230365 - PCBD - Printed Circuit Board Design

**Coordinating unit:** 230 - ETSETB - Barcelona School of Telecommunications Engineering

**Teaching unit:** 710 - EEL - Department of Electronic Engineering

**Academic year:** 2017

**Degree:**
- MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Teaching unit Optional)
- MASTER'S DEGREE IN ELECTRONIC ENGINEERING (Syllabus 2013). (Teaching unit Optional)

**ECTS credits:** 2.5

**Teaching languages:** English

### Teaching staff

**Coordinator:** Jimenez Serres, Vicente

### Teaching methodology

- Theoretical lectures
- Laboratory sessions
- Team assignments (at home)

### Learning objectives of the subject

- Learn the PCB design basic concepts
- Be able to design a medium complexity PCB

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 62h 30m</th>
<th>Hours large group: 4h</th>
<th>6.40%</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hours small group: 16h</td>
<td>25.60%</td>
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<tr>
<td></td>
<td>Self study: 42h 30m</td>
<td>68.00%</td>
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</tbody>
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# Content

## Basic PCB concepts

**Description:**
- PCB elements: Base, Tracks, Vias
- PCB requirements: Electrical and mechanical
- PCB fabrication process
- PCB Stack-Up
- PCB design from schematic to Gerber files

**Learning time:** 16h
- Theory classes: 8h
- Self study: 8h

## PCB design tutorial

**Description:**
Simple PCB design tutorial using the KiCad application

**Learning time:** 12h
- Laboratory classes: 6h
- Self study: 6h

## Medium complexity PCB design project

**Description:**
A medium size PCB project will be developed. Students will work out the project from the circuit specifications.

**Learning time:** 34h 30m
- Laboratory classes: 6h
- Guided activities: 22h 30m
- Self study: 6h

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## Qualification system

Development and delivery of PCB design projects

## Bibliography

### Basic: