230256 - RTDSP - Real-Time Digital Signal Processing

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 739 - TSC - Department of Signal Theory and Communications
Academic year: 2019
Degree:
- BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
- BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Teaching unit Optional)
- BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional)
- BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Teaching unit Optional)
ECTS credits: 6
Teaching languages: Spanish

Teaching staff
Coordinator: Rodriguez Fonollosa, Jose Adrian
Others: Rodriguez Fonollosa, Jose Adrian
Valle Alarcon, Rafael

Prior skills
Signals and Systems
Digital Signal Processing

Requirements
C Programming Language

Learning objectives of the subject
To enable students to develop real time digital signal processing applications using tools similar to those employed in the development of commercial products. Applications cover real time speech processing and basic digital communication subsystems.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 26h</th>
<th>17.33%</th>
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</thead>
<tbody>
<tr>
<td>Hours small group:</td>
<td>26h</td>
<td>17.33%</td>
</tr>
<tr>
<td>Self study:</td>
<td>98h</td>
<td>65.33%</td>
</tr>
</tbody>
</table>
## Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Learning time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction to the working environment:</td>
<td>10h Laboratory classes: 10h</td>
<td>Introduction to the integrated development environment for real time digital signal processing applications.</td>
</tr>
<tr>
<td>Texas Instruments TMS320C6713 DSK</td>
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<tr>
<td>2. Basic signal processing applications</td>
<td>20h Laboratory classes: 20h</td>
<td>Development of basic signal processing applications</td>
</tr>
<tr>
<td>3. Signal processing applications</td>
<td>30h Laboratory classes: 30h</td>
<td>Development of signal processing applications in communications, audio and speech.</td>
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</tbody>
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## Qualification system

Continuous evaluation based on
- Preparatory assignments, practical reports and classroom performance: 50%
- Individual tests: 50%

## Bibliography

**Basic:**

**Complementory:**


**Others resources:**