

30238 - Data Centers

Syllabus Information

Academic Year: 2020/21

Subject: 30238 - Data Centers

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 439 - Bachelor's Degree in Informatics Engineering

ECTS: 6.0

Year: 4

Semester: 439 - First semester

439 - First semester

439 - First semester

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443 - First semester

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443 - First semester

Subject Type: ---

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 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:

- Data centers. Technological evolution: keys present and future.
- History of Data Centers, energy efficiency and environmental impact, and energy sources.
- Technical requirements for facilities, construction, power supply, air conditioning, and wiring standards.
- System security and monitoring.
- Internal and external connectivity strategies and scalability. Types of servers and scalability. Consolidation and energy efficiency.
- Reliability, availability and serviceability (RAS) and fault tolerance. Mass storage subsystem. Secondary storage solutions.
- Introduction to ICT provision and support 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

[BB: Bibliografía básica / BC: Bibliografía complementaria]

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=30238&Identificador=14703>

- Zaragoza:
- [BB] Barroso, Luiz André. The datacenter as a computer : an introduction to the design of warehouse-scale machines / Luiz André Barroso, Urs Hölzle, Jimmy Clidaras . 2nd ed. San Rafael (California, USA) : Morgan and Claypool, 201
- Teruel:
- [BB] Barroso, Luiz André. The datacenter as a computer : an introduction to the design of warehouse-scale machines / Luiz André Barroso, Urs Hölzle, Jimmy Clidaras . 2nd ed. San Rafael (California) : Morgan and Claypool, 2013