

SUBJECT TEACHING GUIDE

M1608 - Network architectures for integration services

Master's Degree in Telecommunication Engineering

Academic year 2017-2018

1. IDENTIFYING DATA					
Degree	Master's Degree in Telecommunication Engineering			Type and Year	Compulsory. Year 1
Faculty	School of Industrial Engineering and Telecommunications				
Discipline					
Course unit title and code	M1608 - Network architectures for integration services				
Number of ECTS credits allocated	5	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES				
Name of lecturer	ALBERTO ELOY GARCIA GUTIERREZ				
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Office	Edificio Ing. de Telecomunicación Prof. José Luis García García. Planta: - 1. DESPACHO (S130)				
Other lecturers	JORGE LANZA CALDERON				

3.1 LEARNING OUTCOMES

- The student identifies and interprets the structure and functioning of protocol architectures aimed at integration of telecommunications services
- The student will have the ability to analyze complex network structures with control plane and differentiated data , identifying the constituent elements
- The student will have a clear view of the trend of evolution of the current scenario of operators and services

4. OBJECTIVES

To know and understand the natural evolution of communications networks from individual services environments to the current environment of integrated services

To study the concept of integration of services and corresponding technological solutions

To study and analyze the most commonly used network architectures for network integration services

6. COURSE ORGANIZATION

CONTENTS

1	Chapter 1: Concepts: Integration of Services. Networks of transport, contribution, distribution and diffusion, both wired and wireless, for multimedia signals. Broadband networks and advanced services, Integration, convergence and interoperability between telecommunications operators and between telephone, data, television and interactive services. Fixed-Mobile Convergence. Convergence of services.
2	Chapter 2: Network Architectures for Integration: VPN Networks. Multimedia services: protocols. Quality of service. Intelligent Networks, SS7, CAMEL, Multimedia IP Subsystem (IMS).
3	Chapter 3: Service Oriented Architectures: SOA. Multicast services. Distribution of Television-IP (IP-TV). Analysis of case studies of integration of technologies in communications networks
4	Team work

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Continuous Assessment	Written exam	No	Yes	60,00
Team Work	Work	Yes	No	40,00
TOTAL				100,00

Observations

The realization of Team work is mandatory.

The final grade for the course is obtained by applying the following formula, where EC is the note of the Continuous Assessment and TG is the note of the Team Works: $NOTE = EC * 0.6 * 0.4 + TG$

EC is calculated from the individualized evaluation of each theoretical block (ec1, ec2, ..., ecn) using the following expression, provided that all the values are at least equal to 4.0:

$$EC = (ec1 + ec2 + \dots + ecn) / n$$

Each evaluation of each block below 4.0 can be retrieved on the dates assigned for the final exams of the subject.

In any case EC must be greater than or equal to 4.0. Otherwise, the final grade is calculated as follows:

$$NOTE = EC$$

Observations for part-time students

The realization of Team work is mandatory.

The final grade for the course is obtained by applying the following formula, where EC is the note of the Continuous Assessment and TG is the note of the Team Works: $NOTE = EC * 0.6 * 0.4 + TG$

EC is calculated from the individualized evaluation of each theoretical block (ec1, ec2, ..., ecn) using the following expression, provided that all the values are at least equal to 4.0:

$$EC = (ec1 + ec2 + \dots + ecn) / n$$

Each evaluation of each block below 4.0 can be retrieved on the dates assigned for the final exams of the subject.

In any case EC must be greater than or equal to 4.0. Otherwise, the final grade is calculated as follows:

$$NOTE = EC$$

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Gonzalo Camarillo , Miguel-Angel García-Martín: "The 3G IP Multimedia Subsystem (IMS): Merging the Internet and the Cellular Worlds", Willey, Ocurrencias 2008 | ISBN-10: 0470516623

Uyless Black: "ISDN & SS7 : architectures for digital signaling networks". Editorial: Upper Saddle River, New Jersey : Prentice Hall, cop. 1997. ISBN 0-13-259193-6

Rogier Noldus: "Camel : intelligent networks for the GSM, GPRS and UMTS network", John Wiley & Sons, cop. 2006. ISBN: 0-470-01694-9