

Academic Year: (2022 / 2023)

Review date: 14-02-2022

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher:

Type: Compulsory ECTS Credits : 3.0

Year : 2 Semester : 2

DESCRIPTION OF CONTENTS: PROGRAMME

- 1- Introduction to real-time systems.
 - 1.1 - Applications of Real-Time Systems
- 2- Concurrent Programming.
 - 2.1 - Concurrent components
 - 2.2 - Interaction and communication
- 3- Real-time operating systems. Characteristics.
- 4- Methods-time measurement.
 - 4.1 - Time Services
 - 4.2 - Posix
- 5- Fault-Tolerant Real-Time Systems.
 - 5.1 - Components
 - 5.2 - Redundancy
 - 5.3 - Standards
- 6- Planning and task analysis.
 - 6.1 - Types of Real-Time Tasks
 - 6.2 - Task Scheduling
- 7- Response time.
- 8- Real-time algorithms

LEARNING ACTIVITIES AND METHODOLOGY**THEORETICAL PRACTICAL CLASSES.**

Knowledge and concepts students must acquire. Receive course notes and will have basic reference texts. Students partake in exercises to resolve practical problems.

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.

STUDENT INDIVIDUAL WORK OR GROUP WORK.

Subjects with 6 credits have 98 hours/0% on-site.

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.

ASSESSMENT SYSTEM**FINAL EXAM.**

Global assessment of knowledge, skills and capacities acquired throughout the course. The percentage of the evaluation varies for each subject between 60% and 0%.

CONTINUOUS EVALUATION.

Assesses papers, projects, class presentations, debates, exercises, internships and workshops throughout the course. The percentage of the evaluation varies for each subject between 40% and 100% of the final grade.

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40