Course guide  
220607 - 220607 - Integrated Production Systems

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
Teaching unit: 707 - ESAII - Department of Automatic Control.

Degree: MASTER'S DEGREE IN AUTOMATIC SYSTEMS AND INDUSTRIAL ELECTRONICS (Syllabus 2012). (Optional subject).

Academic year: 2023  
ECTS Credits: 5.0  
Languages: Catalan

LECTURER

Coordinating lecturer: Morcgeo 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>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>80,0</td>
<td>64.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>31,0</td>
<td>24.80</td>
</tr>
<tr>
<td>Hours small group</td>
<td>14,0</td>
<td>11.20</td>
</tr>
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</table>

Total learning time: 125 h
## CONTENTS

### Module 1: Introduction to integrated production systems

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

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

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

**Full-or-part-time:** 9h 20m  
Theory classes: 4h 40m  
Self study : 4h 40m

### Module 2: The programmable logic controller

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

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

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

**Full-or-part-time:** 23h 20m  
Theory classes: 4h 40m  
Laboratory classes: 2h  
Self study : 16h 40m

### Module 3: Industrial communications

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

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

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

**Full-or-part-time:** 25h 40m  
Theory classes: 5h  
Laboratory classes: 4h  
Self study : 16h 40m
Module 4: Supervisory and control systems (SCADA)

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

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

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

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

Module 5: Production management

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

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

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

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

Industry 4.0

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

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

**Related activities:**
2, 4

**Full-or-part-time:** 9h
Theory classes: 3h
Self study : 6h

GRADING SYSTEM

Check the Catalan or Spanish version
BIBLIOGRAPHY

Basic: