Degree competences to which the subject contributes

Specific:
1. TEX: knowledge of unitary operations of preparing, dyeing and blanching
   
   CE20. TEX: Applied knowledge of sizing and finishing processes
   
   CE25. TEX: Knowledge of the chemical compound behaviour for the textile ennoblement.

Learning objectives of the subject

GLO1. To acquire a professional knowledge for the design of colour spaces and the preparation, bleaching, batch dyeing and surface colorimetry of all types of textiles.

GLO2. To develop skills for industrial quality and safety management in batch dyeing processes.

GLO3. To become acquainted with the industrial network of dye and finish manufacturers and the technical specifications for finished textiles, with a view to the integral development of textile production processes.

GLO4. To develop the specific and transversal skills associated to the academic work.

Prior skills

Previously studying the subject Materials for Textile Product Design is highly desirable.

Teaching staff

Coordinator: Riba Moliner, Marta

Others: Cayuela Marin, Diana

Teaching methodology

- Presentational sessions for delivery of the topics with active student involvement.
- Presentational sessions of practical work.
- Preparation and development of assessable group activities.

Teaching languages: 

Catalan, Spanish
### Study load

<table>
<thead>
<tr>
<th><strong>Total learning time:</strong> 150h</th>
<th>Hours large group: 30h 20.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group: 0h 0.00%</td>
<td>Hours small group: 30h 20.00%</td>
</tr>
<tr>
<td>Guided activities: 0h 0.00%</td>
<td>Self study: 90h 60.00%</td>
</tr>
</tbody>
</table>

Study load
### Topic 1: DESIGN OF PREPARATION AND BLEACHING PROCESSES

**Description:**
- 1.1. Unit processes: Singeing, carbonising, scouring, degreasing, washing, chemical and optical bleaching.
- 1.2. Optimization of processes formulations.
- 1.3. Optimization of production processes.
- 1.4. Technical specifications for the resulting textile products, with emphasis on international trade.

**Related activities:**
RA0, RA1

**Specific objectives:**
OE2. Assessing the reliability of tests
OE3. Planning testing quality control process and product.

**Learning time:** 50h
- Theory classes: 10h
- Laboratory classes: 10h
- Self study: 30h

### Topic 2: INDUSTRIAL USES OF COLORIMETRY

**Description:**
- 3.1. Fundamentals of instrumental colorimetry.
- 3.2. Colour measurement
- 3.3. White degree measurement
- 3.4. Colour differences and tolerances
- 3.5. Kubelka Munk's laws.

**Learning time:** 50h
- Theory classes: 8h
- Laboratory classes: 10h
- Self study: 32h
Students will be assessed in a continual manner for self-directed learning and team work. The presence in the practical work is mandatory. Only 2 justified absences will be accepted. Knowledge and skill acquisition will be assessed as follows:

- First evaluation session: 30%
- Second evaluation session: 30%
- Laboratory technical reports: 30%
- Presentation of technical rapport: 10%

Students who have suspended the first partial exam may choose, by communicating to the teacher, a review of recovery. The recovery of the first exam will take a written test, the second day of the exam, then the same with grade 0 to grade 5. replace the initial qualification provided they exceed

The teacher may request at any time, a justification of the conclusions of the reports the student has to prove participation

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.

**Topic 3: DESIGN OF BATCH DYEING PROCESSES**

<table>
<thead>
<tr>
<th>Description:</th>
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<tbody>
<tr>
<td>2.2. Technical information about dye preparations: reception control.</td>
</tr>
<tr>
<td>2.3. Relationship between specific types of textile materials and the most suitable dyestuffs for their dyeing.</td>
</tr>
<tr>
<td>2.4. Batch dyeing machinery and textile dyeing processes. Technology management.</td>
</tr>
<tr>
<td>2.5. Optimization criteria for dyeing processes.</td>
</tr>
</tbody>
</table>

**Related activities:**
RA2, RA3, RA4
Bibliography

Basic:


Others resources: