Teaching Guide				
Identifying Data				2017/18
Subject (*)	Operating Systems Administration		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	
Code	Study programme competences
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		
	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	Ordinary class hours	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**	**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. ALUMNOS TIEMPO PARCIAL: Se realizará una reunión a principio de curso para valorar como se realizará la evaluación en función de su disponibilidad.	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.