

Academic Year: ( 2022 / 2023 )

Review date: 12-05-2022

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: FRAGA VAZQUEZ, ANABEL

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 2

**DESCRIPTION OF CONTENTS: PROGRAMME**

- 1.- ITIL oriented towards Certification as ITIL Foundations
  - 1.1.- Introduction to ISO 20000, COBIT and CMMI regarding their relationship with ITIL and their complementarity
  - 1.2.- ITIL v3/v4 phases
  - 1.3.- Processes of the 5 phases of ITIL v3/v4
- 2.- Systems Engineering and Software Engineering
  - 2.1.- Introduction to INCOSE and ISO / IEC / IEEE 15288: 2002. Processes and life cycle
  - 2.2.- Introduction to ISO / IEC / IEEE 12207: 2017. Processes and Life Cycle
  - 2.3.- Introduction to the existing alignment between ISO 12207 and ISO 15288
- 3.- Quality of the software product
  - 3.1.- Introduction to ISO / IEC 25000 - SQuaRE (System and Software Quality Requirements and Evaluation)
  - 3.2.- Quality model: system/software and data
  - 3.3.- Quality measurement
  - 3.4.- Quality of requirements
  - 3.5.- Quality evaluation
- 4.- Quality management techniques
  - 4.1.- Requirements Engineering
  - 4.2.- Quality Metrics
  - 4.3.- Quality Levels expected in a System/Software
  - 4.4.- Validation and Verification of Software Systems (V&V)

**LEARNING ACTIVITIES AND METHODOLOGY****FORMATION ACTIVITIES**

- AF1 - Theoretical class [30 hours with a 100% face-to-face, 1.00 ECTS]  
 AF2 - Practical classes [18.33 hours with a 100% face-to-face, 0.61 ECTS]  
 AF4 - Laboratory practices [18.33 hours with a 100% face-to-face, 0.61 ECTS]  
 AF5 - Tutorials[14 hours with a 100% face-to-face, 0.47 ECTS]  
 AF6 - Group work [46.67 hours with a 0% face-to-face, 1.56 ECTS]  
 AF7 - Individual student work [46.67 hours with a 0% face-to-face, 1.56 ECTS]  
 AF8 - Partial and final exams [6 hours with a 100% face-to-face, 0.20 ECTS]

**TEACHING METHODOLOGIES**

- MD1 Class lectures by the professor 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. .... posed by the teacher individually or in groups.  
 MD4 Presentation and discussion in class, under the moderation of the professor, of topics related to the content of the subject, as well as of practical cases.  
 MD5 Elaboration of works and reports individually or in groups.

## ASSESSMENT SYSTEM

SE1: Class participation and debates: 10%

SE2: Individual work + Continuous practical assessment work and application of the standards seen in the course:  
60%

SE3: Final Exam: 30%

Extraordinary call.

The grading of the students in the extraordinary call will be adjusted to the following rules:

a. If the student followed the continuous evaluation process, the exam will have the same percentage value as in the ordinary call, and the final grade of the subject will take into account the grade of the continuous evaluation and the grade obtained in the final exam.

b. If the student did not follow the continuous evaluation process, he/she will have the right to take an exam in the extraordinary call with a value of 100% of the total grade of the subject.

c. Even if the student had followed the continuous evaluation process, he/she will have the right to be graded in the manner indicated in section b) when it is more favorable to him/her.

**% end-of-term-examination:** 30

**% of continuous assessment (assignments, laboratory, practicals...):** 70

## BASIC BIBLIOGRAPHY

- AXELOS ITIL® Practitioner Guidance, TSO (The Stationery Office), 2016

- AXELOS ITIL 4 Managing Professional Package, TSO (The Stationery Office), 2020

- Farenden, Peter ITIL for Dummies, Wiley, 2012

- Helen Morris Liz Gallacher ITIL foundation exam study guide , Wiley, 2012

- IEEE ISO/IEC 12207 Standard for Information Technology - Software Life Cycle Processes, IEEE, 2017

- INCOSE ISO15288, Wiley, 2012

- Organizaci3n Internacional De Normalizaci3n, and Comisi3n Electrotecnica Internacional ISO 25000 - Systems and Software Engineering -- Systems and Software Quality Requirements and Evaluation (SQuaRE), Organizaci3n Internacional De Normalizaci3n, and Comisi3n Electrotecnica Internacional, 2014

- Pamela Erskine ITIL and organizational change , Wiley, 2013

- Parra, Eugenio, Christos Dimou, Juan Llorens, Valent3n Moreno, and Anabel Fraga A Methodology for the Classification of Quality of Requirements Using Machine Learning Techniques, Information and Software Technology, 2015

- itSMF ITIL Foundation Handbook, TSO (The Stationery Office), 2012