Degree competences to which the subject contributes

Specific:
1. DES: Ability to design and project in different situations, effectively and efficiently with different agents involved in the process of design and industrial development.
2. DES: Ability to take decisions related to the graphic representation of concepts.
3. DES: Ability to apply specific methods, techniques and instruments for each form of technical drawing.
4. DES: Knowledge of the types of design and products, and their presentation.
5. DES: Knowledge of basic animation and 3D simulation.

Transversal:
6. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
7. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.

Learning objectives of the subject

Optimal presentation of projects in three-dimensional environments.
Assimilation of the basic principles of animation in terms of simulation chambers.
The application of the principles of visual language.
Generation of three-dimensional animations.
Generation of audiovisual elements that mix real and virtual elements.
### Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 15h</th>
<th>10.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Hours small group: 45h</td>
<td>30.00%</td>
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<tr>
<td></td>
<td>Guided activities: 6h</td>
<td>4.00%</td>
</tr>
<tr>
<td></td>
<td>Self study: 84h</td>
<td>56.00%</td>
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</tbody>
</table>
## Content

<table>
<thead>
<tr>
<th>TOPIC 1: Principles of animation</th>
<th>Learning time: 10h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 6h</td>
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</tbody>
</table>

**Description:**
1.1. Fotorealistic environments
1.2. Virtual cameras
1.3. Rendering

**Related activities:**
Reading and analysis of sample material.

<table>
<thead>
<tr>
<th>TOPIC 2: Global lighting models</th>
<th>Learning time: 10h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 6h</td>
</tr>
</tbody>
</table>

**Description:**
2.1. Lighting photon map based
2.2. Lighting image based (IBL)

**Related activities:**
Reading and analysis of sample material
Solving on concret exercices
Layout of own proposals models.

**Specific objectives:**
Rendering using photon map systems
Rendering using IBL systems
## TOPIC 3: Textures

**Learning time:** 20h  
Laboratory classes: 8h  
Self study: 12h

### Description:
- 3.1. Basic materials  
- 3.2. Textures  
- 3.2. Sample material collections  
- 3.3. Unwrapping methods

### Related activities:
- Reading and analysis of sample material  
- Solving on concrex exercises  
- Layout of own proposals models.

### Specific objectives:
- Applying textures  
- Using rendering engines

## TOPIC 4: Indoor and outdoor scenes

**Learning time:** 20h  
Laboratory classes: 8h  
Self study: 12h

### Description:
- 4.1. Outdoor lighting  
- 4.2. Indoor lighting  
- 4.3. Exposure compensation  
- 4.4. Lighting day / night

### Related activities:
- Reading and analysis of sample material  
- Solving on concrete exercises  
- Layout of own proposals models.

### Specific objectives:
- Applying audiovisual standards on lights and cameras to product presentation images of products.
### (ENG) TEMA 5: Introduction at 3D Animation

**Learning time:** 20h  
- Laboratory classes: 8h  
- Self study: 12h

<table>
<thead>
<tr>
<th>Description:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>5.1. Animation by keyframe.</td>
<td></td>
</tr>
<tr>
<td>5.2. Dummies use</td>
<td></td>
</tr>
<tr>
<td>5.3. Animation curves edition</td>
<td></td>
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<tr>
<td>5.4. Parametric animation.</td>
<td></td>
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<tr>
<td>5.5. Camera animation.</td>
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</tbody>
</table>

**Related activities:**  
- Reading and analysis of sample material  
- Solving on concrete exercises  
- Layout of own proposals models.

**Specific objectives:**  
- Setup of animation environments  
- Do 3d animations of products to be presented

### TEMA 6: Advances animation

**Learning time:** 20h  
- Laboratory classes: 8h  
- Self study: 12h

<table>
<thead>
<tr>
<th>Description:</th>
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<tbody>
<tr>
<td>6.1. Particles animation</td>
<td></td>
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<tr>
<td>6.2. Fisics</td>
<td></td>
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</tbody>
</table>

**Related activities:**  
- Reading and analysis of sample material  
- Solving on concrete exercises  
- Layout of own proposals models.

**Specific objectives:**  
- Add realism at product presentations using particle animation and fisics.
320147 - PP - Product Presentation

### TEMA 7: Integración

<table>
<thead>
<tr>
<th>Learning time: 20h</th>
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<tbody>
<tr>
<td>Laboratory classes: 8h</td>
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<tr>
<td>Self study : 12h</td>
</tr>
</tbody>
</table>

**Description:**
- 7.1. Camera matching
- 7.2. Integration
- 7.3. Rendre elements
- 7.4. Editing and composition

**Related activities:**
- Reading and analysis of sample material
- Solving on concrete exercises
- Layout of own proposals models.

**Specific objectives:**
- Mixing real and virtual models on product presentations

## Qualification system

The course is graded on the following areas:
- Presentation of individual works
- Presentation of projects
- Theory
- 40% Exams
  - 20% Exam 1
  - 20% Exam 2

Practices and deliverables along course: 60%

For those students who meet the requirements and submit to the reevaluation examination, the grade of the reevaluation exam will replace the grades of all the on-site written evaluation acts (tests, midterm and final exams) and the grades obtained during the course for lab practices, works, projects and presentations will be kept.

If the final grade after reevaluation is lower than 5.0, it will replace the initial one only if it is higher. If the final grade after reevaluation is greater or equal to 5.0, the final grade of the subject will be pass 5.0.

## Regulations for carrying out activities

Assistance at practices is compulsory.

The evaluation methodology will be:
- Questionnaires
- Evaluation of all the deliveries
- Correction process and participation by students
Bibliography

Basic:

