820426 - FAB - Manufacturing

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 MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits: 6

Teaching languages: Catalan, Spanish

Degree competences to which the subject contributes

Specific:

CEMEC-19. Understand and apply graphic engineering techniques.

Transversal:
1. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

Teaching methodology

In the theory and problems classes we will present the items listed in this subject guide, and we'll propose issues and little exercises to do in the classroom and as homework.
For explanations will be used: the blackboard, transparencies, PowerPoint, CD-ROM, Flash Drive, Video and Multimedia Systems. Also in class we will show samples of parts, components and small tools related to the subject matter.
The students will have notes and documentation in virtual space ATENEA UPC Campus.

Learning objectives of the subject

General Objectives
1. Knowledge of parts manufacturing.
2. Create the ability to control and verificate products.
3. Develope the ability to solve problems of metrology and manufacturing processes.
4. To know the rules to make the parts.
5. Ability to select the optimal manufacturing process of a piece.
## Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 45h</th>
<th>30.00%</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
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<tr>
<td></td>
<td>Hours small group: 15h</td>
<td>10.00%</td>
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<td></td>
<td>Guided activities: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
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</tbody>
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## Content

| (ENG) 1. Metrologia i Qualitat | **Learning time:** 30h 30m  
Theory classes: 7h 30m  
Laboratory classes: 6h  
Self study : 17h |
|-------------------------------|--------------------------------------------------|
| (ENG) 2. Fabricació de peces per Formació | **Learning time:** 21h 30m  
Theory classes: 7h 30m  
Self study : 14h |
| (ENG) 3. Fabricació de peces per arrancament de Ferritja | **Learning time:** 40h 30m  
Theory classes: 10h 30m  
Laboratory classes: 4h  
Self study : 26h |
| (ENG) 4. Màquines de Control Numèric i Fabricació Flexible | **Learning time:** 17h  
Theory classes: 6h  
Laboratory classes: 2h  
Self study : 9h |
| (ENG) 5. Fabricació de peces per Deformació Plàstica | **Learning time:** 21h  
Theory classes: 6h  
Laboratory classes: 2h  
Self study : 13h |
| (ENG) 6. Processos de fabricació de materials plàstics | **Learning time:** 7h  
Theory classes: 3h  
Self study : 4h |
### Qualification system

Parcial tests 35% / Generic proficiency (Assessed through individual exercises deliverables): 10% / Laboratories: 20% / Final Test: 35%

### Regulations for carrying out activities

There are two parcial tests. Each one of them is to evaluate topics 1 and 2 (1st test) and 3 and 4 (2nd test). They will be developed in 1:30 hour. There are also a final test to evaluate the other topics, and at the same time you will do the Laboratories test. In this subject there are not re-evaluation exam.

### Bibliography

**Basic:**


**Complementary:**


**Others resources:**

**Hyperlink**

*Advances in manufacturing [en línea]. Springer. ISSN 2195-3597*

http://link.springer.com/journal/volumesAndIssues/40436


http://www.sciencedirect.com/science/journal/17555817

*Modern machine shop [en línea]. Cincinnati, OH: Gardner Publications. ISSN 0026-8003*

http://search.proquest.com/publication/40497