820251 - PDPWEIA - Website Programming and Design

Coordinating unit: 820 - EUETIB - Barcelona College of Industrial Engineering
Teaching unit: 723 - CS - Department of Computer Science
Academic year: 2015
Degree: BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits: 6  Teaching languages: Spanish

Teaching staff
Coordinator:  JAVIER FARRERES DE LA MORENA

Prior skills
Basic programming knowledge.

Degree competences to which the subject contributes

Transversal:
1. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.

Teaching methodology
The course is structured around the development of a web application. During this development the relevant concepts to each stage are explained and the students put them into practice.

Learning objectives of the subject
The course aims to teach:
1. Designing, building and managing Web applications by using specific tools and techniques
2. Knowing the different technologies available on the Internet
3. Designing, building and managing simple databases in the field of engineering at an entry-level

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 22h 30m</th>
<th>15.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 37h 30m</td>
<td>25.00%</td>
</tr>
<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
</tr>
</tbody>
</table>
# Content

## Introduction

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>10h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>4h</td>
</tr>
<tr>
<td>Self study:</td>
<td>6h</td>
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**Description:**
The origins of Internet, WWW and markup languages are explained.

**Related activities:**
L8. Using a hosting, wamp or lamp for local installation

## Static web pages

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>35h</th>
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</thead>
<tbody>
<tr>
<td>Laboratory classes:</td>
<td>14h</td>
</tr>
<tr>
<td>Self study:</td>
<td>21h</td>
</tr>
</tbody>
</table>

**Description:**
The design of static web pages is explained.

**Related activities:**
L1. Screens diagram
L2. HTML
L3. CSS
L4. Prototype (x3)
L5. Forms

## Design and use of databases

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>40h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>6h</td>
</tr>
<tr>
<td>Practical classes:</td>
<td>6h</td>
</tr>
<tr>
<td>Laboratory classes:</td>
<td>4h</td>
</tr>
<tr>
<td>Self study:</td>
<td>24h</td>
</tr>
</tbody>
</table>

**Description:**
A method to design data models to store organizations or businesses data is taught and how to query data from this model.

**Related activities:**
L6. SQL queries
L7. Data Base construction
**Usability in web pages**

**Description:**
The concept of usability is explained and its application to the design of web pages.

**Learning time:** 2h 30m
- Theory classes: 1h
- Self study: 1h 30m

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**Security in internet. attacks and prevention**

**Description:**
The different kinds of attacks in internet are explained along with how to prevent and avoid them.

**Learning time:** 2h 30m
- Theory classes: 1h
- Self study: 1h 30m

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**Crawlers and optimization of webpages (SEO,SEM)**

**Description:**
The way to promote a website is explained so it is placed in good rankings in SERPS.

**Learning time:** 5h
- Theory classes: 2h
- Self study: 3h

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**Dynamic web pages**

**Description:**
The design of dynamic web pages is explained.

**Learning time:** 55h
- Laboratory classes: 22h
- Self study: 33h

**Related activities:**
- L9. Dinamysm with PHP: table
- L10. Dinamysm with PHP: table+BD
- L11. Application
- L12. PHP and Forms
- L13. Dinamysm with sessions and cookies
- L14. Parameter passing between pages
- L15. User management
Qualification system

Deliveries 1 and 2: 15%
Delivery 3: 20%
Deliveries 4 and 5: 15%
Delivery 6: 20%
Delivery 7: 30%

Regulations for carrying out activities

There are no exams.

Bibliography

Basic:

Others resources:

Hyperlink
w3schools

cssplay

php

usability

http://webpagethatsuck.com/