

Academic Year: ( 2023 / 2024 )

Review date: 22-04-2023

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: MARTIN GOMEZ, DAVID

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 1

**OBJECTIVES**

- CB6. Knowledge and understanding of opportunities in the development and/or application of ideas, often in a research context.
- CG8. Ability to apply the knowledge obtained and solve problems in new or little-known environments in broader and multidisciplinary contexts, with the ability to integrate knowledge.
- CG11. Ability to communicate (orally and in writing) some conclusions - and the knowledge and reasons behind - to specialized and non-specialized audiences in a clear and unambiguous way.
- CE1. Ability to integrate general technologies, applications, services and systems of Computer Science into broader and multidisciplinary contexts.
- CE12. Ability to apply mathematical, statistical and artificial intelligence methods to model, design and develop applications, intelligent and knowledge-based systems.

Learning results:

- RA12 Critical awareness of the vanguard knowledge of his speciality.
- RA52. Comprehensive knowledge of applicable methods and techniques and their limitations
- RA43 The ability to critically analyse the data and reach conclusions
- RA31. Ability to use their knowledge and understanding in order to provide solutions to be applied in problems using knowledge beyond those of the discipline.
- RA43. The ability to critically analyze the data and reach conclusions.

**DESCRIPTION OF CONTENTS: PROGRAMME**

Computer Systems in IoT:

- a. Hardware (Microcontrollers)
- b. Types and operation of sensors.
- c. Operation of Actuators.
- d. Time Series Databases.
- e. Time Series Database Management

**LEARNING ACTIVITIES AND METHODOLOGY**

FORMATION ACTIVITIES:

- Theoretical classes
- Laboratory practices
- Teamwork
- Individual student work
- Partial evaluations

METHODOLOGY:

- Exhibitions 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.
- Resolution of practical cases, problems, etc. ¿ posed by the teacher individually or in groups.
- Exhibition and discussion in class, under the professor's moderation of topics related to the content of the subject, as well as case studies
- Preparation of papers and reports individually or in groups.

TUTORIALS:

Individual tutorials that will allow the student to consult individually with the teacher specific doubts about the subject of the program and the exercises /problems proposed.

## ASSESSMENT SYSTEM

Continuous Evaluation:

- 1) Deliverable practicals: 10 %.
- 2) Participation in class by means of surveys: 10 %.

Individual or group work done during the course: 80 %.

<b>% end-of-term-examination:</b>	0
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	100

## BASIC BIBLIOGRAPHY

- Vlasios Tsiatsis Internet of Things : technologies and applications for a new age of intelligence, London etc. : Academic Press, 2019