Robotics

Academic Year: (2022 / 2023) **Review date: 05-07-2021**

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher: SALICHS SANCHEZ-CABALLERO, MIGUEL

Type: Electives ECTS Credits : 6.0

Year : 4 Semester : 1

OBJECTIVES

By the end of this subject, students will be able to have:

1. Coherent knowledge of their branch of engineering including some at the forefront of the branch in robotics;
2. The ability to apply their knowledge and understanding of robotics to identify, formulate and solve engineering problems using established methods;
3. The ability to apply their knowledge and understanding to develop and realise designs to meet defined and specified requirements;
4. An understanding of design methodologies, and an ability to use them.
5. Workshop and laboratory skills.
6. The ability to select and use appropriate equipment, tools and methods;
7. The ability to combine theory and practice to solve problems of robotics;
8. An understanding of applicable techniques and methods in robotics, and of their limitations

DESCRIPTION OF CONTENTS: PROGRAMME

- Introduction to robotics
- Elements of robots
- Control architectures
- Navigation

LEARNING ACTIVITIES AND METHODOLOGY

- Lectures
- Practice

ASSESSMENT SYSTEM

Continuous assessment based in works, participation in lectures and evaluation of skills and knowledge.

% end-of-term-examination:	50
% of continuous assessment (assigments, laboratory, practicals…):	50

BASIC BIBLIOGRAPHY

- Roland Siegwart, Illah Reza Nourbakhsh and Davide Scaramuzza Introduction to autonomous mobile robots, MIT Press, 2011