320165 - POLENG - Polymers in Engineering

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 713 - EQ - Department of Chemical Engineering
Academic year: 2018
Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits: 6
Teaching languages: Catalan

Teaching staff
Coordinator: Xavier Cañavate
Others: Xavier Cañavate, Xavier Colom

Degree competences to which the subject contributes

Specific:
1. IND_COMMON: Knowledge of the science principles, technology and materials. Understanding the relation between the microstructure, synthesis or processing and properties of these materials.

Transversal:
2. 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.

Learning objectives of the subject

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group:</th>
<th>60h</th>
<th>40.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study:</td>
<td>90h</td>
<td></td>
<td>60.00%</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td><strong>Learning time:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 1: Introducció als polímers</td>
<td>7h 30m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 3h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 4h 30m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 2: Síntesi de polímers</td>
<td>2h 30m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 1h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 1h 30m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 3: Microestructura morfologia i propietats</td>
<td>7h 30m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 3h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 4h 30m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 4: Propietats mecàniques</td>
<td>15h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 6h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 9h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 5: Propietats funcionals</td>
<td>10h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 4h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 6h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 6: Introducció als principals processos de transformació de polímers</td>
<td>2h 30m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 1h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 1h 30m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ENG) Tema 7: Barreges de polímers</td>
<td>15h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory classes: 6h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self study : 9h</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Planning of activities

<table>
<thead>
<tr>
<th>(ENG) Tema 8: Biopolímers i fibres</th>
<th>Learning time: 15h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td></td>
<td>Self study: 9h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ENG) Tema 9: Caracterització de polímers</th>
<th>Learning time: 25h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Self study: 15h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ENG) Tema 10: Materials Compòsits</th>
<th>Learning time: 25h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Self study: 15h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ENG) Tema 11: Introducció als criteris de selecció de materials polimèrics</th>
<th>Learning time: 25h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Self study: 15h</td>
</tr>
</tbody>
</table>

### (ENG) CLASSES DE TEORIA

<table>
<thead>
<tr>
<th>Hours: 60h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 60h</td>
</tr>
</tbody>
</table>

### (ENG) 1ER EXAMEN

<table>
<thead>
<tr>
<th>Hours: 3h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 3h</td>
</tr>
</tbody>
</table>

### (ENG) 2ON EXAMEN

<table>
<thead>
<tr>
<th>Hours: 3h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 3h</td>
</tr>
</tbody>
</table>

### (ENG) ACTIVITAT AVALUACIÓ ESPECÍFICA

<table>
<thead>
<tr>
<th>Hours: 1h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 1h</td>
</tr>
</tbody>
</table>
320165 - POLENG - Polymers in Engineering

Qualification system

- 2 exams: 35% cada un
- 2 evaluation specific activities: 15,15%

All those students who fail, want to improve their mark or cannot attend the partial exam, they will have the opportunity to be examined the same day of the final exam. If due to the circumstances it is not viable to do it the same day of the final exam, the teacher responsible for the subject will propose, via the platform Atenea, that the mentioned recovery exam will be carried out another day, in class schedule.

The new mark of the recovery exam will substitute the previous one, unless it is lower.

Bibliography

Basic:


Complementary:


