Course guide
230365 - PCBD - Printed Circuit Board Design

Last modified: 24/03/2026

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 710 - EEL - Department of Electronic Engineering.

Degree: MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING (Syllabus 2013). (Optional subject).
MASTER'S DEGREE IN ELECTRONIC ENGINEERING (Syllabus 2022). (Optional subject).

Academic year: 2026 **ECTS Credits:** 2.5 **Languages:** English

LECTURER

Coordinating lecturer: VICENTE JIMENEZ SERRES

Others: Primer quadrimestre:
VICENTE JIMENEZ SERRES - 11

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

Type	Hours	Percentage
Hours small group	16,0	25.60
Self study	42,5	68.00
Hours large group	4,0	6.40

Total learning time: 62.5 h

CONTENTS

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

Full-or-part-time: 16h
Theory classes: 8h
Self study : 8h

PCB design tutorial

Description:
Simple PCB design tutorial using the KiCad application

Full-or-part-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.

Full-or-part-time: 34h 30m
Laboratory classes: 6h
Guided activities: 22h 30m
Self study : 6h

GRADING SYSTEM

Any academic fraud, plagiarism or use or possession of unauthorised means in an assessment activity leads to a mark of zero (0) for the affected test or assignment. Furthermore, in accordance with the University's regulations, if disciplinary proceedings are initiated the subject is recorded as "Pending Assessment" until a decision is reached. These incidents are managed in accordance with the **Action Framework for Academic Integrity in Assessment at the UPC**.

Development and delivery of PCB design projects

BIBLIOGRAPHY

Basic:
- Coombs, Clyde F. Printed circuits handbook. 7th. ed. McGraw-Hill, 2016. ISBN 9780071833950.