



UNIVERSIDAD AUTÓNOMA DE MADRID

32530 - LINUX AND LINUX SYSTEM MANAGING

Syllabus Information

Code - Course title: 32530 - LINUX AND LINUX SYSTEM MANAGING

Degree: 616 - Máster en Química Teórica y Modelización Computacional (2013)
651 - Máster Erasmus Mundus en Química Teórica y Modelización Computacional

Faculty: 104 - Facultad de Ciencias

Academic year: 2019/20

1.Course details

1.1.Content area

Linux and Linux system managing

1.2.Course nature

Optional

1.3.Course level

Máster (MECES 3)

1.4.Year of study

616 - Máster en Química Teórica y Modelización Computacional (2013): 1
651 - Máster Erasmus Mundus en Química Teórica y Modelización Computacional: 1

1.5.Semester

Annual

1.6.ECTS Credit allotment

5.0

1.7.Language of instruction

English

1.8.Prerequisites

There are no previous prerequisites.

1.9.Recommendations

There are no recommendations.

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1.10. Minimum attendance requirement

Attendance is mandatory.

1.11. Faculty data

a. Subject's coordinator:

- Name and surname: Alberto Luna
- Email: alberto.luna@uam.es
- Institution: Universidad Autónoma de Madrid
- Department: Chemistry
- Room: C-08-107
- Phone: +39 914974116

b. Lecturer:

- Name and surname: Pablo Sanz Mercado
- Email: pablo.sanz@uam.es
- Institution: Universidad Autónoma de Madrid
- Department: Chemistry
- Room: C-08-105
- Phone: +39 914974167

c. Master's coordinators:

- Manuel Alcamí. manuel.alcami@uam.es
- Sergio Díaz-Tendero. sergio.diaztendero@uam.es

1.12. Competences and learning outcomes

1.12.1. Competences

GENERAL COMPETENCES

CB6 - Possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.

CB7 - Students should be able to apply acquired knowledge and problem solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.

CB8 - Students will be able to integrate knowledge and face the complexity of making judgments based on information that, incomplete or limited, includes reflections on the social and ethical responsibilities related to the application of their knowledge and decisions.

CB9 - Students will have the skill of communicating their conclusions and the latest knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.

CB10 - Students will have the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.

CG01 - Students will be 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 people with disabilities and c) the values of a culture of peace and democratic values.

CG02 - Students are able to solve problems and make decisions of any kind under the commitment to the defense and practice of equality policies.

TRANSVERSAL/CROSS COMPETENCES

CT02 - The student is organized at work demonstrating that he knows how to manage the time and resources available to him.

CT03 - The student has the ability to analyze and synthesise in such a way that he / she can understand, interpret and evaluate the relevant information by assuming with responsibility his / her own learning or, in the future, the identification of professional exits and employment fields

1.12.2. 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.

1.13. Course contents

- Hardware.
- GNU/Linux operating Systems.

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- Different flavors of GNU/Linux systems.
- Main commands.
- Vi editor.
- Filesystems.
- System management.
- Shell scripts programming.

1.14.Course bibliography

- 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. O'Reilly, 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. O'Reilly, Mike Loukides. O'Reilly 1997.

2.Teaching-and-learning methodologies and student workload

2.1.Contact hours

	# hours
Contact hours (minimum 33%)	50
Independent study time	75

2.2.List of training activities

Activity	# hours
Lectures	
Seminars	
Practical sessions	
Clinical sessions	
Computer lab	40
Laboratory	
Work placement	
Supervised study	
Tutorials	10
Assessment activities	
Other	

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 five 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://posgrado.uam.es>). Publication of contents of the course, groupware tools, discussion forums, email.

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

3.Evaluation procedures and weight of components in the final grade

3.1.Regular 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.

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3.1.1.List of evaluation activities

Evaluatory activity	%
Final exam	
Continuous assessment	

3.2.Resit

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.

3.2.1.List of evaluation activities

Evaluatory activity	%
Final exam	70
Continuous assessment	30

4.Proposed workplan

Please, check the official schedule posted on the master website.

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