

High voltage switchgear and power lines

Academic Year: (2020 / 2021)

Review date: 02-09-2020

Department assigned to the subject: Electrical Engineering Department

Coordinating teacher: LEDESMA LARREA, PABLO

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Electrical power engineering fundamentals

OBJECTIVES

1. Ability to complete a power line project, according to the Spanish regulations.
2. Basic knowledge of the switchgear used in electric substations.
3. Ability to use technical documents used in power systems such as regulations and standards.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1.- Power lines electrical parameters.
- 2.- Overhead mechanical design.
- 3.- Electric insulation in overhead lines.
- 4.- Pylons and Safety distances.
- 5.- Grounding
- 6.- Design of power lines
- 7.- Breakers and measurement transformers
- 8 Configuration of substations.

LEARNING ACTIVITIES AND METHODOLOGY

- Master classes.
- Resolution of numerical examples
- Project of an overhead power line

ASSESSMENT SYSTEM

ORDINARY CALL:

The continuous assessment consists of several partial assessments, a project about an overhead power line and three laboratory assignments.

Students that demonstrate competency enough during the continuous assessment do not have to take the final exam.

Laboratory sessions during the course 2020/21 will be conducted online.

EXTRAORDINARY CALL

Best grade between:

- 60% continuous evaluation + 40% final exam
- 100% final exam

% end-of-term-examination:	40
% of continuous assessment (assignments, laboratory, practicals...):	60

BASIC BIBLIOGRAPHY

- Bacigalupe Camarero, Fernando Líneas aéreas de media y baja tensión : cálculo mecánico, Paraninfo.
- Checa L.M. Líneas de transporte de energía, Marcombo Boixareu Editores.

- Ministerio de Industria, Turismo y Comercio Reglamento sobre condiciones técnicas y garantías de seguridad en líneas de alta tensión : Real Decreto 223/2008, de 15 de febrero. BOE, BOE.