295907 - FABAD1 - Additive Manufacturing 1

Coordinating unit: 295 - EEBE - Barcelona East School of Engineering
Teaching unit: 712 - EM - Department of Mechanical Engineering
Academic year: 2018
Degree:

- BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
- BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)

ECTS credits: 3
Teaching languages: Spanish

Teaching staff

Others: Travieso Rodriguez, Jose Antonio

Prior skills

Drawing 3D pieces

Requirements

GRAPHICAL EXPRESSION

Teaching methodology

There will be theory sessions and team work sessions based on a project

Learning objectives of the subject

The subject pretends that the student:
1. Have the ability to select and design the manufacturing process for parts using additive manufacturing techniques.
2. Apply and integrate the connections to develop the project of the manufacture of a mechanical assembly, using CAD-CAM-CAE techniques and additive manufacturing.
3. Be able to control the quality of the manufactured parts.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group: 30h</th>
<th>40.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Self study: 45h</td>
<td>60.00%</td>
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</tbody>
</table>
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## Content

<table>
<thead>
<tr>
<th>Description:</th>
<th>Generals issues about additive manufacturing techniques</th>
<th>Learning time: 3h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>content english</td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td>Specific objectives:</td>
<td>Acquire knowledge about the different techniques of additive manufacturing</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Practical classes: 1h</td>
</tr>
</tbody>
</table>

**Project development**

<table>
<thead>
<tr>
<th>Description:</th>
<th>Project development</th>
<th>Learning time: 3h 20m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>content english</td>
<td>Theory classes: 3h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guided activities: 0h 20m</td>
</tr>
</tbody>
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## Qualification system

The evaluation of the project will be based on the presentation of the report and a final presentation. Partial deliveries will be distributed throughout the semester.

### Regulations for carrying out activities

\[ NF = 0.6 \times NP + 0.4 \times E \]

*NF*-Final mark

*NP*- Project Mark

*E*- Partial deliveries

## Bibliography