# uc3m Universidad Carlos III de Madrid

## Power system operation and control

Academic Year: (2020 / 2021) Review date: 11-03-2019

Department assigned to the subject: Electrical Engineering Department

Coordinating teacher: AMARIS DUARTE, HORTENSIA ELENA

Type: Electives ECTS Credits: 6.0

Year: Semester: 2

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Fundamentals of electrical engineering

#### **OBJECTIVES**

- 1.- Ability to explain concepts realted with frequency and voltage control of powers systems, voltage stability and state estimation.
- 2.- Ability to solve numerical problems related with the previous concepts.

## **DESCRIPTION OF CONTENTS: PROGRAMME**

- 1.- Introduction
- 2.- Voltage control
- 3.- Frequency-voltage regulation
- 4.- Voltage stability
- 5.- Estate Estimation

### LEARNING ACTIVITIES AND METHODOLOGY

- Master lectures, doubt solving classes in small groups, student presentations, tutorials and personal work, aimed at the acquisition of knowledge.
- Practical sessions aimed at the acquisition of practical skills related to the program of the course.

# ASSESSMENT SYSTEM

Continuous assessment based on work, class participation and evaluation tests of skills and knowledge (60%)

Final exam (40%)

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

#### **BASIC BIBLIOGRAPHY**

- Kundur P. Power Systems Stability and Control, McGraw Hill, 1982