



Universitat de Lleida

DEGREE CURRICULUM
**SYSTEMS AND APPLICATIONS
ADMINISTRATION AND
MANAGEMENT**

Coordination: SOLSONA TEHAS, FRANCESC XAVIER

Academic year 2022-23

Subject's general information

Subject name	SYSTEMS AND APPLICATIONS ADMINISTRATION AND MANAGEMENT			
Code	102013			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Computer Engineering	3	COMPULSORY	Attendance-based
	Double bachelor's degree: Degree in Computer Engineering and Degree in Business Administration and Management	4	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRALAB		TEORIA
	Number of credits	3		3
	Number of groups	2		1
Coordination	SOLSONA TEHAS, FRANCESC XAVIER			
Department	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING			
Important information on data processing	Consult this link for more information.			
Language	Catalan/Spanish			
Distribution of credits	Francesc Solsona 6			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
SOLSONA TEHAS, FRANCESC XAVIER	francesc.solsona@udl.cat	9	

Learning objectives

Acquiring knowledge about computer system's management.

The practical knowledge will be acquired based on the Linux operating system.

Theoretical knowledge will be closely linked to the concepts needed to carry out the practice.

Competences

Cross-disciplinary competences:

- **EPS1.** Capacity to solve problems and prepare and defence arguments inside the area of studies.
- **EPS6.** Capacity of analysis and synthesis.
- **EPS9.** Capacity for unidisciplinary and multidisciplinary teamwork.

Specific competences:

- **GII-CRI2.** Capacity to plan, conceive, deploy and direct projects, services and computer systems in all the fields, leading his set up and his continuous improvement and evaluation his economic and social impact.
- **GII-CRI5.** Knowledge, manage and maintain systems, services and computer applications.
- **GII-CRI10.** Knowledge of the characteristics, functionalities and structures of the operating systems and design and implement applications based in their services.

Subject contents

THEORY

Theme 1: Fylesystem

Theme 2: Security and Protection

PRACTICES

1. /PROC filesystem
2. Sed. Awk
3. Debian-Ubuntu
4. PC Architecture. The Linux kernel
5. Swap. Disk RAM

- 6. RAID -Redundant Array of Inexpensive Discs-
- 7. Quota. Cron
- 8. Priority and Nohup
- 9: Managing/Installation of Mysql and Postgres
- 10 LVM -Logical Volume Manager-
- 11. Firewalls
- 12. Servers

Methodology

The development of the course consists of:

- 1. Theory and problems in large-group classes, and
- 2. Practices of Linux operating system administration in medium-group classes in the laboratory.

Theory and problems evaluation will be done according to two partial examens. Practices evaluation will be carried out by delivering 12 practices in groups of two students. In addition, each partial exam will contain a question of practices equivalent to 20% of the exam.

Development plan

Week	Activity Attended GG	Activity Attended (GM)
1	Introducing course	Free
2	Filesystem	Practice 1. Proc
3	Filesystem	Practice 2. Sed-Awk
4	Filesystem	Practice 3. Debian-Ubuntu
5	Filesystem	Practice 4. PC architecture. Linux kernel
6	Filesystem	Practice 5. Swap-Dram
7	Filesystem	Practice 6. Quota-Cron
8	Filesystem	Practices Retrieval
9	1st Exam	1st Exam
10	Security and Protection	Practice 7. RAID
11	Security and Protection	Practice 8. Priority-Nohup
12	Security and Protection	Practice 9. MySQL, Postgres
13	Security and Protection	Practice 10. LVM
14	Security and Protection	Practice 11. Firewalls
15	Security and Protection	Practice 12. Servers
16	Security and Protection	Practices Retrieval

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2nd Exam2nd Exam

Evaluation

20%	Requested practices (12 practices in total)
40%	Partial exam. 25% will correspond to the practices done.
40%	Partial exam. 25% will correspond to the practices done.

Bibliography

- Lectures.
- Book:
 - Francesc Solsona. "Sistemes Operatius. Teoria aplicada". Edicions de la Universitat de Lleida (Col·leció eines 78). ISBN: 978-84-8409-747-1. 2015.
- Internet:
 - O'reilly: safari.oreilly.com