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 BIOMEDICAL 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 ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN CHEMICAL 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:</th>
<th>30h</th>
<th>40.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>45h</td>
<td>60.00%</td>
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</tbody>
</table>
# Content

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

<table>
<thead>
<tr>
<th>Learning time: 3h 20m</th>
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</thead>
<tbody>
<tr>
<td>Theory classes: 3h</td>
</tr>
<tr>
<td>Guided activities: 0h 20m</td>
</tr>
</tbody>
</table>

## 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. This subject does not have re-evaluation test.

### Regulations for carrying out activities

NF= 0.6 NP + 0.4*E  
NF-Final mark  
NP- Project Mark  
E- Partial deliveries

## Bibliography

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The content of this page is as follows: 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. This subject does not have re-evaluation test. The qualification system is calculated as NF= 0.6 NP + 0.4*E, where NF is the final mark, NP is the project mark, and E is the partial deliveries. The bibliography includes topics such as general issues about additive manufacturing techniques and project development, with learning times of 3 hours and 3 hours 20 minutes respectively.