# 295907 - FABAD1 - Additive Manufacturing 1

**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>Hours medium group: 0h</th>
<th>Self study: 45h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40.00%</td>
<td>0.00%</td>
<td>60.00%</td>
</tr>
</tbody>
</table>

**Coordinating unit:** 295 - EEBE - Barcelona East School of Engineering

**Teaching unit:** 712 - EM - Department of Mechanical Engineering

**Academic year:** 2019

**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**

**Coordinator:** JOSE ANTONIO TRAVIESO RODRIGUEZ

**Others:** Primer quadrimestre:
- JOSE ANTONIO TRAVIESO RODRIGUEZ - M10

**Prior skills**

Drawing 3D pieces

**Requirements**

GRAPHICAL EXPRESSION

**Teaching methodology**

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

<table>
<thead>
<tr>
<th>Generals issues about additive manufacturing techniques</th>
<th>Learning time: 3h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 1h</td>
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</tbody>
</table>

**Description:**
content english

**Specific objectives:**
Acquire knowledge about the different techniques of additive manufacturing

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

**Description:**
content english

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