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: 2018
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

<table>
<thead>
<tr>
<th>Total learning time: 62h 30m</th>
<th>Hours large group: 15h</th>
<th>24.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group:</td>
<td>0h</td>
<td>0.00%</td>
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<tr>
<td>Hours small group:</td>
<td>7h 30m</td>
<td>12.00%</td>
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<td>Guided activities:</td>
<td>0h</td>
<td>0.00%</td>
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<tr>
<td>Self study:</td>
<td>40h</td>
<td>64.00%</td>
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</tbody>
</table>
## Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Learning time:</th>
<th>Theory classes:</th>
<th>Self study:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction to transportation engineering.</strong> Basic characteristics of transportation modes. Idea of transportation cost</td>
<td>20h</td>
<td>8h</td>
<td>12h</td>
</tr>
<tr>
<td><strong>Introduction to the theory of traffic. Simulation</strong></td>
<td>22h 30m</td>
<td>7h 30m</td>
<td>15h</td>
</tr>
<tr>
<td><strong>Materials handling in the industry</strong></td>
<td>20h</td>
<td>7h</td>
<td>13h</td>
</tr>
</tbody>
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## 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 exercise 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:**
