BASIC DETAILS:

Subject:	REDES Y COMUNICACIONES II		
Id.:	30544		
Programme:	GRADUADO EN INGENIERÍA INFORMÁTICA (SEMIPRESENCIAL). 2008 (BOE 15/12/2008)		
Module:	COMUNICACIONES		
Subject type:	OBLIGATORIA		
Year:	3	**Teaching period:**	Segundo Cuatrimestre
Credits:	6	**Total hours:**	150
Classroom activities:	12	**Individual study:**	138
Main teaching language:	Inglés	**Secondary teaching language:**	Castellano
Lecturer:		**Email:**	

PRESENTATION:

The course Networks and Communications II presents a complete overview of the upper layers ot the TCP/ IP stack. This subject continues the subject Networking and Communications I. Through this course, the students learn the main Internet protocols in the application layer (presentation and aplication considering the OSI standar).

PROFESSIONAL COMPETENCES ACQUIRED IN THE SUBJECT:

General programme competences	G02	Innovative capacity to propose and find new and efficient ways to undertake any task and/ or function within the professional environment - highly motivated by quality.
	G04	Capacity to always commit to working responsibly - creating a strong sense of duty and fulfilment of obligations.
	G13	Capacity to use individual learning strategies aimed at continuous improvement in professional life and to begin further studies independently.
Specific programme competences	E10	Capacity to understand and assess the impact of technology on individuals, organisations, society and the environment, including ethical, legal and political factors, recognising and applying the pertinent standards and regulations.
	E13	Capacity to identify, assess and use current and emerging technologies, considering how they apply in terms of individual or organisational needs.
	E18	Capacity to identify and define the requirements to be satisfied by IT systems to cover the stated needs of organisations or individuals.
Learning outcomes	R01	Assimilate, comprehend and manage protocols.
	R02	Comprehend and use complex architecture and systems.
	R03	Master the programming linked to this discipline.
	R04	Work methodically.
	R05	Interact in English in a work situation.
	R06	Work productively in a team.
	R07	Comprehend and produce technical documents in English.

PRE-REQUISITES:

It is recommended to have attended or have knowledge of:

- Networking and Comunications I or, failing that, TCP/ IP and the OSI model.
- Object Oriented Programming II, or failing that, knowledge of Java.
- Wireshark.

SUBJECT PROGRAMME:

Subject contents:

1 - Application Protocols
1.1 - Telnet
1.2 - Hyper-Text Transfer Protocol (HTTP)

1.3 - Simple Mail Transfer Protocol (SMTP)
1.4 - File Transfer Protocol (FTP)
1.5 - Domain Name System (DNS)
2 - Presentation Protocols
2.1 - Multipurpose Internet Mail Extensions (MIME)
2.2 - Secure Sockets Layer (SSL) and Transport Layer Security (TLS)
3 - Audio and video streaming in TCP/IP networks
3.1 - IP and IPv6
3.2 - Real-time Transport Protocol
3.3 - Voice over IP (VoIP)
3.4 - IPTV

Subject planning could be modified due unforeseen circumstances (group performance, availability of resources, changes to academic calendar etc.) and should not, therefore, be considered to be definitive.

TEACHING AND LEARNING METHODOLOGIES AND ACTIVITIES:

Teaching and learning methodologies and activities applied:

Theory Sessions: Lectures will be used to explain the basis of the different chapters. Wherever possible, explanations will be accompained by images, text or sounds to be used as practical examples and discussion topics. During the sessions, the lecturer will propouse activities or to look for information out of the class and he will resolve doubts.

Practical Sessions: There are individual labs and a practice in gropus. For this practice, students will be grouped into groups of 2 or 3. Practice will be the goal of the whole group. During practice, students will use problem-based learning methodological strategy.

The student will have the slides of all the chapters of the course. They should be able to expand it with the content explained in class and other bibliographic resources. In these notes the exercises that students must complete yourself to study matter and group practices that are proposed include relationship. The lecturer will be available to students during the tutorial schedule to help them in all matters concerning the course. On request, group tutorials may be programmed to control the work of the group. The course requires a significant effort by the student. The concepts explained in one chapter will
be used in the followings.

Student work load:

Teaching mode	Teaching methods	Estimated hours
Classroom activities	Master classes	3,5
	Other theory activities	0,5
	Practical exercises	1
	Coursework presentations	0,5
	Laboratory practice	3,5
	Assessment activities	3
Individual study	Tutorials	8
	Individual study	50
	Individual coursework preparation	24
	Group cousework preparation	36
	Research work	10
	Recommended reading	2
	Other individual study activities	8
	Total hours:	150

ASSESSMENT SCHEME:

Calculation of final mark:

Written tests:	50	%
Individual coursework:	25	%

Group coursework:	20	%
Participación:	5	%
TOTAL	100	%

*Las observaciones específicas sobre el sistema de evaluación serán comunicadas por escrito a los alumnos al inicio de la materia.

BIBLIOGRAPHY AND DOCUMENTATION:

Basic bibliography:

James F. Kurose, Keith W. Ross. Addison Wesley. Computer networking. A Top-down approach Featuring the Internet. Addison-Wesley. eText: ISBN-10 0-13-608084-7, ISBN-13 978-0-13-608084-8; Print: ISBN-10 0-13-607967-9, ISBN-13 978-0-13-607967-5
W. Richard Stevens. TCP/ IP Illustrated,Volume 1. The protocols, Addison-Wesley, 1994, ISBN 0-201-63346-9
TANENBAUM, Andrew S. Computer Networks. Fourth Edition. Pearson Education International, 2003

Recommended bibliography:

Comer. Internetworking with TCP/ IP Volume 1. ISBN: 0131876716- Daniel Collins. Carrier Grade VOICE OVER IP. MsGraw Hill. ISBN: 9780071406345
Mark Miller. Voice Over IP: Strategies for the Converged Network (with CD-ROM)
Daniel Collins. Carrier Grade VOICE OVER IP. MsGraw Hill. ISBN: 9780071406345
STALLINGS, William. Data and Computer Communications. 8th Edition. Pearson Pretince Hall, 2007.

Recommended websites:

CISCO	www.cisco.com
Request for Comments	www.rfc-es.org
Microsoft	www.microsoft.com

* Guía Docente sujeta a modificaciones