

Course guide

270718 - BDA - Big Data Analytics

Last modified: 21/07/2022

Unit in charge: Barcelona School of Informatics
Teaching unit: 1042 - URV - Universitat Rovira i Virgili.

Degree: MASTER'S DEGREE IN ARTIFICIAL INTELLIGENCE (Syllabus 2017). (Optional subject).

Academic year: 2022 **ECTS Credits:** 4.5 **Languages:**

LECTURER

Coordinating lecturer: ALEJANDRO ARENAS MORENO

Others: Primer quadrimestre:
ALEJANDRO ARENAS MORENO - 10

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CEA8. Capability to research in new techniques, methodologies, architectures, services or systems in the area of Artificial Intelligence.

CEP1. Capability to solve the analysis of information needs from different organizations, identifying the uncertainty and variability sources.

Generical:

CG3. Capacity for modeling, calculation, simulation, development and implementation in technology and company engineering centers, particularly in research, development and innovation in all areas related to Artificial Intelligence.

Transversal:

CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT6. REASONING: Capability to evaluate and analyze on a reasoned and critical way about situations, projects, proposals, reports and scientific-technical surveys. Capability to argue the reasons that explain or justify such situations, proposals, etc..

CT7. ANALISIS Y SINTESIS: Capability to analyze and solve complex technical problems.

Basic:

CB6. Ability to apply the acquired knowledge and capacity for solving problems in new or unknown environments within broader (or multidisciplinary) contexts related to their area of study.

TEACHING METHODOLOGY

Explanations and related bibliography.

LEARNING OBJECTIVES OF THE SUBJECT

- 1.To understand the problem of big data.
- 2.Ability to analyze big data.



STUDY LOAD

Type	Hours	Percentage
Hours small group	22,5	55.56
Guided activities	9,0	22.22
Hours large group	9,0	22.22

Total learning time: 40.5 h

CONTENTS

Introduction

Description:

Big data scenario.

Data gathering

Description:

The problem of big data gathering.

Data storage.

Description:

How to storage and access big data.

Exploration data analysis

Description:

How to make exploratori data analysis.

Data preprocessing.

Description:

How to pre-process big data.

Data to models.

Description:

How to model with data.



ACTIVITIES

Master classes.

Description:

Blackboard explanations.

Full-or-part-time: 16h

Theory classes: 16h

Exam

Description:

Exam

Specific objectives:

1, 2

Related competencies :

CG3. Capacity for modeling, calculation, simulation, development and implementation in technology and company engineering centers, particularly in research, development and innovation in all areas related to Artificial Intelligence.

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Full-or-part-time: 2h

Guided activities: 2h

Labs

Full-or-part-time: 6h

Theory classes: 6h

GRADING SYSTEM

Topic-based evaluation. For each topic, the student must show proof of understanding.

Topic 2: 20%

Topic 3: 20%

Topic 4: 20%

Topic 5: 40%