

Course guide 820126 - IEBAT2EE - Low and High Voltage Electrical Installations II

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Unit in charge: Teaching unit:	Barcelona East School of Engineering 709 - DEE - Department of Electrical Engineering.		
Degree:	BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Compulsory subject).		
Academic year: 2024	ECTS Credits: 6.0	Languages: Catalan, Spanish	
LECTURER			

Others:	Primer quadrimestre:
	RAMON BARGALLO PERPIÑA - Grup: T11, Grup: T12
	EDORTA LÓPEZ URZAINQUI - Grup: T11, Grup: T12

REQUIREMENTS

Coordinating lecturer:

INSTAL·LACIONS ELÈCTRIQUES DE BAIXA I ALTA TENSIÓ I - Prerequisit

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

- 1. Carry out calculations for the design of high voltage electrical installations.
- 2. Carry out calculations for the design of low and medium voltage electrical installations.

Transversal:

4. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY

Magistral classes for theory sessions, individual and group work, and project based learning.

LEARNING OBJECTIVES OF THE SUBJECT

- -To show how design high voltage electrical installations.
- To show the use of Standards and Regulations for electrical installations.
- To show the main elements of an installation (functionality, characteristics of operation, main applications)
- To show how draw an electrical diagram and its simbols.
- To analyze the causes of faults, its effects and protection methods.
- To show methodology for design, sizing and optimization the elements for a high voltage electrical installation.



STUDY LOAD

Туре	Hours	Percentage
Self study	90,0	60.00
Hours large group	45,0	30.00
Hours small group	15,0	10.00

Total learning time: 150 h

CONTENTS

Unit 1. Electrical Installation for High Voltage: Generalities.

Full-or-part-time: 12h Theory classes: 3h Self study : 9h

Unit 2. Electrical Calculations Techniques.

Full-or-part-time: 35h Theory classes: 12h Laboratory classes: 4h Self study : 19h

Unit 3. Main elements for HV installations

Full-or-part-time: 21h Theory classes: 9h Self study : 12h

Unit 4. Protective Relays

Full-or-part-time: 15h Theory classes: 6h Self study : 9h

Unit 5. Ground installation

Full-or-part-time: 19h Theory classes: 4h 30m Laboratory classes: 4h Self study : 10h 30m



Unit 6. Distribution Installation

Full-or-part-time: 25h Theory classes: 4h 30m Laboratory classes: 3h Self study : 17h 30m

Unit 7. Substation Installation

Full-or-part-time: 23h Theory classes: 6h Laboratory classes: 4h Self study : 13h

GRADING SYSTEM

Middle term exam: 20% Class exercises:10% Homework:10% Laboratory work:20% Self Study:10% Final test: 30% No proof of reassessment.

EXAMINATION RULES.

Timetable establised by school

BIBLIOGRAPHY

Basic:

- Enríquez Harper, Gilberto. Elementos de diseño de subestaciones eléctricas. 2a ed. México [etc.]: Limusa, cop. 2004. ISBN 9789681862220.