SUBJECT TEACHING GUIDE

1077 - Network architectures for integration services

Master's Degree in Telecommunication Engineering

Academic year 2023-2024

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	1077 - Network architectures for integration services				
Number of ECTS credits allocated	5	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
Name of lecturer	ALBERTO ELOY GARCIA GUTIERREZ
E-mail	alberto.garcia@unican.es
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: Service Oriented Architectures: SOA. Multicast services. Distribution of Television-IP (IP-TV). Analysis of case studies of integration of technologies in communications networks
2	Chapter 2: Concepts: Integration of Services. Networks of transport, contribution, distribution and diffusion. Broadband networks and advanced services, Integration, convergence and interoperability. Fixed-Mobile Convergence. Convergence of services. Quality of Service. Intelligent Networks, SS7, CAMEL, IMS
3	Team work

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Continuous Assessment Chapter 1	Written exam	Yes	Yes	30,00
Laboratory Assesment	Activity evaluation with Virtual Media	Yes	Yes	40,00
Continuous Assessment Chapter 2	Written exam	Yes	Yes	30,00
TOTAL				100,00

Observations

The final grade for the course is obtained by applying the following formula, in which EC1 is the grade for Continuous Assessment Ckapter 1, EC2 is the grade for Continuous Assessment Chapter 2 and PRAC is the grade for Laboratory Assessment:

NOTE = 0.3 * EC1 + 0.3 * EC2 + 0.4 * PRAC

In any case, EC1, EC2 and PRAC must be greater than or equal to 5.0, so otherwise, the final grade will be calculated as follows:

NOTA_FINAL = MIN { NOTA; 4.9 }

Each of the evaluations of each block lower than 5.0 can be recovered on the dates assigned for the final exams of the subject.

All the above conditions will be applicable both in the ordinary call, and in the rest of the additional calls included in the natural period of the current Course.

Observations for part-time students

The carrying out of the Laboratories and the exercises corresponding to the Continuous Assessment are mandatory , so it is recommended that at the beginning of the semester the teachers be indicated the intention to carry them out and the probable availability for their performance.
In the event that the student is unable to complete the Continuous Assessment and / or the Laboratory Assessment, they may opt for their recovery under the same conditions as the rest of the students.

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, GPSR and UMTS network", John Wiley & Sons, cop. 2006. ISBN: 0-470-01694-9