Academic Year: (2022 / 2023)   **Review date: 09-04-2022**

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: MOLINA LOPEZ, JOSE MANUEL

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction
1.1.- Fundamental concepts
1.2.- Explainable AI

2.- Business intelligence
2.1.- Selection and transformation of attributes
2.2.- Segmentation, prediction and identification of patterns
2.3.- Advanced analysis techniques
2.4.- Tools
2.5.- Comparison of techniques and parameters

3.- Domain dependent analysis
3.1.- Text analysis
3.2.- Time series analysis
3.3.- Other domains

4. Case study
4.1.- Loading and data processing
4.2.- Application of data analysis methodology
4.3.- Conclusions

LEARNING ACTIVITIES AND METHODOLOGY

ACTIVITIES

AF1 - Theoretical class. - [11.67 hours with 100% attendance, 0.39 ECTS]
AF2 - Practical classes - [1.67 hours with 100% attendance, 0.06 ECTS]
AF3 - Theoretical practical classes - [10 hours with 100% attendance, 0.33 ECTS]
AF5 - Tutorials - [3 hours with 25% attendance, 0.10 ECTS]
AF6 - Group work - [13 hours with 0% attendance, 0.43 ECTS]
AF7 - Individual student work - [50.66 hours with 0% attendance, 1.69 ECTS]

TEACHING METHODOLOGY

MD1 - Lectures in the teacher's class with the support of computer and audiovisual media, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.
MD2 - Critical reading of texts recommended by the professor of the subject: Press articles, reports, manuals and / or academic articles, either for later discussion in class, or to expand and consolidate the knowledge of the subject.
MD3 - Resolution of practical cases, problems, etc ... raised by the teacher individually or in groups
MD4 - Presentation and discussion in class, under the moderation of the teacher of topics related to the content of the subject, as well as practical cases
MD5 - Preparation of works and reports individually or in groups

SE1[10%]
Participation in class

SE2 [90%]
Individual or group work carried out during the course

% end-of-term-examination:	0
% of continuous assessment (assigments, laboratory, practicals…):	100

BASIC BIBLIOGRAPHY

 - Phuong Vothihong, Martin Czygan, Ivan Idris, Magnus Vilhelm Persson, and Luiz Felipe Martins Python: End-to-end Data Analysis, Packt, 2017

ADDITIONAL BIBLIOGRAPHY

 - Embarak, Ossama Data Analysis and Visualization Using Python, 1st ed. US: Apress, 2018

 - Stepanek, Hannah Thinking in Pandas, 1st ed. Berkeley CA Apress , 2020