

## 30231 - Automatic Learning

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 30231 - Aprendizaje automático

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 439 - Bachelor's Degree in Informatics Engineering

**ECTS:** 6.0

**Year:** 3

**Semester:** Second semester

**Subject Type:**

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The learning process is based on the teachers' lectures and the students' work during the practical sessions. In both cases, previous personal work is essential. Before each lecture, students should study and understand previous lectures. Before each practice session, students should analyse the assignment, perform some preliminary work, and identify the parts that require further clarifications from the teacher. At the end of each practical session, students should present the results obtained.

#### 4.2. Learning tasks

The course is 150 hours which includes the following learning tasks:

- **Lectures (type T1)** (30 hours).
- **Practice sessions (type T3)** (30 hours).
- **Autonomous work (type T7)** (80 hours).
- **Examinations (type T8)** (10 hours).

#### 4.3. Syllabus

The course will address the following topics:

1. Supervised Learning. Regression
2. Regularization and model selection
3. Logistic regression
4. Generative models. Naive Bayes
5. Anomaly Detection
6. Non-supervised learning. PCA

7. Clustering
8. Recommender systems
9. Non-parametric methods. Gaussian processes
10. Big Data

#### **4.4. Course planning and calendar**

Course calendar is defined by EINA school within the year's academic calendar.  
The detailed course planning will be available in Moodle at the start of the course.

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30231&Identificador=14696>