Electrical networks management

Academic Year: (2020 / 2021) **Review date: 27-10-2020**

Department assigned to the subject: Electrical Engineering Department

Coordinating teacher: CASARRUBIOS GONZALEZ, JOSE ANTONIO

Type: Electives ECTS Credits : 6.0

Year : Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Magnetic Circuits and Transformers
High Voltage Switchgear and Power Lines
Electrical installations
Electric Power Systems
Digital Systems Applied to Electrical Power Engineering
Electricity Markets

OBJECTIVES

Electrical Grids Management offer a global vision for students of electricity transmission and distribution businesses and improve their potential of using their knowledge of electrical grids and equipment from a management point of view. Students also will identify key factors of electricity distribution business.

DESCRIPTION OF CONTENTS: PROGRAMME

MODULE A: ELECTRICAL GRIDS INTRODUCTION
A-1: Past and future of electrical grids
A-2: Structure and activities of Spanish Electric Sector
A-3: Key numbers of Spanish Electric Sector

MODULE B: ELECTRICAL ASSETS MANAGEMENT
B-1: Electrical facilities introduction
B-2: High voltage substations and equipment
B-3: Power transformers
B-4: HV overhead lines
B-5: HV underground cables
B-6: Medium and low voltage grids

MODULE C: ELECTRICAL ASSETS MANAGEMENT PROCESSES
C-1: Electrical transmission and distribution grids management
C-2: Electrical facilities engineering and construction
C-3: Electrical facilities maintenance
C-4: Electrical grids design

MODULE D: ENERGY MANAGEMENT PROCESSES
D-1: Planning and operation of electrical grids
D-2: Electrical grids topology
D-3: Telemanagement topology
D-4: Transmission and distribution operation procedures
D-5: Analysis and operation planning

LEARNING ACTIVITIES AND METHODOLOGY

Student will have theoretical material and comprehensive exercises proposed by the teacher for each subject.

During classes, main aspects of the subjects will be explained by the teacher, students doubts will be solved and application exercises will be done.

ASSESSMENT SYSTEM

Continuous evaluation consists of exercises about acquired knowledge in which students will answer several questions previously proposed by the teacher and other additional questions.

Those students that successfully pass continuous evaluation will have no need of doing final exam, although they could do final exam for getting a better qualification.

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

BASIC BIBLIOGRAPHY

- . Not required, ..