Course Unit	Services and Systems Administration I	**Field of study**	Network and Computer Systems
Bachelor in	Informatics and Communications	**School**	School of Public Management, Communication and Tourism

Academic Year	2023/2024	**Year of study**	3	**Level**	1-3	**ECTS credits**	6.0
Type	Semestral	**Semester**	1	**Code**	9188-320-3101-00-23		

Workload (hours)	162	**Contact hours**	T	15	TP	-	PL	45	TC	-	S	-	E	-	OT	20	O	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Luis Paulo Alves dos Santos

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Develop skills needed to administration of operating systems, networks, software, file systems, file server, troubleshooting, policies and procedures.
2. Understand the importance of an system administrator, and to know its main responsibilities.
3. Know the best practices of systems administration and networks, platforms and technologies used.
4. Having acquired theoretical and practical knowledge of Windows and Linux operating systems.

Prerequisites

Before the course unit the learner is expected to be able to:
1. Have knowledge of a computer system.
2. Know install and configure Windows operating systems and Linux.

Course contents

General concepts of system administration and administrative tasks relating to: data management; administration and management of workstations and servers; management of users and groups; management of backups; disaster recovery; resource management; automated tasks; support for users and education; monitoring and optimization; documentation system; security policies.

Course contents (extended version)

1. Theoretical content
   - General concepts of systems administration
   - Working stations and servers
   - Services
   - User management
   - Troubleshooting
   - Designations
   - Security policies
   - Disaster recovery and data integrity
   - Ethics
   - Virtualization and Cloud
2. Administrative tasks
   - Data management.
   - Data storage.
   - Administration and management of workstations and servers.
   - Management of users and groups.
   - Management of back-up.
   - Management of security.
   - Management of storage devices.
   - Disaster recovery.
   - Management of resources.
   - Automated tasks.
   - Support systems.
   - Support for users and education.
   - Monitoring and optimization.
   - Troubleshooting.
3. Installation, configuration and implementation of administrative tasks on servers
   - File servers.
   - Servers users accounts.
   - Software Development.
   - Virtualization and Cloud
   - Disks and distributed file systems management.

Recommended reading

1. Sousa, J. P. & Gomes, J. P. (2018). Apontamentos Teóricos e Práticos de Administração de Sistemas e Serviços I. ESACT.
2. Nemeth, E. , et. al (2017). UNIX and Linux System Administration Handbook. Prentice Hall. ISBN-13: 978-0134277554
3. Morimoto, R. , et. al (2016). Windows Server 2016 Unleashed. Sams Publishing; 1 edition. ISBN-13: 978-0134583754
4. Limoncelli, T. A. et al. (2016). The Practice of System and Network Administration: Volume 1: (3rd Edition). Addison Wesley. ISBN-13: 978-0321919168

Teaching and learning methods

For each subject curriculum are offered periodically, with the advance required, working with modules: - Explanation of content. - Problem solving oriented. - Explore examples related to practical cases. - Discuss the resolution of work.

Assessment methods

1. Continuous assessment - (Regular, Student Worker) (Final)
   - Intermediate Written Test - 35% (Two written test. Minimum score of 7 points.)
   - Practical Work - 65% (Includes the completion of two projects. Minimum score of 7 points.)
2. Final assessment - (Regular, Student Worker) (Supplementary, Special)
   - Final Written Exam - 35% (Written test. Minimum score of 7 points.)

Assessment methods

- Practical Work - 65% (Includes the completion of two projects. Minimum score of 7 points.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Luis Paulo Alves dos Santos	Vítor José Domingues Mendonça	Anabela Neves Alves de Pinho	Luisa Margarida Barata Lopes
18-10-2023	19-10-2023	19-10-2023	19-10-2023

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