



## Course guides

# 230927 - PEE - Electric Power Processing

Last modified: 29/04/2020

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

**Degree:** BACHELOR'S DEGREE IN ELECTRONIC ENGINEERING AND TELECOMMUNICATION (Syllabus 2018).  
(Compulsory subject).

**Academic year:** 2020    **ECTS Credits:** 6.0    **Languages:** Catalan, English, Spanish

### LECTURER

**Coordinating lecturer:** Francesc Guinjoan Gispert

**Others:** Santiago Silvestre Vergés

### PRIOR SKILLS

Circuit theory, signal processing, control theory, electronic components and electromagnetism

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

#### Specific:

CE16. (ENG) GREELEC: Capacitat d'utilitzar distintes fonts d'energia i en especial la solar fotovoltaica i tèrmica, així com els fonaments de l'electrotècnia i de l'electrònica de potència. (Mòdul comú a la branca de telecomunicació).

#### Generical:

CG6. (ENG) GREELEC: Facilitat per al maneig d'especificacions, reglaments i normes d'obligat compliment.

#### Transversal:

CT2. (ENG) GREELEC: Sostenibilitat i compromís social. Conèixer i comprendre la complexitat dels fenòmens econòmics i social típics de la societat del benestar; tenir capacitat per relacionar el benestar amb la globalització i la sostenibilitat; aconseguir habilitats per a utilitzar de forma equilibrada i compatible la tècnica, la tecnologia, l'economia i la sostenibilitat.

### TEACHING METHODOLOGY

Master class. Laboratory practice. Cooperative training. Autonomous work. Problem-based / project-based learning

### LEARNING OBJECTIVES OF THE SUBJECT

Establishment of the specifications of a power system for different energy scenarios.  
Design, sizing, control and verification of the proper operation of a power system.

### STUDY LOAD

Type	Hours	Percentage
Hours small group	13,0	8.67
Hours large group	52,0	34.67
Self study	85,0	56.67

**Total learning time:** 150 h



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**Description:**

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**Specific objectives:**

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**Full-or-part-time:** 9h

Theory classes: 9h

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**Description:**

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**Specific objectives:**

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**Full-or-part-time:** 3h

Theory classes: 3h

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**Specific objectives:**

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**Full-or-part-time:** 3h

Theory classes: 3h

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**Description:**

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**Related activities:**

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**Full-or-part-time:** 3h

Theory classes: 3h

**title english**

**Description:**

x

**Specific objectives:**

x

**Full-or-part-time:** 5h

Theory classes: 5h



x

**Description:**

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**Specific objectives:**

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**Full-or-part-time:** 5h

Theory classes: 5h

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**Description:**

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**Full-or-part-time:** 3h

Laboratory classes: 3h

**title english**

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**Specific objectives:**

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**Full-or-part-time:** 3h

Laboratory classes: 3h

**title english**

**Description:**

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**Specific objectives:**

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**Full-or-part-time:** 2h

Laboratory classes: 2h

x

**Description:**

x

**Full-or-part-time:** 2h 30m

Laboratory classes: 2h 30m



x

**Description:**

x

**Specific objectives:**

x

**Full-or-part-time:** 2h 30m

Theory classes: 2h 30m

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## GRADING SYSTEM

Mid-term exam. Final exam divided in two parts, part 1 and part 2. Laboratory practice.

Final mark= $0,4 \cdot (\text{Laboratory practice}) + 0,6 \cdot [0,45 \cdot \max(\text{Mid-term exam}; \text{Final exam part 1}); 0,55 \cdot (\text{Final exam part 2})]$

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## EXAMINATION RULES.

The student who pass the Mid-term exam (Part I) can only attend to the Part II of the final exam, or improve the mark of the Mid-term exam. In this last case the best mark will hold.

If the student doesn't pass the Mid-term exam, he should attend to both parts of the final exam.