Transport Engineering

Academic Year: (2024 / 2025) **Review date: 02-08-2024**

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: OLMEDA SANTAMARIA, ESTER

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Machine Kinematics, Machine design and fundamental Mechanics

OBJECTIVES

After completing the course, students will have acquired general skills related to the field of transport, as well as specific engineering knowledge on transport vehicles by road and rail. Moreover, the sutdent will learn about the transport sector from the point of view of management and calculation of traffic parameters.

DESCRIPTION OF CONTENTS: PROGRAMME

1.- INTRODUCTION TO TRANSPORT.
2.- TRAFFIC ENGINEERING. MACROSCOPIC MODELS.
3.- TRAFFIC ENGINEERING. MICROSCOPIC MODELS.
4.- VERTICAL TRANSPORT
5.- EXTRA TRANSPORT.
6.- FLEET TRANSPORT
7.- PASSENGER TRAIN OPERATIONS.
8.- ENERGY ASPECTS OF TRANSPORT
9.- TRANSPORT OF DANGEROUS GOODS.

LEARNING ACTIVITIES AND METHODOLOGY

The activities used for the training of this subject are fundamentally based on theoretical classes in which the subjects of the course are developed in detail, accompanied, when necessary, by problem sessions given in the classroom.
A series of practical classes (2) serve to put in the student's judgment particualr aspects exposed in the classroom.
Finally, visits are made to companies in the sector in order that the student knows first hand some aspects related to the subject. Visits and their number depend each academic year on the number of students enrolled.
When there is an opportunity, speakers from the sector will be invited.

ASSESSMENT SYSTEM

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

A. FINAL theoretical-practical examination on the theoretical contents and practical exercises of the course programme.
B. Continuous evaluation: Work on the subject, which should include some aspect of it and should preferably include some practical case of it.

In ordinary call the final qualification is broken down into A:50%, B: 50%
In the Extraordinary Call the final qualification will be the maximum between:
- With continuous evaluation: A:50%, B:50%
- Without continuous assessment: A:100%.

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

In the theoretical exam, you must get a score above 3/10 to pass the course.

The completion of the practical classes is compulsory in order to pass the course.

BASIC BIBLIOGRAPHY

- A. Miravete, E. Larrodé, L. Castejón y J. Cuartero. Los transportes en la ingeniería industrial: (teoría), Editorial Reverté, 2007

- ANTONIO VALDES GONZALEZ ROLDAN INGENIERÍA DE TRAFICO, BELLISCO, 2016

- Alberto Cillero Hernández; Alberto García Álvarez; Pilar Jericó Rodríguez OPERACIÓN DE TRENES DE VIAJEROS. CLAVES PARA LA GESTIÓN AVANZADA DEL FERROCARRIL, Fundación de los ferrocarriles españoles, 2011

- LÓPEZ BOADA, M.ª Jesús; LÓPEZ BOADA, Beatriz; DÍAZ LÓPEZ, Vicente; FUENTES LOSA, Julio INGENIERÍA DEL TRANSPORTE, UNED, 2012