

Academic Year: (2022 / 2023)

Review date: 19-04-2022

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: LOPEZ BOADA, MARIA JESUS

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Subjects that provide the skills common to the industrial branch mentioned in the Ministerial Order CIN/351/2009, of February 9, 2009, which establishes the requirements for recognition of official university degrees that qualify an individual to practice as Technical Industrial Engineer.

OBJECTIVES

- Know in the key aspects related with today's different means of transport of person and materials.
- Have sufficient criteria to search and select the adequate means of transport.
- Know the constructive, technical operating and functional characteristics of the transporting equipments which are more used in material handling.
- Consult and implement standards.
- Design a transport or lifting equipment using analytical and computational methods.
- Prepare a technical report about the design of a transport or lifting equipment.
- Work in group.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to Transport Engineering. Material Handling. Intermodal Transportation
2. Cranes
3. Ropes
4. Lifts
5. Belt Conveyors
6. Fork Lifts

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities:

- * Theoretical content. Master session (0,53 ECTS)
- * Practical content. Classroom exercises for the understanding of the subject matter. (0,4 ECTS)
- * Laboratories in computer classroom. (0,16 ECTS)
- * Individual and group work of the student. (1,92 ECTS)

Methodology:

- *Preparatory and previous work of the student. Analysis of exercises and critical reading of texts recommended by the teacher of the subject: Exercises, articles, reports, manuals.
exercises, articles, reports, manuals, either for later discussion in class, or to expand and consolidate the knowledge of the subject.
- *Lectures. Lectures in class by the professor with the support of computer and audiovisual media, in which the main concepts of the subject are developed.
the main concepts of the subject are developed and the materials and bibliography are provided to complement the students' learning.
- *Practical sessions. Resolution of problems, etc. posed by the teacher individually or in groups. Laboratory practices.
- *Laboratory practices. Realization of the design of a crane by means of Finite Elements under the guidance and supervision of the teacher.
- *Elaboration of a report related to the design of a conveyor. This report will be carried out in group.

ASSESSMENT SYSTEM

* First call:

The student must follow the continuous evaluation process.

Final qualification:

- Final examination in which the knowledge, skills and abilities acquired by the student during the course will be assessed individually (60% of the total weight).
- Continuous assessment (40% of the total weight) in which the work done in group by the students will be valued. The realization of the practices is obligatory to pass the subject.

* Second call:

- If the student followed the continuous assessment process, the exam will have the same percentage value as in the first call.
- If the student did not follow the process of continuous assessment, he/she will have to take an exam with a value of 100% of the total grade of the course.

% end-of-term-examination: 60

% of continuous assessment (assignments, laboratory, practicals...): 40

BASIC BIBLIOGRAPHY

- M^a Jesús López Boada, Beatriz López Boada, Vicente Díaz López Ingeniería del Transporte, UNED, 2012

ADDITIONAL BIBLIOGRAPHY

- David E. Mulcahy Materials handling handbook, McGraw-Hill, 1999
- Dunlop Conveyor belt technique design and calculation, Dunlop, 2010
- Howard I. Shapiro Cranes and derricks, McGraw-Hill, 2000
- L. Janovsky Elevator mechanical design , Ellis Horwood series in mechanical engineering, 1993