220089 - Graphic Expression II

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 717 - EGE - Department of Engineering Presentation
Academic year: 2018
Degree: BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Compulsory)
ECTS credits: 3

Teaching languages: Spanish

Coordinator: Francisco Hernández Abad

Degree competences to which the subject contributes

Specific:
1. A capacity for spatial vision and an understanding of graphic representation techniques, using the traditional methods of metric and descriptive geometry and computer-aided design applications

Teaching methodology

The subjects will develop through theory and practical classes in suitable classrooms which are equipped with the software and the corresponding specific hardware.

Students will receive the knowledge and methodology for the deployment of the course in theory class. It will be put in their disposition the necessary information to consolidate this knowledge and to reinforce them.

Practices of laboratory are suitable for the concepts explained in theory class, taking into account the cumulative character of this type of knowledge.

To avoid collapse printing system and fraud, it will create a storage system controlled by teaching staff, which students will allow to print to later the work. This work will have to correspond with the file stored in the schedule of class.

Learning objectives of the subject

- To develop vision and spatial intelligence.
- To develop imagination and transmitting it in concrete images.
- To know the form and essential characteristics of the mechanical elements.
- To determinate in shape and dimensions any piece or real mechanism.
- To conceive and represent mechanisms, graphs or outlines from ideas, functions or data.
- To carry out the graphic part of any project, so that it can be presented to an official organization.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group:</th>
<th>16h</th>
<th>21.33%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group:</td>
<td>14h</td>
<td>18.67%</td>
</tr>
<tr>
<td></td>
<td>Self study:</td>
<td>45h</td>
<td>60.00%</td>
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</tbody>
</table>
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### Content

<table>
<thead>
<tr>
<th>1. Representation normalized in the technical drawings</th>
<th>Learning time: 37h</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 8h</td>
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<tr>
<td></td>
<td>Laboratory classes: 7h</td>
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<td></td>
<td>Self study: 22h</td>
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### Description:

<table>
<thead>
<tr>
<th>2. Graphic documentation of the projects. Mechanisms</th>
<th>Learning time: 38h</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 8h</td>
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<tr>
<td></td>
<td>Laboratory classes: 7h</td>
</tr>
<tr>
<td></td>
<td>Self study: 23h</td>
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### Description:
### Planning of activities

| ACTIVITY 1: REPRESENTATION NORMALIZED IN THE TECHNICAL DRAWINGS | Hours: 34h 30m  
Self study: 22h  
Theory classes: 5h 30m  
Laboratory classes: 7h |
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<td>Description:</td>
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| ACTIVITY 2: PARTIAL EXAM | Hours: 2h 30m  
Theory classes: 2h 30m |
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<td>Description:</td>
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| ACTIVITY 3: MECHANISM DESIGN AND DEVELOPMENT OF CONSTRUCTION PROJECT DEVELOPMENT | Hours: 35h 30m  
Self study: 23h  
Theory classes: 5h 30m  
Laboratory classes: 7h |
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<td>Description:</td>
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</table>

| ACTIVITY 4: FINAL EXAM | Hours: 2h 30m  
Theory classes: 2h 30m |
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<tbody>
<tr>
<td>Description:</td>
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Qualification system

The different parts will be evaluated according to the following scale:
- Works carried out in practical classes: 20%
- Examination of partial evaluation: 20%
- Final graphic project of course: 30%
- Examination of final evaluation: 30%

The final qualification will be obtained in the following way: (note that all marks are out of 10):
$$N_f = 0.2N_{tr} + 0.2N_{ep} + 0.3N_{pg} + 0.3N_{ef}.$$  

$N_f$: Final qualification  
$N_{tr}$: Work of practical classes qualification  
$N_{ep}$: Partial qualification  
$N_{pg}$: Graphical project qualification  
$N_{ef}$: Final exam qualification  

All those students that fail or can not attend to the partial exam, will have the opportunity to improve their mark at the final exam. If the qualification obtained at the final exam is superior to the partial's one, the mark will be substituted for a maximum qualification of 5.

Regulations for carrying out activities

One objective is to help the students to achieve the specific objectives of each module. The teaching staff will orientate about the tool uses and about the application of the concepts explained in theory. Practical questions of general character will be imparted. It will be required a computer with enough features and a projector with great visibility from all places. The activity 1 will have to print it and do it handmade. Students will have to give them at the following week in paper format. The proposed project of activity 2 will present in the specified date and duly bound in format DIN A3. The contents will be:
- Front page.  
- Drawing of whole.  
- Pieces list.  
- Drawings of parts.
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Bibliography

Basic:


Complementary:

Equip Tècnic Ediciones Don Bosco. Col·lecció Teoría de tècniques de expresió gràfica.

Equip Tècnic Ediciones Don Bosco. Col·lecció Delineación Industrial.


Others resources:

Audiovisual material

AENOR Dibujo Técnico: 3a ed. 2005, Ed. AENOR.