27020 - Partial Differential Equations

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	453 - Degree in Mathematics
ECTS	6.0
Course	
Period	Second semester
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. Individual study, complemented with tutorial sessions, are fundamental in the learning process.

5.2.Learning activities

- Lectures
- Problem sessions in small groups
- Tutorial sessions

- Study and work of the student

5.3.Program

1. Introduction to partial differential equations
2. First order partial diffeential equations
3. Sturm-Liouville problems and the method of separation of variables
4. Hyperbolic equations
5. Parabolic equations
6. Elliptic equations

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

- Asmar, N.H.. Partial Differential Equations. Pearson International Edition
- Evans, Gwynne. Analytic methods for partial differential equations / G. Evans, J. Blackledge and P. Yardley . - 2nd. printing
- Strauss, Walter A.. Partial differential equations : an introduction / Walter A. Strauss New York [etc] : John Wiley and Sons, cop.1992
- Logan, J. David. Applied Partial differential equations / J. David Logan . - 2nd ed. New York [etc.] : Springer, cop. 2004
- Tikhonov, Andrei Nikolaevich. Equations of mathematical physics / by A.N. Tikhonov and A.A. Samarskii ; translated by A.R.M. Robson and P. Basu ; translation edited by D.M. Brink New York : Dover Publications, 1990