

Course guide

330802 - TEE - Electrical Energy Technologies

Last modified: 25/05/2026

Unit in charge: Manresa School of Engineering
Teaching unit: 709 - DEE - Department of Electrical Engineering.

Degree: MASTER'S DEGREE IN INDUSTRIAL FACILITY DESIGN AND MANAGEMENT (Syllabus 2026). (Compulsory subject).

Academic year: 2026 **ECTS Credits:** 5.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Solà De Las Fuentes, Glòria

Others:

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

Knowledge

M1.K1: Identify the legislation and regulations applicable to the different types of common industrial installations.

M1.K2: Explain the fundamental scientific and technical concepts of fluid mechanics, heat transfer, and electrical circuits.

M1.K3: Describe the basic components of different types of common industrial installations, as well as their operation.

M1.K4: Describe the basic components of an electrical power system, as well as common industrial electrical installations.

Skills

M1.S1: Apply the fundamental scientific and technical concepts of fluid mechanics and heat transfer to calculate the behavior of complex fluid networks.

M1.S2: Apply the fundamental scientific and technical concepts of electricity to calculate electrical energy receiving installations, including protective devices.

M1.S3: Analyze the transport of fluids, heat, and electrical energy in industrial installations using advanced simulation tools.

Competences

M1.RAT_UPC_5.1: Devise creative solutions for complex networks for transporting fluids, heat, humidity, and electrical energy, using technical knowledge and selection, validation, and evaluation tools for their technical implementation.

STUDY LOAD

Type	Hours	Percentage
Hours large group	45,0	100.00

Total learning time: 45 h



CONTENTS

title english

Description:

content english

Full-or-part-time: 9h

Theory classes: 3h

Self study : 6h

title english

Description:

content english

Full-or-part-time: 24h

Theory classes: 9h

Self study : 15h

title english

Description:

content english

Full-or-part-time: 16h

Theory classes: 6h

Self study : 10h

title english

Description:

content english

Full-or-part-time: 27h

Theory classes: 9h

Self study : 18h

title english

Description:

content english

Full-or-part-time: 21h

Theory classes: 8h

Self study : 13h



title english

Description:

content english

Full-or-part-time: 19h

Theory classes: 7h

Self study : 12h

title english

Description:

content english

Full-or-part-time: 21h

Theory classes: 9h

Self study : 12h

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](#).

BIBLIOGRAPHY

Basic:

- Reglamento electrotécnico para baja tensión: RD 842/2002 de 2 de agosto de 2002 actualizado según RD 560/2010, RD 1053/2014, Reglamento Delegado 364/2016 (CPR), RD 244/2019, RD 542/2020, RD 298/2021, RD-ley 29/2021, RD 450/2022, RD 145/2023, Instrucciones técnicas complementarias (ITC-BT) y Guía técnica de aplicación del REBT. Barcelona: Marcombo, 2024. ISBN 9788426738714.