# Massive and Linked Data

**Academic Year: ( 2020 / 2021 )** **Review date: 20/07/2020 10:07:46**

**Department assigned to the subject: Computer Science and Engineering Department**

**Coordinating teacher: GONZALEZ CARRASCO, ISRAEL**

**Type: Compulsory ECTS Credits : 3.0**

**Year : 1 Semester : 1**

## OBJECTIVES

1. Capacity for strategic planning in the areas of Engineering following quality criteria.
2. Capacity for the development, management, coordination and management
technical fields of Engineering, related others: development of software factories, infrastructure and computer facilities (including networks), systems, applications and
computer services, respecting the proper implementation of the criteria quality and environmental and multi-disciplinary working environments.
3. Capacity for the overall direction and technical leadership in business in the field of Engineering.
4. Ability to undertake financial management of projects computer engineering fields related to factories software development, infrastructure and computer facilities
(Including networks), systems, applications and services, following quality and environmental criteria.
5. Ability to apply principles of economics and management human resources and projects.
7. Ability to understand and comply with current regulations regarding the construction management and facilities systems.

. Learning Outcomes:
o Carrying out a strategic plan for information systems.
or be able to direct, coordinate and manage projects of factories software development, computer facilities, systems, applications and services.
o Be capable of leading companies in the area of Computer Engineering.
o Be able to carry out project financial management

## DESCRIPTION OF CONTENTS: PROGRAMME

BLOCK 1. MASSIVE DATA INTEGRATION.
1.1. Integration of data sources.
1.2. Big Data for data integration and analysis.
1.3. Main applications.

BLOCK 2. BLOCKCHAIN.
2.1. Origin of Blockchain.
2.2. Blockchain operation.
2.3. Consensus algorithm.
2.4. Types of Blockchain.
2.5. Main applications.

## LEARNING ACTIVITIES AND METHODOLOGY

- Theory lectures with the objective of acquiring specific competences. Slides and other material as well as reference books will be provided to students in order to complete knowledge of subjects. Moreover, standards and technology documentation concerning systems integration will also be provided. Inthis lectures, studentes will do talds about specific contents from complementary readings.
- Practical cases performed working cooperatively to complement theory lectures. Among other activities students will develop a solution to integrate applications using service oriented architectures.
- Academic activities guided by the teacher to solve specific problems about data and functional

integration.
- Individual work consisting on developing solutions to exercises posed by the teacher as well as complementary readings

## ASSESSMENT SYSTEM

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

In addition to serve as formative activity, the practical work serves to be used as evaluation measure. Students will develop in groups a practical case about an integration problem in a particular domain.
The assessment is:
Practical Case about applications integration:100%
Practical Case is mandatory

The extraordinary call is an exam with the 100% of subject grade

## BASIC BIBLIOGRAPHY


- Judith R. Davis and Robert Eve Data Virtualization Going Beyond Traditional Data Integration to Achieve Business Agility, Composite Software. , 2011

- AnHai Doan, Alon Halevy, and Zachary Ives Principles of Data Integration. , Morgan Kaufmann., 2012

- Bishop, Matt. Computer security : art and science, Addison-Wesley, 2003

- Daniel. Drescher Blockchain basics a non-technical introduction in 25 steps, Berkeley, CA , 2017

- Ross Anderson Security engineering : a guide to building dependable distributed systems, Wiley, 2008

- Trovati, M., Hill, R., Anjum, A., Zhu, S.Y., Liu, L. (Eds.) Big-Data Analytics and Cloud Computing, Springer, 2015


## ADDITIONAL BIBLIOGRAPHY


- Philip Bernstein and Laura Haas, Information integration in the enterprise,, Communications of the ACM Vol 51, N 9, September 2008, Pages 72-79, 2008