240AU011 - Vehicle Body Parts

Coordinating unit: 240 - ETSEIB - Barcelona School of Industrial Engineering
Teaching unit: 737 - RMEE - Department of Strength of Materials and Structural Engineering
Academic year: 2017
Degree: MASTER'S DEGREE IN AUTOMOTIVE ENGINEERING (Syllabus 2012). (Teaching unit Compulsory)
ECTS credits: 6
Teaching languages: Spanish

Teaching staff

Coordinator: FRANCISCO ROURE FERNANDEZ
Antonio Sánchez castillo
Esteban Nonay Rapp
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Joan Colet Galí
Guillermo de Castro Lodosa
Jordi vera Gil

Degree competences to which the subject contributes

Specific:
1. Apply knowledge of mathematics, physics and technology obtained through study, experience and practice, using critical reasoning to establish economically viable solutions to technical problems in the automotive sector
2. Conceptualize engineering models, apply innovative methods in problem solving and applications suitable for the design, simulation, optimization and control of processes and systems

Teaching methodology

Combined classes of theory, examples and problems, practical lab sessions, realization and presentation of a workgroup.

Learning objectives of the subject

Understand all the determinants taking part in the conception and design of a car's bodywork. Know all the groups of elements defining the bodywork and its functions. Know for each one of the bodywork's elements the criteria and the parameters of the design, actual solutions and future trends.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 36h</th>
<th>24.00%</th>
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<tbody>
<tr>
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<td>Hours small group: 18h</td>
<td>12.00%</td>
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<tr>
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<td>Guided activities: 0h</td>
<td>0.00%</td>
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<td>Self study: 96h</td>
<td>64.00%</td>
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## Content

### 1. Conceptual definition of the bodywork

**Learning time:** 23h  
Theory classes: 8h  
Practical classes: 0h  
Self study : 15h

**Description:**  
Basic architecture and variation of the bodywork. Package and ergonomy. Typical sections of the bodywork.

### 2. Bodywork project

**Learning time:** 34h  
Theory classes: 12h  
Practical classes: 2h  
Self study : 20h

**Description:**  

### 3. Mobile elements in a bodywork

**Learning time:** 27h  
Theory classes: 10h  
Practical classes: 2h  
Self study : 15h

**Description:**  

### 4. External finishing touches of the bodywork

**Learning time:** 23h  
Theory classes: 8h  
Practical classes: 0h  
Self study : 15h

**Description:**  
Bumpers. Determining factors of the design. The development process. Glass and cleaning systems of the glass. Inferior cladding of the bodywork. Rear mirrors and other external finishing touches.
5. Internal finish

<table>
<thead>
<tr>
<th>Learning time: 43h</th>
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<tbody>
<tr>
<td>Theory classes: 16h</td>
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<tr>
<td>Practical classes: 2h</td>
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<td>Self study: 25h</td>
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**Description:**

**Qualification system**
Partial test (20%), Presentation of the work (20%), Written final exam (60%)

**Regulations for carrying out activities**
General rules; before each test the particular and specific rules will be indicated, if it's the case.

**Bibliography**