Universidad Zaragoza

Academic Year/course: 2021/22

30216 - Systems Administration

Syllabus Information

Academic Year: 2021/22
Subject: 30216 - Administración de sistemas
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
326 - Escuela Universitaria Politécnica de Teruel
Degree: 439 - Bachelor's Degree in Informatics Engineering
443 - Bachelor's Degree in Informatics Engineering
ECTS: 6.0
Year: 2
Semester: Second semester
Subject Type: Compulsory
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The designed learning process of this subject is designed upon:

- The learning of concepts and methodologies for the correct system administration through on-site classes
- The application of such concepts in the problem class to solve different situations and tasks of system administration
- In the lab classes, the student will implement different aspects on booting, modifying, problem detection and solution application to the operating system and its integration with the network

4.2. Learning tasks

The presentation of the syllabus in the on-site classes. Problem-solving applying the concepts and techniques presented in the syllabus during problem classes. Development of lab sessions, in a computing facility, to apply the theory in a real environment. Development of a final project, more complex than the lab sessions, that provides a more global vision of some main aspects in computer system administration.

4.3. Syllabus

The course will address the following topics:

Interaction and Programming for System Administration
Standard IEEE std 1003.1 (posix): shell and tools
Basic Security
Access control. User accounts. Basic cryptography. SSH. Firewalls
Basic system configuration
Start/stop of the OS. Basic network configuration. Software management. Kernel and drivers. Window systems.

Processes:
Process control. Periodic tasks.
Storage:
Disks. Logical Volumes. File System. File System Hierarchy. Files. Back-up
Application layer services:
email, web services, proxies, virtual private networks...
Monitoring:
Logging. Analysis Automation
Non-technical aspects:
Organization. Legislation

4.4. Course planning and calendar

The schedule for the class is as follows:

In the Escuela de Ingeniería y Arquitectura del Campus Rio Ebro:
On-site and problem classes (3 hours weekly)
Lab sessions (2 hours every other week). Those are tutored sessions in which students code in small groups

In the Escuela Universitaria Politécnica del Campus de Teruel:
Type 1 activities (on-site classes) 2 hours weekly 1 group
Type 2 activities (participative character classes) 1 hour weekly 2 groups
Type 3 activities (lab sessions) 1 hour weekly

The exact hours will be announced beforehand in the school and class web pages.
The class projects will be delivered at the end of the quarter, on the listed dates.

Student work:
To reach the learning goals, students are assume to expend 150 hours distributed as follows:

10 hours of autonomous work to prepare and defend practical assessments (type T6)
56 hours, roughly, on-site activities(classroom, problem classes, and lab sessions)
81 hours of self effective study (the study of notes and reports, problem solving, class and lab preparation, and programming)
3 hours of evaluation activities

4.5. Bibliography and recommended resources

Zaragoza:

http://psfunizar10.unizar.es/br13/egAsignaturas.php?id=8030

Teruel:

http://psfunizar10.unizar.es/br13/egAsignaturas.php?id=8429