

Academic Year: (2022 / 2023)

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Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: DIAZ PEREZ, MARIA PALOMA

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Programming
Data structures and algorithms
Files and Databases

DESCRIPTION OF CONTENTS: PROGRAMME

1. Data integration models: data store based models and virtual models
2. Data acquisition: Crawlers. Web data integration
3. NoSQL databases in data integration
4. Situation awareness and interpretation in the Big Data era
5. Visual analytics: history, definition and development process.
6. Principles of Human-Machine Interaction: Perception, cognitive aspects, semiotics and creativity
7. Interaction with visual interfaces
8. Temporal and geo-spatial data processing
9. Applications of visual analytics

LEARNING ACTIVITIES AND METHODOLOGY

AF1.THEORETICAL-PRACTICAL CLASSES. Knowledge and concepts students must acquire. Student receive course notes and will have basic reference texts to facilitate following the classes and carrying out follow up work. Students partake in exercises to resolve practical problems and participate in workshops and an evaluation tests, all geared towards acquiring the necessary capabilities. Subjects with 6 ECTS are 44 hours as a general rule/ 100% classroom instruction

AF2.TUTORING SESSIONS. Individualized attendance (individual tutoring) or in-group (group tutoring) for students with a teacher. Subjects with 6 credits have 4 hours of tutoring/ 100% on- site attendance.

AF3.STUDENT INDIVIDUAL WORK OR GROUP WORK. Subjects with 6 credits have 98 hours/0% on-site.

AF8.WORKSHOPS AND LABORATORY SESSIONS. Subjects with 3 credits have 4 hours with 100% on-site instruction. Subjects with 6 credits have 8 hours/100% on-site instruction.

MD1.THEORY CLASS. Classroom presentations by the teacher with IT and audiovisual support in which the subject's main concepts are developed, while providing material and bibliography to complement student learning.

MD2.PRACTICAL CLASS. Resolution of practical cases and problem, posed by the teacher, and carried out individually or in a group.

MD3.TUTORING SESSIONS. Individualized attendance (individual tutoring sessions) or in-group (group tutoring sessions) for students with teacher as tutor. Subjects with 6 credits have 4 hours of tutoring/100% on-site.

MD6.LABORATORY PRACTICAL SESSIONS. Applied/experimental learning/teaching in workshops and laboratories under the tutor's supervision.

ASSESSMENT SYSTEM

% end-of-term-examination/test: 40

% of continuous assessment (assignments, laboratory, practicals...): 60

* Case study: 60%

Block 1: Design and implementation of data integration techniques applied to actual case studies.

% end-of-term-examination/test: 40

% of continuous assessment (assignments, laboratory, practicals...): 60

Block 2: Design and implementation of data visualization techniques applied to actual case studies.

* Final exam: 40%

- Part 1 about the first block of the case study
- Part 2 about the second block of the case study