



Year : 2018/19

30257 - Systems Administration 2

Syllabus Information

Academic Year:	2018/19
Subject:	30257 - Systems Administration 2
Faculty / School:	110 - 326 -
Degree:	439 - Bachelor's Degree in Informatics Engineering 443 - 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: 3
Semester:	Half-yearly
Subject Type:	Compulsory
Module:	---

General information

Aims of the course

Context and importance of this course in the degree

Recommendations to take this course

Learning goals

Competences

Learning goals

Importance of learning goals

Assessment (1st and 2nd call)

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

Methodology, learning tasks, syllabus and resources

Methodological overview

The learning methodology is as following :

- Concepts and methodologies in system administration are taught in classroom.
- Learned knowledge is applied in paper and lab exercises to solve different problems in system administration
- Students will design and implement different aspects of deployment, update, problem detection and solutions of operating systems, applications and their interaction with the network.

Learning tasks

- Syllabus development in classroom about theory aspects.
- Problem solving with knowledge acquired in theory classes.
- Lab exercises developed in real working systems about knowledge presented in theory and problem solving classes.

Syllabus

Basic concepts in distributed system administration. Heterogeneous systems: Linux, Windows, BSDs (Mac OSx).

Programming for heterogeneous systems administration: Ruby and Python.

Virtual machines administration. Introduction to administration environments for cloud computing.

Configuration Systems: Puppet. Configuration of nodes deployment and maintenance.

Distributed services administration.

- Administrative domains network.
- Basic distributed services: names (DNS) and time (NTP).
- File systems: NFS (Linux y BSDs) y SMB (Windows).
- System network configuration: LDAP.
- Identities and security: Kerberos and PKIs.
- Monitoring systems: Nagios.
- Services interoperability and integration (Linux and Windows).

Administration of Cloud Systems

Organizational aspects.

Course planning and calendar

Sessions in-person class: Work calendar and work presentation.

The teachers' organization of core subject is:

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- Theory and problem classes (three hours per week)
- Laboratory classes (two hours per week). There are sessions of programming in the laboratory work. This work is guided by a professor and there are reduced students groups.

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- Type one activities (theory classes): two hours per week, one group.
- Type two activities (problem classes): one hour per week, two groups.
- Type three activities (laboratory classes): one hour per week, two groups.

Student work

The student work to get learning outcomes in this subject are estimated in 150 hours distributed of next manner:

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- 60 hours, approximately, in person-class activities (theory, problems , and laboratory classes)
- 90 hours of effective self-study (study of texts and course notes, Troubleshooting, class preparation, classes and problems preparation, and programme development.
- 25 hours of development and evaluation fo pratical projects/works (T6 type).

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Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

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- [BB] 4. Limoncelli, Thomas A. The Practice of System and Network Administration / Thomas A. Limoncelli, Christine Hogan, Strata R. Chalup. 3rd ed. Addison-Wesley, 2016
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- [BB] Pro Puppet / Spencer Krum ... [et al.]. 2 nd ed. Berkeley (California) : Apress, cop. 2013
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- [BB] Ben Hamou, A. Practical Ruby for system administration [Recurs electrònic] / André Ben Hamou. Berkeley, Calif. : Apress ; New York : Distributed by Springer-Verlag New York, 2007
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