Data Science

Academic Year: (2022 / 2023)   Review date: 20-05-2022

Department assigned to the subject: Library and Information Sciences Department

Coordinating teacher: CALZADA PRADO, FCO JAVIER

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

DESCRIPTION OF CONTENTS: PROGRAMME

This course will introduce you to Data Science, its concept, applications, and future perspectives in the Social Sciences.

In a globalized, ever-changing, increasingly accelerated and complex world, having professionals who are able to collect, analyze, and interpret the vast amount of existing heterogeneous data (Big Data) is absolutely crucial for decision making in the business, social, economic, and political areas. Data Science has been labeled 'the sexiest job of the 21st century' (Harvard Business Review, 2012), and in fact there is a growing demand of professionals trained in this discipline.

In this course, students will approach the management and analysis of different types of data -including those from surveys, web-based and social media, business data, and research data, among others- by means of the latest techniques and tools for statistical learning.

Contents:

1. Foundations of Data Science: concept, theories, and approaches.
2. Preliminary analysis/preparation of data: how to collect, clean, treat and combine data from different sources.
3. Data visualization: best practices in large data visualization and communication.
4. Predictive tools: applications of the main tools for statistical learning, regression and classification.

% end-of-term-examination: 60

% of continuous assessment (assigments, laboratory, practicals…):   40

BASIC BIBLIOGRAPHY

 - O'Neil, Cathy; Schutt, Rachel Doing Data Science: Straight Talk from the Frontline, O'Reilly, 2013