Department: Mathematics and Computer Sciences
Division: Applied Mathematics
Level and Major: Graduate

Course Title: Advanced Numerical Analysis
Number of Credits: 3
Prerequisite:
Lecturer:

Course Description: Principles of Numerical Analysis, Interpolation, Splines, Best approximation of functions, Numerical Integration

Course Goals and Objectives:

Course Topics:

- Error Analysis and stability: Rounding error analysis, stability, consistency and convergence (Lax equivalence theorem), condition number, posteriori and priory error analysis
- Approximation theory: best approximation, Weierstrass theorem, uniform approximation, chebyshev polynomials and their properties, L2 best approximation, normal equations, orthogonal polynomials and their properties, Fourier approximation... polynomial, rational, trigonometric and spline interpolation: existence and

Reading Resources:

Evaluation: