Image Processing

Academic Year: (2025 / 2026) **Review date: 19/02/2025 13:28:33**

Department assigned to the subject: null

Coordinating teacher:

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

LEARNING OUTCOMES

K6: To know the most commonly used computational techniques in applied contexts such as numerical calculus, differential equations, statistics, cryptography or optimization.
S1: Learn and adapt mathematical techniques and methods from one branch to another (such as algebra, calculus or probability) and apply them to different scientific or industrial problems.

DESCRIPTION OF CONTENTS: PROGRAMME

Image deconvolution. Regularization methods.
Noise removal in images.
Medical imaging. X-ray tomography and Radon transform.
Geophysical imaging and remote sensing.
Other topics in image processing

LEARNING ACTIVITIES AND METHODOLOGY

A1: CLASSROOM LECTURES. Each subject has two weekly sessions: a lecture session, with more theoretical content, and a reduced session, with more practical content. In this session, the main theoretical content takes place. 100% de presencialidad / A2: FACE-TO-FACE CLASSES: REDUCED (WORKSHOPS, SEMINARS, CASE STUDIES). As indicated above, this session has a more practical content where teachers can carry out some of the examples given. 100% de presencialidad / A3: STUDENT INDIVIDUAL WORK. 0% de presencialidad / A4: LABORATORY SESSION. This is a series of additional hours where teachers reinforce more practical content with students. 100% de presencialidad / A5: FINAL EXAM. 100% de presencialidad
M1: SEMINARS AND LECTURES SUPPORTED BY COMPUTER AND AUDIOVISUAL AIDS. / M2: PRACTICAL LEARNING BASED ON CASES AND PROBLEMS, AND EXERCISE RESOLUTION. / M3: INDIVIDUAL AND GROUP OR COOPERATIVE WORK WITH THE OPTION OF ORAL OR WRITTEN PRESENTATION. / M4: INDIVIDUAL AND GROUP TUTORIALS TO RESOLVE DOUBTS AND QUERIES ABOUT THE SUBJECT.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

E1: FINAL EXAM. Most of the subjects have a final exam which, according to university regulations, will have a maximum weight of 60% of the final grade. / E2: CONTINUOUS EVALUATION. These are the different tests, exercises, practices that students carry out throughout the course so that teachers can evaluate the gradual acquisition of knowledge. According to university regulations, they will have a weight of at least 40% in the final grade.