

## 60808 - Transportation and industrial maintenance

### Información del Plan Docente

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|------------------|---|
| Academic Year    | 2017/18   |
| Subject          | 60808 - Transportation and industrial maintenance |
| Faculty / School | 110 - Escuela de Ingeniería y Arquitectura        |
| Degree           | 532 - Master's in Industrial Engineering          |
| ECTS             | 4.5   |
| Year             |   |
| Semester         | Half-yearly                                       |
| Subject Type     | Compulsory  |
| Module           | ---   |

### **1.General information**

#### **1.1.Introduction**

#### **1.2.Recommendations to take this course**

#### **1.3.Context and importance of this course in the degree**

#### **1.4.Activities and key dates**

### **2.Learning goals**

#### **2.1.Learning goals**

#### **2.2.Importance of learning goals**

### **3.Aims of the course and competences**

#### **3.1.Aims of the course**

#### **3.2.Competences**

### **4.Assessment (1st and 2nd call)**

#### **4.1.Assessment tasks (description of tasks, marking system and assessment criteria)**

### **5.Methodology, learning tasks, syllabus and resources**

#### **5.1.Methodological overview**

The methodology followed in this course is oriented towards achievement of the learning objectives. It promotes continuous work and focuses on the practical aspects of calculation and optimization of transport and industrial maintenance. A wide range of teaching and learning tasks are implemented, such as

## 60808 - Transportation and industrial maintenance

- Lectures, where theoretical and descriptive aspects of the systems studied are treated and calculation procedures of the various components and devices are also explained. Whole group sessions.
- Practice sessions, where systems and their components will be designed and optimized throughout a specific software developed for this purpose. Real design variables are handled.
- The assessment focuses on the practical and computational aspects of the systems studied. The details are included in the "Assessment" section.

### 5.2.Learning tasks

The course includes the following learning tasks:

- A01 Lectures (20 hours). These classes are held for the entire whole group, and include the description of transport systems, procedures, calculation and design of systems and its elements, accompanied by the realization of practical problems.
- A02 Practice sessions (10 hours) Problem-solving and case studies.
- A03 Lab sessions (9 hours). Sessions given to small groups, usually in the computer lab, to develop skills in solving real problems and interpretation of results. Task instructions will be available on the Moodle platform.
- A04 Special practice sessions (1 hours).
- A05 Assignments (6.5 hours).
- A06 Tutorials (4 hours)
- A07 Autonomous work and study (58 hours)
- A08 Assessment tests (4 hours).

### 5.3.Syllabus

The course will address the following topics:

- Topic 1. Industrial conveyors.
- Topic 2: Cranes. Components and Devices.
- Topic 3. Electrical and hydraulic lifts.

### 5.4.Course planning and calendar

The course has 36 hours of class during the 15 weeks of the semester.

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the EINA website (<http://eina.unizar.es>).

### 5.5.Bibliography and recommended resources

- Los transportes en la ingeniería industrial : (Teoría) / A. Miravete, E. Larrodé, L. Castejón y J. Cuartero . - 1a ed. Zaragoza : Antonio Miravete, 1998
- Los transportes en la ingeniería industrial : (problemas y prácticas) / A. Miravete, E. Larrodé, J. Cuartero y L. Castejón . - 1ª ed. Zaragoza : Antonio Miravete, 1998