Machine testing techniques

Academic Year: (2022 / 2023) **Review date: 01-06-2022**

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: QUESADA GONZALEZ, ALEJANDRO

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

- Machine Mechanics
- Production systems and manufacturing technologies
- Machines Technology

OBJECTIVES

¿ Acquire a global vision of different techniques involved in mechanical testing design
¿ Train up criteria on technique selection to apply mechanical actions to a system
¿ Know different instrumentation systems for testing data acquisition

DESCRIPTION OF CONTENTS: PROGRAMME

1.- Instrumentation systems
· Transducers fundamental aspects
· Extensometers
· Accelerometers
· Load cells
· Signal conditioners
· Recording techniques
2.- Driving systems
· Pneumatic actuators
· Pneumatic valves
· Pneumatic circuits
· Electro-pneumatic sistems
· Electronic control
3.- Universal testing machines
4.- Vibration tests

ASSESSMENT SYSTEM

The student will be evaluated following the Bologna criteria. Specifically, continuous evaluation will be carried out through a course project, as well as a final exam will be carried out. To pass the course, the student must obtain a total score equal to or greater than 5, having to obtain a minimum mark of 3.5 out of 10 in the final exam.
Percentage of the Final Exam: 50%.
Percentage of the course project: 50%
The completion and passing of the laboratory practices is mandatory to pass the course.
Those students who do not take the practical lessons and go directly to the extraordinary exam must pass a practical exam.

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