SUBJECT TEACHING GUIDE

1084 - Infrastructures of Telecommunications

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 2
Faculty	School of Industrial Engineering and Telecommunications				
Discipline					
Course unit title and code	1084 - Infrastructures of Telecommunications				
Number of ECTS credits allocated	3	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
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Other lecturers	BEATRIZ AJA ABELAN

3.1 LEARNING OUTCOMES

- Knowledge of the legislative framework for ICTs (Common Infrastructure for Telecommunications) and the digital home. Drafting according to general models.
- Ability to design , supervise , monitor and approve the construction of telecommunication facilities in both single-family environments , as neighboring communities and / or broader scope (municipal , industrial estates, etc.) . In addition it gives you the capacity to design and / or approve the design of infrastructure power supply for telecommunication facilities . In all cases , you are prepared to carry out the tasks described above not only level design but also on site , where more practical knowledge and economist aspects are as important as the purely technical .

4. OBJECTIVES

On the subject of Telecommunications Infrastructure learning outcomes
the student acquires they are aimed to train them as professionals capable of designing,
supervise , monitor and approve the construction of facilities both detached telecommunications environments , as
condominiums and / or broader scope (municipal , industrial estates, etc.) . Furthermore it is provided in the
capacity to design and / or approve the design of supply infrastructures
power to telecommunication installations . In all cases , you are ready to
carry out the tasks described above not only in terms of design but also on foot
labor , where knowledge and more practical aspects like cost are as important as purely technical aspects.

6. COURSE ORGANIZATION

	CONTENTS
1	Design of an installation of a Common Telecommunications Infrastructure (ICT) for a residential building . Characterization of the components of a system of ICT . Basic telephone installation and grounding . Optical fiber installation . Reception of terrestrial radio broadcasting . Reception of digital terrestrial and satellite television .
2	-Domothics Home and digital components of a system. Topologies. Regulations. Commercial systems. The project Digital Home. Phases of a home automation system .
3	- Installation of mobile communications and radio emissions . compatibility Electromagnetic in line telecommunication networks and radio. - Deployment of telecommunications networks in the municipal environment and industrial estates. - Transport infrastructure and the environment . Energy supply in telecommunications facilities . - Project management and certification of telecommunications infrastructure .
4	International infrastructures: Transoceanic submarine cables Non-terrestrial networks (NTN) satellite constellations (5G NTN). Management procedures before the government to inventory facilities and process permits for orbits and frequencies as well as the ground segment.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Preparation of Infrastructure project draft and presentation	Work	No	Yes	30,00
Presentations in the classroom about selected topics	Work	No	Yes	20,00
Test exam of Telecom and digital home infrastructures. Test exam of Base Stations and Telecommunication Infrastructures in residential and industrial areas.	Written exam	No	Yes	30,00
Laboratory of measurements and characterization of Infrastructures components. Practices and simulation of Telecom and digital home infrastructures. Preparation of Reports.	Others	No	Yes	20,00
Final Examination for non regular students.	Written exam	Yes	No	0,00
TOTAL				100,00

Observations

Continuous assessment procedure with written exercices, test, presentations and practices is based on regular attendance to class (it is REQUESTED at least 80 % attendance). Otherwise final written exam on the date set by the Faculty will be held .

Observations for part-time students

Students who do not attend class regularly (<80%) will be required to elaborate and present some works equivalent to the effort made by the regular attendance students. They must also do a final written exam on the date set by the Faculty.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Normativa de las Infraestructuras comunes de Telecomunicaciones (ICT) Vers. 2011. COIT

Libro blanco del Hogar Digital y las Infraestructuras Comunes de Telecomunicaciones. Telefónica.

Presente y futuro del Hogar Digital: Una visión desde Andalucía. COIT Andalucía & ETICOM

Instalaciones Domóticas. Cuaderno de Buenas Prácticas para Promotores y Constructores. 2º Ed. CEDOM. AENOR Ediciones.

Normativa de las infraestructuras comunes de telecomunicaciones : infraestructuras de acceso ultrarrápidas y hogar digital / José Manuel Huidobro Moya, Pedro Pastor Lozano. Editorial: [Las Rozas (Madrid)] : Creaciones Copyright, cop. 2011.

http://www.minetur.gob.es/telecomunicaciones/Infraestructuras/Paginas/Index.aspx