

SUBJECT TEACHING GUIDE

G843 - Management and Network Operation

Degree in Telecommunication Technologies Engineering First Degree in Telecommunication Technologies Engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering First Degree in Telecommunication Technologies Engineering			Type and Year	Optional. Year 3 Optional. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Telematic Applications and Services				
Course unit title and code	G843 - Management and Network Operation				
Number of ECTS credits allocated	6	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	LUIS FRANCISCO DIEZ FERNANDEZ				
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Other lecturers	JOSE ANGEL IRASTORZA TEJA				

3.1 LEARNING OUTCOMES

- The student will obtain the skills associated with the task of managing and operating networks. This requires to fulfill two main objectives: firstly, to familiarize students with the abstract problem of managing a telecommunications network and on the other hand, become familiar with generic management systems, particularly with TMN, SNMP and RMON.

4. OBJECTIVES

The main objective of the course is to provide the necessary professional skills to students who engage in network management and operation of both a telecommunications operator as an organization with a private network.

Acquaint students with the abstract problem of managing a telecommunication network regardless of technologies (protocols, electronics, architecture, etc ..) used or the type of network (data, voice, mobile, etc ...)

Familiarize yourself with generic management systems, particularly with TMN, SNMP and RMON

6. SUBJECT PROGRAM

CONTENTS

1	Part 1: Introduction to the management and operation of networks
2	Part 2: OSI and TMN Management Architectures
3	Part 3: Abstract Syntax Notation: ASN.1
4	Part 4: Management Internet Architecture: SNMP V1, V2, V3
5	Part 5: RMON 1 Y RMON 2
6	Evaluation

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First individual evaluation covering parts 1 and 2.	Written exam	No	Yes	25,00
Lab assignment evaluation	Laboratory evaluation	Yes	Yes	25,00
Ordinary final exam	Written exam	Yes	Yes	50,00
TOTAL				100,00

Observations

The final exam will consist of two parts: a mandatory exam of parts 3,4 and 5 [50%]; and in case of the student has not passed the liberatory exam of Parts 1 and 2 one optional exam (parts 1 and 2) [25%] and/or another practical exam [25%] (only for maks below 4.0)

$FINAL_MARK = THEORY_MARK \times 0.75 + PRACTICE_MARK \times 0.25$

$THEORY_MARK = \text{Parts (3, 4 and 5) exam} + \text{Parts 1 and 2 liberatory exam}$

$PRACTICE_MARK = \text{laboratory assignment mark}$

ADENDA COVID-19:

'The remote evaluation of assignments, laboratory practical exercises and written tests is foreseen in the event that a new health alert by COVID-19 makes it impossible to carry out a presential evaluation.'

Observations for part-time students

$FINAL_MARK = \text{Theoretical and practical exam of parts: 1,2,3,4 y 5}$

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

William Stallings: "SNMP, SNMPv2, and RMON: Practical Network Management, Second Edition"; Ed. Addison Wesley, 1996;

William Stallings: "SNMP, SNMPv2, and CMIP: The Practical Guide to Network-Management Standards"; Ed. Addison Wesley, 1993.

Franz-Joachim Kauffels: "Network Management : Problems, Standards and Strategies" Ed. Addison Wesley, 1992;