

**COURSE DATA****Data Subject**

<b>Code</b>	43863
<b>Name</b>	Telecommunication project management II
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	5.0
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. Period</b>
2174 - M.U. en Ingeniería de Telecomunicación 13-V.2	School of Engineering	2 First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2174 - M.U. en Ingeniería de Telecomunicación 13-V.2	17 - Telecommunication project management II	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
SAMPER ZAPATER, JOSE JAVIER	240 - Computer Science

**SUMMARY**

The course Gestión Tecnológica de Proyectos de Telecomunicación II (GTPT II), is a subject for the first semester of the second year of the Master in Telecommunication Engineering. The course consists of 5 ECTS, and is complemented by the course Gestión Tecnológica de Proyectos de Telecomunicación I (GTPT I), also with 5 ECTS.

This course covers the development of projects involving telecommunication systems, including theoretical and practical aspects of the networks, infrastructure and services to be implemented. It also sets out the legislative aspects for the development of these projects and explores several models aimed at specific ICT sectors: telemedicine, bioengineering, environmental monitoring, electrical distribution, automation, automotive, electromagnetic compatibility, etc. Special attention will be given to methodologies aimed at the development of R+D+I projects in multidisciplinary areas, both at companies and technology centers.



The contents of the course are designed to introduce students to the development of specific projects in telecommunication engineering, discussing models and real-world examples, and providing a broad view of the role of telecommunications engineers in various industrial sectors.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

Basics of telecommunication engineering and budgeting.  
Management Essentials

## OUTCOMES

### 2174 - M.U. en Ingeniería de Telecomunicación 13-V.2

- To have critical thinking capabilities to investigate independently and self-critically, and to search and utilize information for documenting ideas.
- To have the ability of standing up for fair criteria with rigor and arguments, reporting them publicly in a clear way and in a multilingual environment.
- To have the ability to participate in diffusion forums, journals, conferences, etc. and to work cooperatively and effectively in transnational teams.
- To have the capability to identify and solve the critical points to conduct an effective technology transfer, transforming theoretical results into products and services that are useful for the society.
- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Be able to access to information tools in other areas of knowledge and use them properly.
- To be able to assess the need to complete the scientific, historical, language, informatics, literature, ethics, social and human background in general, attending conferences, courses or doing complementary activities, self-assessing the contribution of these activities towards a comprehensive development.



- Ability to integrate technologies and systems from telecommunication engineering, with a generalist and universal character, and in broader and multidisciplinary context, such as bioengineering, photovoltaic conversion, nanotechnology or telemedicine.
- Ability to create, lead, coordinate and manage projects technically and economically about: systems, networks, infrastructures and telecommunication services, including the supervision and coordination of partial projects of an aged work; common telecommunication infrastructure in transport and environmental engineering, with their corresponding energy supply facilities and the assessment of electromagnetic compatibility and emissions.

## LEARNING OUTCOMES

After completing this course, students will have acquired the learning outcomes enabling the development of the general and specific skills described in this document. In this context, the students will be able to design, lead and coordinate the technical and financial management of engineering projects, applying technical knowledge learnt along their studies and critically evaluating the results obtained during the execution of a telecommunication project. The student will also acquire a broad knowledge of the telecommunications sector in Spain and on the role of telecommunications engineering in research and innovation.

## DESCRIPTION OF CONTENTS

### 1. Introduction

Telecommunication engineering. Telecommunications as a tool. Sectors and current situation. Special features of ICT projects. Standards and tools for the development of ICT projects.

### 2. Telecommunications Legal Framework

Basic telecommunications law. Law for Telecommunication Infrastructures in Buildings. Spectrum. Radio and television. Satellite Communications. Mobile communications.

### 3. Intellectual property an integral part of R&D projects

IP protection strategies. Patents, utility models, brands, industrial designs, copyrights, and trade secrets

### 4. Philosophy Lean and Continuous Improvement

Continuous improvement tools. Problem solving groups. SMED. Value Stream Mapping. FMEA (Modal Analysis of Faults and Effects). Supply Chain Management. Continuous improvement in product launches. Models of Business Excellence. ISO and EFQM.

**5. Introduction to R&D+i projects**

Definition of R & D + i. Basics: research, development and innovation. Features of R & D + i. Managing R & D + i.

**6. R & D Technological management**

Processes in the R & D + i management. Project management in R & D + i. Project management tools in R & D + i. Financing R & D + i. Protection and exploitation of results derived from R & D + i.

**7. Multidisciplinary projects**

Generating ideas and new projects. Management of multidisciplinary teams. Business relations and communication. Examples of multidisciplinary research projects and the role of the telecommunications engineer.

**8. Trends in research. Future of ICT.**

Future of telecommunications. New standards. Emerging areas.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	26,00	100
Laboratory practices	8,00	100
Classroom practices	8,00	100
Seminars	4,00	100
Tutorials	4,00	100
Development of group work	10,00	0
Development of individual work	18,00	0
Study and independent work	5,00	0
Preparation of evaluation activities	11,00	0
Preparing lectures	10,00	0
Preparation of practical classes and problem	15,00	0
Resolution of case studies	6,00	0
<b>TOTAL</b>	<b>125,00</b>	



## TEACHING METHODOLOGY

The teaching methods that will be used throughout the course are:

### **MD1.- Theoretical activities:**

AF1.- Expository development of the subject with the student's participation in the resolution of specific issues. Performing individual evaluation questionnaires.

### **MD2.- Practical activities:**

AF2.- Learning through problem solving, exercises and case studies, making use of the skills acquired throughout the course.

### **MD3.- Competences:**

AF3.- Attendance at courses, conferences, round tables and other activities organized and / or proposed by the Master Committee.

## EVALUATION

The assessment will consider the following items and gradings:

SE1.- Exam (50% of the final mark)

SE2.- Homework (35% of the final mark)

SE3.-

- Attendance to the course lessons (5% of the final mark)
- Positive disposition when attending the course lessons (5% of the final mark)
- Work at the classroom (5% the final mark)



For the students who cannot attend the course lessons, an alternative evaluation is proposed, where the attendance is replaced by solving additional homework.

The minimum mark required to pass the course is 5.0 over 10 in both the final exam and homeworks. The remaining items are not subjected to a minimum.

To evaluate the attendance, the student needs to attend at least 75% of the course lessons.

In any case, the system of evaluation will be ruled by the established in the Regulation of Evaluation and Qualification of the University of Valencia for Degrees and Masters. ([http://www.uv.es/graus/normatives/2017\\_108\\_Reglament\\_avaluacio\\_qualificacio.pdf](http://www.uv.es/graus/normatives/2017_108_Reglament_avaluacio_qualificacio.pdf)).

## REFERENCES

### Basic

- Jeffrey K. Liker, The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer, ISBN: 0071392319, McGraw-Hill © 2004
- Constance Luetolf-Carroll, Antti Pirnes and Withers LLP, From Innovation to Cash Flows, ISBN 978-0-470-11809-2, John Wiley & Sons 2009
- European Platform Initiative, Advancing IoT Platforms Interoperability, ISBN 978-87-7022-006-2, River Publishers 2018

### Additional

- J. M. Huidobro and P. Pastor. Normativa de las Infraestructuras Comunes de Telecomunicaciones: Infraestructuras de acceso ultrarrápidas y hogar digital. Creaciones Copyright, 2011.
- R. Kumar. Research Methodology: A Step-by-Step Guide for Begginers. SAGE Publications, 2010.