220607 - Integrated Production Systems

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 707 - ESAII - Department of Automatic Control
Academic year: 2019
Degree: MASTER'S DEGREE IN AUTOMATIC SYSTEMS AND INDUSTRIAL ELECTRONICS (Syllabus 2012). (Teaching unit Optional)
ECTS credits: 5
Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: Morcego Seix, Bernardo
Others: Figueras Jove, Jaume
Pascual Alsina, Jan

Degree competences to which the subject contributes

Specific:
CIA03. Research, analysis, design, implementation and evaluation of the proper performance of highly automated production lines: from the decision taking till the manufacturing plant.
CIA10. Research, analysis, design and evaluation of telecomunications architecture, designing the collaboration strategy to optimize the surrounding industrial process.
CIA04. Research, analysis, design and implementation of ISA88, ISA 95 or ISA97 standards in automated production systems to manage all the data associated to the global management of the manufacturing plant.

Transversal:
CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.
CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

Teaching methodology

Check the Catalan or Spanish version

Learning objectives of the subject

Check the Catalan or Spanish version

Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 31h</th>
<th>24.80%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 14h</td>
<td>11.20%</td>
</tr>
<tr>
<td></td>
<td>Self study: 80h</td>
<td>64.00%</td>
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</tbody>
</table>
# 220607 - Integrated Production Systems

## Content

<table>
<thead>
<tr>
<th>Module 1: Introduction to integrated production systems</th>
<th>Learning time: 9h 20m</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 4h 40m</td>
</tr>
<tr>
<td></td>
<td>Self study : 4h 40m</td>
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</tbody>
</table>

**Description:**
Check the Catalan or Spanish version

**Related activities:**
1, 2, 4

**Specific objectives:**
Check the Catalan or Spanish version

<table>
<thead>
<tr>
<th>Module 2: The programmable logic controller</th>
<th>Learning time: 23h 20m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 4h 40m</td>
</tr>
<tr>
<td></td>
<td>Laboratory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study : 16h 40m</td>
</tr>
</tbody>
</table>

**Description:**
Check the Catalan or Spanish version

**Related activities:**
1, 2, 3, 4

**Specific objectives:**
Check the Catalan or Spanish version

<table>
<thead>
<tr>
<th>Module 3: Industrial communications</th>
<th>Learning time: 25h 40m</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 5h</td>
</tr>
<tr>
<td></td>
<td>Laboratory classes: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study : 16h 40m</td>
</tr>
</tbody>
</table>

**Description:**
Check the Catalan or Spanish version

**Related activities:**
1, 2, 3, 4

**Specific objectives:**
Check the Catalan or Spanish version
### Module 4: Supervisory and control systems (SCADA)

**Learning time:** 31h 20m  
- Theory classes: 8h  
- Laboratory classes: 4h  
- Self study: 19h 20m

**Description:** Check the Catalan or Spanish version

**Related activities:**  
1, 2, 3, 4

**Specific objectives:** Check the Catalan or Spanish version

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### Module 5: Production management

**Learning time:** 26h 20m  
- Theory classes: 5h 40m  
- Laboratory classes: 4h  
- Self study: 16h 40m

**Description:** Check the Catalan or Spanish version

**Related activities:**  
1, 2, 3, 4

**Specific objectives:** Check the Catalan or Spanish version

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### Industry 4.0

**Learning time:** 9h  
- Theory classes: 3h  
- Self study: 6h

**Description:** Check the Catalan or Spanish version

**Related activities:**  
2, 4

**Specific objectives:** Check the Catalan or Spanish version

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### Qualification system

Check the Catalan or Spanish version
Bibliography

Basic:

