Course guide
205081 - 205081 - Relationship with the Company

Last modified: 02/04/2024

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 707 - ESAII - Department of Automatic Control.

Degree: MASTER'S DEGREE IN AUTOMATIC SYSTEMS AND INDUSTRIAL ELECTRONICS (Syllabus 2012). (Optional subject).
MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN AERONAUTICAL ENGINEERING (Syllabus 2014). (Optional subject).
MASTER'S DEGREE IN SPACE AND AERONAUTICAL ENGINEERING (Syllabus 2016). (Optional subject).

Academic year: 2024 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: RITA MARIA PLANAS DANGLA

Others: Primer quadrimestre:

RITA MARIA PLANAS DANGLA - 1
SERGIO HERNÁNDEZ BRAÑA

TEACHING METHODOLOGY

The course is divided into:

Attendance to different laboratory activities, and
Self-study for doing exercises and activities.

Prior to each activity that will be carried out, the teachers will introduce the necessary concepts in order to be able to extract the maximum performance from each one of them. They will also guide students on how to apply the theoretical concepts to relate them to the practical cases they will see, always using critical reasoning. It will be proposed that students solve exercises and read articles about Industry 4.0 in and outside the classroom, and that use the basic tools to identify their implementation in the activities developed throughout the course. Students, independently, will have to work on the materials provided by the teachers.

This course is based on relating the theoretical concepts acquired during the studies that are being carried out with the currently industrial reality, immersed in strong technological changes. Then, the work or task through which, the student will be evaluated, will have to be proposed by teachers and industrial experts on Industry 4.0 and 4th Industrial Revolution.

The work will be developed in group and the teachers will evaluate the work of each student with and within the team. Students will be asked to present the correct resolution of all phases of the practical work proposed by the teachers. The teachers will provide the documentation and the follow-up of the activities through ATENEA.

The final presentation will be done before the teachers who will establish a note to each work following criteria such as justification, scope, efficiency, originality, system behaviour, etc.

The teachers provide the program and the follow-up of the activities carried out by ATENEA

LEARNING OBJECTIVES OF THE SUBJECT

To authorize the student for the understanding and use of the technologies involved in Industry 4.0.
Provide the student with the necessary skills to identify Industry 4.0 solutions.
Provide the student with the necessary skills to relate theoretical concepts with practical solutions within the Industry 4.0

STUDY LOAD

Type	Hours	Percentage
Hours small group	9,0	12.00
Self study	48,0	64.00
Hours large group	18,0	24.00

Total learning time: 75 h

CONTENTS

Module 1: Industry 4.0

Description:
This course will be based on the realization of a set of activities consisting of , the configuration and programming of an industrial MES (Manufacturing Execution System), in order to manage the automation of a production process as efficiently as possible , taking into account the global and integrated optimization of the entire company. all of them focused on the knowledge about the technologies of the Industry 4.0.

There will be an activity per session, which will be focused on one of the aspects related to the 4th Industrial Revolution. In this way, it will be attempted to make a connection between the concepts acquired within the studied curricula and their practical implementation within the industrial world.

Students, always working in groups, will have to perform a task or work based on the activities carried out. The tasks will be proposed by the different teachers and these will be responsible for tutoring them, in order to offer help in the development of the project and to solve possible doubts on the part of the student.

Related activities:
Students, organized in teamwork need to work autonomously, to develop solutions in accordance with the project goals

Full-or-part-time: 75h
Theory classes: 18h
Laboratory classes: 9h
Self study : 48h

GRADING SYSTEM

Attendance to activities: 40%
Project implementation, labwork_1: 20%
Project implementation, labwork_2: 20%
Project implementation, labwork_3: 20%

RESOURCES

Other resources:
The necessary material will be provided by the teaching staff through the ATENEA platform.