UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				**2015/16**
Subject (*)	Administración de Sistemas Operativos		**Code**	614G01047
Study programme	Grao en Enxeñaría Informática			
Descriptors				
Cycle	**Period**	**Year**	**Type**	**Credits**
Graduate	2nd four-month period	Third	Obligatoria	6
Language	Galician			
Teaching method	Face-to-face			
Prerequisites				
Department	Computación			
Coordinador	Yañez Izquierdo, Antonio Fermin	**E-mail**	antonio.yanez@udc.es	
Lecturers	Yañez Izquierdo, Antonio Fermin	**E-mail**	antonio.yanez@udc.es	
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General description	Operating Systems Administration, covering both standalone and networked systems. The different types of UNIX systems are taken into consideration			

Study programme competences / results	
Code	**Study programme competences / results**
A53	Capacidade para seleccionar, deseñar, despregar, integrar, avaliar, construír, xestionar, explotar e manter as tecnoloxías de hárdware, sóftware e redes dentro dos parámetros de custo e calidade adecuados.
A55	Capacidade para seleccionar, deseñar, despregar, integrar e xestionar redes e infraestruturas de comunicacións nunha organización.
C3	Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.

Learning outcomes			
Learning outcomes	**Study programme competences / results**		
	A53		
	A55		C3
			C3
			C6
			C7

Contents	
Topic	**Sub-topic**
Introduction to System Administration	The role of the System Administrator
	Users and groups
	Files, processes and devices
	Becoming superuser
	Basic system administration commands
	Different UNIXes
Booting and Installing the Operating System	Selecting and preparing installation media
	The boot process
	Preparing the disks. Basic disk partitioning
	Sharing disks among O.S.s
	Boot loaders

Managing users and groups	Managing user acounts
	Administrative tools for managing users
	Managing groups
	User autentification with PAM
	User autentification with LDAP
Processes and software packages	Managing and monitoring processes
	Tracing system calls
	Process privileges and priorities
	The /proc filesystem
	Signals
	Software packages: packages and ports
	Administering software packages and installing software
Devices, disks and filesystems	Devices and device files.
	Adding support for devices. Kernel modules
	Organisation of the UNIX file system.
	Managing disks. Partitioning schemes
	Creating and accesing filesystems
	Managing volumes.
	RAID
	Encrypting filesystems
	Introduction to the ZFS filesystem
Automating administrative tasks	Shell scripting
	Monitoring system: logs
	Schedulling execution of tasks: the cron and at commands
	Starting and stopping system services
	Initialization files and boot scripts
TCP/IP networking	Basic network configuration
	Network interface aliasing
	Manipulating routes
	inetd configuration
Managing internet and intranet services	fileservers
	DHCP
	ssh
	web
	mail

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Guest lecture / keynote speech	A53 A55 C3 C6 C7	21	63	84
Laboratory practice	A53 A55 C3 C6 C7	14	28	42
Supervised projects	A53 A55 C3 C6	7	10.5	17.5
Objective test	A55 C3	2.5	0	2.5
Personalized attention		4	0	4
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	The teacher will elaborate on the contents and give guidance on how to use and apply these concepts in the laboratory

Laboratory practice	Use and application of the concpts seen in real world system in the laboratory
Supervised projects	Ampliación de las practicas de laboratorio para ser realizada de manera más autónoma por los alumnos
Objective test	Examen escrito para evaluar el grado de asimilación de los conceptos expuesto en las sesiones magistrales

Personalized attention	
Methodologies	**Description**
Supervised projects Laboratory practice Guest lecture / keynote speech Objective test	Both the understanding of the concepts and the application tof these concepts to real systemas may require personalized attention to the student.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Supervised projects	A53 A55 C3 C6	Se valorará la entrega de los trabajos tutelados en el plazo preestablecido asi como su correcto funcionamiento.	20
Laboratory practice	A53 A55 C3 C6 C7	The ongoing work on the laboratory will be evaluated up to 30% qof the final qualification	40
Objective test	A55 C3	Examen escrito para evaluar el grado de asimilación de los conceptos expuesto en las sesiones magistrales	40

Assessment comments

Sources of information	
Basic	- Solaris System Engineers (2009). Solaris 10 System Administration Essentials (Solaris System Administration). : Prentice Hall - Frisch, Aeleen (2002). Essential System Administration. O' Reilly - Nemeth, Snyder, Hein ,Whaley (2011). Unix and Linux System Administration Handbook 4th edition . Pearson Education - The FreeBSD Documentation Project (2012). The FreeBSD handbook. http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/ - openBSD.org (2012). Bug Buster's guide to OpenBSD. http://www.openbsd.org/faq/index.html
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.