COURSE DATA

Data Subject	
Code	44003
Name	Linux and linux for management
Cycle	Master's degree
ECTS Credits	5.0
Academic year	2019 - 2020

Study (s)

Degree	Center	Acad. year	Period
2184 - M.U. en Química Teórica y Modelización Computacional 13-V.1	Faculty of Chemistry	1	Annual

Subject-matter

Degree	Subject-matter	Character
2184 - M.U. en Química Teórica y Modelización Computacional 13-V.1	5 - Optional subject area	Optional

Coordination

Name	Department
SANCHEZ MARIN, JOSE	315 - Physical Chemistry
TUÑON GARCIA DE VICUÑA, IGNACIO NILO	315 - Physical Chemistry

SUMMARY

English version is not available

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

No pre-requisites

OUTCOMES

2184 - M.U. en Química Teórica y Modelización Computacional 13-V.1

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Students are able to foster, in academic and professional contexts, technological and scientific progress within a society based on knowledge and respect for: a) fundamental rights and equal opportunities between men and women, b) The principles of equal opportunities and universal accessibility for persons with disabilities, and c) the values of a culture of peace and democratic values.
- El estudiante es capaz de resolver problemas y tomar decisiones.
- El estudiante es organizado en el trabajo y sabe gestionar el tiempo.
- Skills in analysis and synthesis.

LEARNING OUTCOMES

The aim is to get a knowledge not only at user level but also at system management level of complex servers based in different flavours of GNU/Linux operating systems . This includes the daily operations, security hints, and scheduling shell scripts to automate tasks in order to maintain a computational cluster in high availability.

DESCRIPTION OF CONTENTS

1. 1.- Linux

Hardware.
Unix/Linux operating Systems.
Different flavors of UNIX systems.
Main commands.
Vi editor.
Filesystems.
System management.
Shell scripts programming.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	40,00	100
Tutorials	10,00	100
Development of individual work	40,00	0
Study and independent work	35,00	0
TOTAL	**125,00**	

TEACHING METHODOLOGY

Lecture: The Professor will deliver lectures about the theoretical contents of the course during two-hour sessions. The presentations will be based on the different materials available at the Moodle platform.

Teaching in computer room. Teaching will be conducted in a computer room. The classes, in sessions from two to four hours, will include a brief theoretical introduction, in which the teacher will present the basic concepts, followed by practical applications, in which the student will learn through the resolution of practical examples.

Online teaching.- We will use the different tools offered by the platform moodle (https://moodle.uam.es). Publication of contents of the course, groupware tools, discussion forums, email.

Written reports: Orientation and supervision in the preparation of written reports.

EVALUATION

Ordinary assessment

The knowledge acquired by the student will be evaluated along the course. The educational model to follow will emphasize a continuous effort and advance in training and learning.

The final student mark will be based on exercises that must be done during the course. The next criteria will be followed for assessment of student exercises:

- 100% from the student report,

Extraordinary assessment

The student will have to face a final exam, including both theory and practical exercises. The student mark will be obtained from:

- 70% from the final exam,
- 30% from the individual work.

REFERENCES

Basic

- Principios y administración de Linux. Pablo Sanz Mercado, Alberto Luna Fernández. UAM Ediciones, 2009.

Seguridad en Linux: Una guía práctica. Pablo Sanz Mercado. Colección cuadernos de apoyo, UAM Ediciones, 2008.

Programación de Shell scripts. Alberto Luna Fernández, Pablo Sanz Mercado. UAM ediciones, 2011.

Bash cookbook. Carl Albing, J.P. Vossen & Cameron Newwham. OReilly, 2007.

Unix system administration handbook. Evi Nemeth, Garth Snyder, Scott Seebass, Trent R. Hein. Ed. Prentice Hall, 2001.

Unix Power tools. Jerry Peek, Tim. Ed. OReilly, Mike Loukides. OReilly 1997.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

English version is not available