

30216 - Systems Administration

Syllabus Information

Academic Year: 2020/21

Subject: 30216 - Systems Administration

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
326 - Escuela Universitaria Politécnica de Teruel

Degree: 443 - Bachelor's Degree in Informatics Engineering
439 - Bachelor's Degree in Informatics Engineering

ECTS: 6.0

Year: 2

Semester: Second 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 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 more project, more complex than the lab sessions, that provides a more global vision of some man aspect 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 Ingenierí?a 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 Polite?cnica 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)

4.5.Bibliography and recommended resources