

29632 - Electrical Power Stations

Syllabus Information

Academic Year: 2019/20

Subject: 29632 - Electrical Power Stations

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 430 - Bachelor's Degree in Electrical Engineering

ECTS: 6.0

Year: 4

Semester: First semester

Subject Type: Compulsory

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process that has been designed for this course is based on the following:

The teaching process will be developed in three main levels: classes of theory, problems, and laboratory. In the theoretical classes, there will be explained the electric power generation systems, illustrating with several examples of power plants. Practical applications will be developed in the classes of problems. Also, the student will put into practice the acquired knowledge in external practices.

4.2.Learning tasks

The program offered to students includes the following activities

Theoretical classes and problems (45 hours).

They constitute the core teaching. The technique followed in these classes is primarily expository. The participation of the students through questions and comments will be encouraged.

Classes of problems will complement theoretical classes, since they are useful for the understanding of the matter and to instruct students in the design of real installations of generation.

Laboratory (15 hours).

These will serve to bring the student to the reality, and to apply the concepts explained in the theoretical lessons.

Some practices will be carried out in the laboratory, calculating, assembling, analyzing and checking operation; others consist of externships, visiting power plants.

Evaluation (3 hours).

The evaluation is a learning tool in order to the student checks the degree of understanding and assimilation that has reached.

Tutoring.

Direct attention to the student.

Works (non-presential hours).

Periodically exercises and cases will be proposed to the student. These will be available at <http://moodle.unizar.es>. This section also includes the preparation of additional activities and laboratory practices.

Individual study (67 hours).

The continuous work of the student will be encouraged.

4.3.Syllabus

The course will address the following topics:

- Description of electric power generation systems.
- Remote control, regulation and ancillary services.
- Electrical and electromechanical components.
- Operation of power generation systems.
- Electricity market. Tariffs.

4.4.Course planning and calendar**Calendar of sessions and presentations**

The dates and times of the sessions (theoretical classes, practices, etc.) will be scheduled by the Center and published at the start of the course (<http://eina.unizar.es>).

Each teacher will inform about the hours of tutoring.

Other activities will be planned according to the number of students and will be announced in advance (<http://moodle.unizar.es>)

4.5.Bibliography and recommended resources

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=7788&p=1>