafael Martínez Enríquez y Carlos Torres Alcaraz Wilmington, Delaware : Addison-Wesley Iberoamericana, cop. 1994