Universidad Zaragoza

Academic Year/course: 2021/22

30238 - Data Centers

Syllabus Information

Academic Year: 2021/22
Subject: 30238 - Centros de datos
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 439 - Bachelor's Degree in Informatics Engineering
ECTS: 6.0
Year: 443 - Bachelor's Degree in Informatics Engineering: 3
439 - Bachelor's Degree in Informatics Engineering: 4
443 - Bachelor's Degree in Informatics Engineering: 4

Semester: First semester
Subject Type:
Module:

1. General information

1.1. Aims of the course

Achieving the learning outcomes.

In addition, these outcomes are related to a Sustainable Development Goal of the 2030 Agenda and two of its specific targets (www.un.org/sustainabledevelopment/es/). Consequently, the student will have more criteria to assess their existence and impact. Specifically:

- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy.
    - Target 7.2. By 2030, increase substantially the share of renewable energy in the global energy mix.
    - Target 7.3. By 2030, double the global rate of improvement in energy efficiency.

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented such as:

- Lectures.
- Problem-solving classes.
- Assisted Labs.
- Homeworks.
- Autonomous work and study.

Students are expected to participate actively in the class throughout the semester.

4.2. Learning tasks

The course includes the following learning tasks:

- Lectures.
- Problem-solving classes.
- Assisted Labs.
- Homeworks.
- Autonomous work and study.

4.3. Syllabus

The course will address the following topics:

- History of data centers. Technological evolution: present and future trends.
- Data center, energy efficiency and environmental impact, energy sources.
- Technical requirements of facilities: building, power supply, air conditioning, cabling, standards.
- Security and monitoring systems.
- Internal and external connectivity; scalability. Computing server types and scalability. Consolidation and energy efficiency.
- Availability and continuity of service: RAS, fault tolerance and redundancy. Mass storage subsystem. Secondary storage solutions.
- Introduction to the provision and support of ICT services: ITIL.

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Escuela de Ingeniería y Arquitectura or Escuela Universitaria Politécnica de Teruel

4.5. Bibliography and recommended resources

Teruel:
http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30238&Identificador=14937

Zaragoza:
http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30238&Identificador=14703