Universitat de Lleida

DEGREE CURRICULUM

SYSTEMS AND APPLICATIONS ADMINISTRATION AND MANAGEMENT

Coordination: SOLSONA TEHAS, FRANCESC XAVIER

Academic year 2022-23

SYSTEMS AND APPLICATIONS ADMINISTRATION AN... 2022-23

Subject's general information

<table>
<tr><td>Subject name</td><td>SYSTEMS AND APPLICATIONS ADMINISTRATION AND MANAGEMENT</td></tr>
<tr><td>Code</td><td>102013</td></tr>
<tr><td>Semester</td><td>1st Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's Degree in Computer Engineering</td><td>3</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
<tr><td>Double bachelor's degree: Degree in Computer Engineering and Degree in Business Administration and Management</td><td>4</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><td>PRALAB</td><td>TEORIA</td></tr>
<tr><th>Number of credits</th><td>3</td><td>3</td></tr>
<tr><th>Number of groups</th><td>2</td><td>1</td></tr>
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<tr><td>Coordination</td><td>SOLSONA TEHAS, FRANCESC XAVIER</td></tr>
<tr><td>Department</td><td>COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Catalan/Spanish</td></tr>
<tr><td>Distribution of credits</td><td>Francesc Solsona 6</td></tr>
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SYSTEMS AND APPLICATIONS ADMINISTRATION AN... 2022-23

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

17	**2nd Exam**	**2nd 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