Course guides
340369 - INCO-I1001 - Introduction to Computers

Unit in charge: Vilanova i la Geltrú School of Engineering
Teaching unit: 701 - DAC - Department of Computer Architecture.
Degree: BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2018). (Compulsory subject).
Academic year: 2021  ECTS Credits: 7.5  Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: Sanchez Lopez, Sergio
Others: Asensio García, Adrián

PRIOR SKILLS

REQUIREMENTS

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
2. CE2. Basic knowledge of use and programming computer, operating systems, data base and informatic programs with engineering applications.
3. CEFB4. Basic knowledge of use and computer programming, as well as of operating systems, data base and generally informatic programs with engineering applications.
4. CEFB9. Ability to know, understand and assess computer structure and architecture, as well as basic components forming them.

Transversal:
1. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.

TEACHING METHODOLOGY
The middle group classes will be made using the available means in the classrooms (slates, multimedia equipment) and are based on the oral presentation of the contents on the subject matter of study (expository method). In some cases, there will be lectures based on the participation and intervention of the student through short activities in the classroom, such as direct questions or the resolution of problems related to the theoretical exposition exposed.

LEARNING OBJECTIVES OF THE SUBJECT
Understand and design the combinational and sequential digital circuits for designing a simple computer, based on the SISP-1-1 and SISP-1-2 processors.
- Understand the SISA-1 machine language and assembler.
STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hours large group</td>
<td>45,0</td>
<td>24.00</td>
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<tr>
<td>Hours small group</td>
<td>30,0</td>
<td>16.00</td>
</tr>
<tr>
<td>Self study</td>
<td>112,5</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 187.5 h

CONTENTS

1. Introduction

Full-or-part-time: 13h 12m
Theory classes: 1h 45m
Practical classes: 2h
Laboratory classes: 1h 45m
Self study: 7h 42m

2. Combinational circuits. Logic gates (NOT, AND, OR XOR)

Full-or-part-time: 22h 48m
Theory classes: 2h 45m
Practical classes: 4h
Laboratory classes: 2h 45m
Self study: 13h 18m

3. Combinational blocks for basic arithmetic operations with natural numbers

Full-or-part-time: 13h 12m
Theory classes: 1h 45m
Practical classes: 2h
Laboratory classes: 1h 45m
Self study: 7h 42m

4. Integer numbers and combinational blocks for integer numbers

Full-or-part-time: 13h 12m
Theory classes: 1h 45m
Practical classes: 2h 45m
Laboratory classes: 1h
Self study: 7h 42m
<table>
<thead>
<tr>
<th>Course</th>
<th>Full-or-part-time</th>
<th>Theory classes</th>
<th>Practical classes</th>
<th>Laboratory classes</th>
<th>Guided activities</th>
<th>Self study</th>
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</thead>
<tbody>
<tr>
<td>5. Sequencial logic circuits</td>
<td>27h 28m</td>
<td>2h 45m</td>
<td>4h</td>
<td>2h 45m</td>
<td>3h</td>
<td>14h 58m</td>
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<tr>
<td>6. Especial-purpose processors</td>
<td>18h</td>
<td>2h 15m</td>
<td>3h</td>
<td>2h 15m</td>
<td></td>
<td>10h 30m</td>
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<tr>
<td>7. General-purpose Processing Unit (GPU)</td>
<td>17h 50m</td>
<td>2h 10m</td>
<td>3h</td>
<td>2h 10m</td>
<td></td>
<td>10h 30m</td>
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<tr>
<td>8. Input/output and memory</td>
<td>22h 48m</td>
<td>2h 45m</td>
<td>4h</td>
<td>2h 45m</td>
<td></td>
<td>13h 18m</td>
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<tr>
<td>9. Control Unit of SISP-I</td>
<td>16h 12m</td>
<td>1h 45m</td>
<td>2h</td>
<td>1h 45m</td>
<td>3h</td>
<td>7h 42m</td>
</tr>
<tr>
<td>10. Introduction to Operating Systems</td>
<td>9h 36m</td>
<td>1h</td>
<td>2h</td>
<td>1h</td>
<td></td>
<td>5h 36m</td>
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GRADING SYSTEM

Mid-term test *0.2 + exercises*0.2 + Lab*0.2 + periodic test*0.1 + final test*0.3 >= 5

revaluation: final test

EXAMINATION RULES.

BIBLIOGRAPHY

Complementary: