SUBJECT TEACHING GUIDE

1095 - Access technologies and transport networks

Master's Degree in Telecommunication Engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Master's Degree in Telecommunication Engineering		Type and Year	Optional. Year 1	
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Optional Subjects				
Course unit title and code	1095 - Access technologies and transport networks				
Number of ECTS credits allocated	4	Term	Semester based (1)		
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	MARTA GARCIA ARRANZ
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Other lecturers	

3.1 LEARNING OUTCOMES
- Concept of network architecture, protocols, communication entities and interfaces. To learn about the most relevant voice and data access networks.

4. OBJECTIVES
The objectives of this course are basically focused on the student learning the technological and theoretical basis on which most relevant access networks are based, as well as the protocols involved in transmitting voice and data over those networks.

6. COURSE ORGANIZATION

	CONTENTS
1	Wireless local area networks
2	Cellular access networks
3	Telephone access networks (PSTN and ISDN)
4	Hybrid Fiber and Cable (HFC) networks
5	Queuing system networks.
6	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	42,00
Second individual evaluation covering parts 3 and 4.	Written exam	No	Yes	43,00
Lab assignment evaluation.	Laboratory evaluation	No	No	15,00
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 * 0.85 + PRAC * 0.15 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
Part-time students should contact the lecturer of this subject to discuss details regarding the assessment method. In any case, in general, similar criteria will be applied to the evaluation method for full-time students.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- M. Gast,"802.11 Wireless Networks: The Definitive Guide", Ed. O'Reilly Media, 2nd ed., 2005.
- M. Gast "802.11n Wireless Networks: a survival guide"; O'Reilly, 2013 (online a través de la BUC)
- Michel Mouly, Marie-Bernadette Pautet, "The GSM System for Mobile Communications", Ed. Telecom Pub, 1992.
- Siegmund M. Redl, Matthias K. Weber; Malcolm W. Oliphant, "An Introduction to GSM", Ed. Artech House, 1995.
- Gunnar Heine, Holger Sagkob, "GPRS: Gateway to Third Generation Mobile Networks", Ed. Artech House, 2003
- B. Walke, P. Sidenberg, M.P. Althoff, "UMTS: The Fundamentals", Ed. John Wiley, 2003
- 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.
- L. Kleinrock: "Queuing Systems. Volume I: Theory"; John Wiley, 1996