

Smart grids management

Academic Year: (2019 / 2020)

Review date: 04-06-2019

Department assigned to the subject: Electrical Engineering Department

Coordinating teacher: AMARIS DUARTE, HORTENSIA ELENA

Type: Electives ECTS Credits : 6.0

Year : Semester :

OBJECTIVES

The aim of this course is to focus in the advanced operation of smart grids . To achieve this goal , students must acquire a body of knowledge , and capabilities.

- knowledge about smart grids , its application and development in the electricity networks of the future.
- knowledge about the mechanisms of energy storage management and integration of renewable energies.
- knowledge about the automation systems in smart grids.
- knowledge about energy data management commonly used in smart grids .

DESCRIPTION OF CONTENTS: PROGRAMME

1. Smart Grids Introduction.
2. Distributed energy resources: Distributed generation, reactive power sources, storage.
3. Voltage and frequency regulation in traditional power networks
4. Voltage and frequency regulation in Smart Grids. Demand management
5. Automatization Architectures for Smart Grid
6. Smart grids projects (National and International), Regulation and practical examples

LEARNING ACTIVITIES AND METHODOLOGY

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- knowledge about smart grids , its application and development in the electricity networks of the future.
- knowledge about the mechanisms of energy storage management and integration of renewable energies. ¿
- knowledge about automation and measurement technologies used in Smart Grids .
- knowledge about energy data management commonly used in smart grids .

% end-of-term-examination: 60

% of continuous assessment (assignments, laboratory, practicals...): 40