

## 220215 - Transportation and Materials Handling Engineering

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
 Teaching unit: 712 - EM - Department of Mechanical Engineering  
 Academic year: 2019  
 Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Teaching unit Compulsory)  
 ECTS credits: 2,5 Teaching languages: Catalan

### Teaching staff

Coordinator: JAVIER SALUEÑA BERNA  
 Others: Orta Roca, Jordi  
 Huguet Ballester, David

### Degree competences to which the subject contributes

Specific:

1. Knowledge of methods and techniques of transportation and industrial maintenance.

### Teaching methodology

It is divided into three parts:

- Lectures that teachers will introduce the main concepts and recommend the reading of different documents available in the web.
- Small group sessions where teachers guide students in applying theoretical concepts (exercises and problems) and the use of specific software for traffic simulation.
- The third group of activities is self-study (individual study, reading documents, resolution of problems...)

### Learning objectives of the subject

Ability to select the most appropriate means of transport for raw materials and manufactured products.  
 Knowledge of the construction features and operating facilities and equipment maintenance.  
 Understanding the parameters that influence the flow of traffic from road vehicles.

### Study load

Total learning time: 62h 30m	Hours large group:	15h	24.00%
	Hours medium group:	0h	0.00%
	Hours small group:	7h 30m	12.00%
	Guided activities:	0h	0.00%
	Self study:	40h	64.00%

## 220215 - Transportation and Materials Handling Engineering

### Content

Introduction to transportation engineering. Basic characteristics of transportation modes. Idea of transportation cost	Learning time: 20h Theory classes: 8h Self study : 12h
Introduction to the theory of traffic. Simulation	Learning time: 22h 30m Laboratory classes: 7h 30m Self study : 15h
Materials handling in the industry	Learning time: 20h Theory classes: 7h Self study : 13h

### Qualification system

1 Assessment: 35%. Supervised individual exercise (written exam) of one hour, during the timetable.  
2nd Assessment: 40%. Supervised individual exercise (written exam) for one hour on the date set by the exam.  
Delivery of exercises: 25%. Evaluation of submitted works (2) (An individual exercises and another 10% in group 2 or 3 people, 15%).

In the first evaluation it will be possible to redirect the result if the result is unsatisfactory (less than 5) presenting a recovery on the day of the second evaluation, in the same time.

### Bibliography

Basic:

Astals, Francesc. Enginyeria del transport [on line]. Barcelona: Edicions UPC, 2007 [Consultation: 07/07/2017]. Available on: <<http://hdl.handle.net/2099.3/36827>>. ISBN 9788483019054.

Astals, Francesc. Almacenaje, manutención y transporte interno en la industria [on line]. Barcelona: Edicions UPC, 2009 [Consultation: 07/07/2017]. Available on: <<http://hdl.handle.net/2099.3/36835>>. ISBN 9788498803839.