320181 - DJ - Jacquard Design

**Teaching staff**

**Coordinator:** Mònica Ardanuy

**Prior skills**

It is compulsory to follow the course classes regularly. It is a practical course and the software used to design is only available at the class.

**Teaching methodology**

Sessions of theory
Sessions of practical work at class

**Learning objectives of the subject**

OAG1. To known the possibilities and limitations of Jacquard looms.
OAG2. To know how to choose the best way to design depending on the fabric to manufacture and the loom to use.
OAG3. To be able to design Jacquard fabrics.

**Study load**

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 30h</th>
<th>20.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 30h</td>
<td>20.00%</td>
</tr>
<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
# 320181 - DJ - Jacquard Design

## Content

### TOPIC 1. JACQUARD MACHINES AND CONFIGURATIONS

**Description:**
- 1.1. Introduction and history
- 1.2. Identification of Jacquard fabrics
- 1.3. Jacquard machines and implications on the design
- 1.4. Jacquard templates. Interpretation and implications on the picks

**Related activities:**
- 1

**Specific objectives:**
- OE1. To understand the implications of the Design on the use of the Jacquard machines
- OE2. To be able to select the most suitable machine for the design to make

### TOPIC 2. INTRODUCTION TO JACQUARD DESIGN

**Description:**
- 2.1. Steps to follow for a Jacquard Design
- 2.2. Calculations for a Jacquard Design
- 2.3. Structures of weaves of one face
- 2.4. Structures of weaves of two or more faces

**Related activities:**
- 2

**Specific objectives:**
- OE3. To know the effects of the number of warps and wefts used.
- OE4. To know the effects of the weaves used.
**TOPIC 3. WEAVE DESIGN**

**Description:**
3.1. Fundamental weaves and its application  
3.2. Complex weaves. Double face fabrics  
3.3. Weaves with more than one warp and/or weft  
3.4. Unitary, Binary, ternary combinations

**Related activities:**
1,2

**Specific objectives:**
OE5. Two know the steps to generate a design

<table>
<thead>
<tr>
<th>Learning time: 37h 30m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 15h</td>
</tr>
<tr>
<td>Self study: 22h 30m</td>
</tr>
</tbody>
</table>

**TOPIC 4. PROCESS OF JACQUARD DESIGN**

**Description:**
4.1. Previous calculations

**Related activities:**
3

**Specific objectives:**
OE5. Two know the steps to generate a design

<table>
<thead>
<tr>
<th>Learning time: 37h 30m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory classes: 15h</td>
</tr>
<tr>
<td>Self study: 22h 30m</td>
</tr>
</tbody>
</table>

**TOPIC 5. ANALYSIS OF JACQUARD FABRICS**

**Description:**
4.1. How to tackle a design in function of one initial concept, from a picture or from a fabric.

**Related activities:**
3

<table>
<thead>
<tr>
<th>Learning time: 12h 30m</th>
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</thead>
<tbody>
<tr>
<td>Laboratory classes: 5h</td>
</tr>
<tr>
<td>Self study: 7h 30m</td>
</tr>
</tbody>
</table>
### TOPIC 6. CAD SIMULATION

#### Learning time:
- 25h
- Laboratory classes: 10h
- Self study: 15h

#### Description:
4.1. How to tackle a design in function of one initial concept, from a picture or from a fabric.

#### Specific objectives:
- OE6. To be able to select the most appropriate method to make a project for a specific design.
## Planning of activities

### ACTIVITY 1. THEORY CLASSES

| Description: | Theory classes: 25h  
Self study: 37h 30m |
|-------------|-----------------------|
| Support materials: | Basic and complementary bibliography.  
Power point presentations |
| Descriptions of the assignments due and their relation to the assessment: | Exam |
| Specific objectives: | OE1, OE2, OE3, OE4, OE5, OE6 |

### ACTIVITY 4. ANALYSIS OF TEXTILE STRUCTURES

<table>
<thead>
<tr>
<th>Description:</th>
<th>To make analysis of complex structures applied to Jacquard fabrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support materials:</td>
<td>Jacquard Fabrics</td>
</tr>
<tr>
<td>Descriptions of the assignments due and their relation to the assessment:</td>
<td>Report of results</td>
</tr>
<tr>
<td>Specific objectives:</td>
<td>OE3, OE4, OE5</td>
</tr>
</tbody>
</table>

### ACTIVITY 5. VIRTUAL MATERIALIZATION OF JACQUARD DESIGNS

<table>
<thead>
<tr>
<th>Description:</th>
<th>Simulation with CAD</th>
</tr>
</thead>
</table>
| Support materials: | Basic and complementary bibliography.  
Power point presentations |
| Descriptions of the assignments due and their relation to the assessment: | Designs simulated |
| Specific objectives: | OE6 |
### ACTIVITY 2. STUDY OF JACQUARD LOOM

**Hours:** 12h 30m  
Practical classes: 5h  
Self study: 7h 30m

**Description:**  
Analysis of Jacquard looms

**Support materials:**  
Jacquard loom  
Bibliography.  
Power point presentations

**Descriptions of the assignments due and their relation to the assessment:**  
Deliverable

**Specific objectives:**  
OE2

### ACTIVITY 3. IMAGE MODIFICATIONS

**Hours:** 12h 30m  
Laboratory classes: 5h  
Self study: 7h 30m

**Description:**  
Treatment of images

**Support materials:**  
Computers CAD  
Image software

**Descriptions of the assignments due and their relation to the assessment:**  
Image

**Specific objectives:**  
OE5

### Qualification system

Exam: 30%  
Deliverables: 70% (20% 1st term, 50% 2nd term)
Bibliography

Basic:


Morera García, S. Dibujo y ornamentación de tejidos. Tarrasa: [s.n.], 1958.


Complementary:
