SUBJECT TEACHING GUIDE

G838 - Communications Systems

Degree in Telecommunication Technologies Engineering

Academic year 2021-2022

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: Telecommunications Systems				
Course unit title and code	G838 - Communications Systems				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
Name of lecturer	AMPARO HERRERA GUARDADO
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Other lecturers	ALMUDENA SUAREZ RODRIGUEZ MARIA ISABEL PONTON LOBETE

3.1 LEARNING OUTCOMES
- Basic knowledge of the subsystems that make up a communications system
- Ability to select systems and subsystems that meet a certain technical requirement
- Knowledge of modeling and study techniques of RF system characteristics .
- User-level management of a simulation environment and its systems simulation techniques
- User Level knowledge of Measurement and Characterization Equipmet for RF Systems

4. OBJECTIVES

Analyze RF and microwave subsystems and systems
Simulate RF and microwave subsystems and systems
Know the basic magnitudes of the RF and microwave subsystems and systems
Characterization of the basic magnitudes of the RF and microwave subsystems and systems

6. COURSE ORGANIZATION

CONTENTS	
1	General Introduction
2	Pasive Components (Clasification and general parameters)
3	Active Components and subsystems (General characteristics and definitions)
4	Systems Magnitudes: Noise, gain, power, Second Order Incerception Point (SOI also known as IP2) , Third Order Incerception Point (TOI also known as IP3) , One dB Compresion Point P1dB, etc
5	Comunication Systems: Architectures and Clasification
6	Simulation Laboratory Works: System Simulations (including Active and Pasive subsystems)
7	Measurement Laboratory Works: System Characterization (including Active and Pasive subsystems)

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Laboratory simulation and measurement work	Laboratory evaluation	No	Yes	30,00
Final Exam	Written exam	No	Yes	30,00
Individual Works	Others	No	Yes	35,00
Group Work	Work	No	No	5,00
TOTAL				100,00

Observations

The subject is organized to be evaluated with the continuous assessment method, the simulation and measurement work in the laboratory are compulsory as well as the final written exam. Students who have not passed any of the partial assessments made throughout the course may be submitted to the final exam with the weight of the grade at 60%, and 40% will be obtained from the evaluation of laboratory work.
The rest of the students that follow the continuous evaluation method will be able to obtain a 70% by this method being 30% the weight of the final exam. In the continuous evaluation, there will be two individual works, two test exams, two deliveries of problems to solve individually, classroom activities, a work group and the practical sessions in the simulation laboratory and in the measurement laboratory. And finally the June written exam.

Observations for part-time students

Students who have chosen the part-time option may submit to the final exam, the weight of the grade being 60%, and the remaining 40% will be obtained from the evaluation of the laboratory works, both simulation and measurement, composed for 11 sessions of two hours that are compulsory and not recoverable.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Practical RF System Design (William F. Egan) ED.Wiley Interscience 2003 ISBN 0-471-20023-9
RF System Design of Transceivers for Wireless Communications (Qizheng Gu) ED: Springer 2005 ISBN: 978-0387241616
RF Circuit Design (Second edition) . Richard Chi-Hsi Li. ED Wiley ISBN 978-118-30990-2 versión Adobe-PDF. ISBN 978-1-118-12849-7 (Version impresa)