SUBJECT TEACHING GUIDE

G847 - Technologies and Access Networks

Degree in Telecommunication Technologies Engineering

Academic year 2017-2018

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering			Type and Year	Optional. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Communications Network Architecture				
Course unit title and code	G847 - Technologies and Access Networks				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web	https://www.tlmat.unican.es/				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
Name of lecturer	ROBERTO SANZ GIL
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Other lecturers	MARTA GARCIA ARRANZ

3.1 LEARNING OUTCOMES
- Concept of a network architecture, access subnet and transport subnet.
- To learn about the most relevant technologies to accessing analogue and digital telephony networks.
- To understand the protocol architecture for a signaling network.
- To learn about the network access technologies for carriers offering triple-play services.

4. OBJECTIVES

To acquire and understand the theoretical and technological basis on which the most relevant voice and data access networks are laid down. Also, the student will learn about the protocols involved on the trnasport subnetwork as well as on the signaling subnetwork.

6. COURSE ORGANIZATION

CONTENTS	
1	Part 1. Introduction
2	Part 2. Data transmission through analogue lines
3	Part 3. Integrated Service Digital Network (ISDN)
4	Part 4. Digital Subscriber Loop (xDSL)
5	Part 5. Hybrid Fiber and Cable (HFC) networks
6	Part 6. FTTx access technoogies
7	Ordinary final exam

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First individual evaluation covering parts 1 and 2.	Written exam	No	Yes	25,00
Second individual evaluation covering part 3.	Written exam	No	Yes	25,00
Third individual evaluation covering parts 4, 5 and 6.	Written exam	No	Yes	25,00
Lab assignment evaluation.	Laboratory evaluation	No	No	25,00
TOTAL				100,00

Observations

The final qualification is obtained by means of the following expression, in which TEOR is the one corresponding to the theory part of the course and PRAC corresponds to lab evaluation.
NOTA = TEOR * 0.75 + PRAC * 0.25
Lab attendance is compulsory.

TEOR is the arithmetical mean from the individual (per lesson) exams, in case the student has done them all, and a mark of at least 4.0 has been reached on every individual exam.
Whether the student hasn't done any individual exam, or some exam has been qualified with a mark lower than 4.0, TEOR will be the mark obtained on the ordinary final exam, as continuous evaluation is not compulsory.

Observations for part-time students

The participation in lab assignments is compulsory. Several groups are established in order to favor the attendance of all students. The individual (per-lesson) evaluation is optional; the qualification of the theoretical part of the course (TEOR) would be that of the final exam for those students not taking the individual tests.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

W. Stallings, "ISDN and B-ISDN", 3ª edición, McMillan Publ. New York, 1995.
M. Alvarez, J. Berrocal, "Tecnologías de banda ancha y convergencia de redes", Ministerio de Industria, Turismo y Comercio, 2009.
Oliver C. Ibe, "Converged Network Architectures", Wiley, 2002.