DRAFT CURRICULUM
Master of Science in
Telecommunication Technologies, Systems and Networks - 60 ECTS
COURSE 2014-2015

1st semester

10 subjects out of 20 to choose (12 in English) (30 ECTS):

Mobile and Wireless Communication Systems

Network architecture and protocols for mobile communications

Image and Video Processing Techniques

Digital Communication Systems

Satellite Communication Systems

Nanophotonics

Optical Signal Processing in optical networks

Optical Wireless Systems

Content Distribution Mechanisms over IP Networks

Distributed Real Time Systems

Traffic Management and Quality of Service

Telecommunications Economics and Regulation

Diseño de componentes pasivos para sistemas de comunicaciones de alta frecuencia

Aspectos industriales del electromagnetismo

Electromagnetismo avanzado aplicado a las comunicaciones

Técnicas de codificación y detección en comunicaciones

Detección, estimación y clasificación de señales

Comunicaciones multimedia

Análisis y dimensionado de redes de comunicaciones móviles
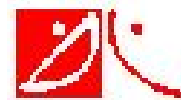
Gestión de Tráfico y Calidad de Servicio

2nd semester

6 ECTS

6 Seminars out of 15 to choose (6 Engl)

24 ETCS

Master's Thesis (MTh)

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1. MODULE "SUBJECTS"

In the first semester all the subjects of the previous schedule have an academic load of 3 ECTS. They will be taught from September to January. The student must choose ten subjects most similar to his/her degree of origin.
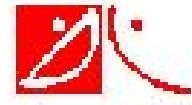
Code	Subjects Group in English (3 credits)	Sem	Professor
30740	Optical Wireless Systems	A	**Beatriz Ortega** and José Capmany
30743	Nanophotonics	A	**P. Sanchis**, J. Martí and A. Martínez
30744	Optical Signal Processing in optical networks	A	**S. Sales**, D. Pastor and P. Muñoz
30739	Satellite Communication Systems	A	**S. Cogollos**, V. Boria and M. Ferrando
30733	Digital Communication Systems	A	**Gema Piñero** and María de Diego
30742	Image and Video Processing Techniques	A	**Antonio Albiol**
30738	Mobile and Wireless Communication Systems	A	**J. Monserrat**
30752	Content Distribution Mechanisms over IP Networks	A	**Carlos Palau**
30748	Network architecture and protocols for mobile communications	A	**Pablo Escall** and Miguel Ángel Rodríguez
30750	Distributed Real Time Systems	A	**Manuel Esteve**
30747	Traffic Management and Quality of Service	A	**Jose Ramón Vidal** and Vicent Pla
30754	Telecommunications Economics and Regulation	A	**Luis Guijarro**

In addition to this, the previous and following subjects are also taught in the group in Spanish.

Code	Subjects only in Spanish (3 credits)	Sem	Professor
30736	Diseño de componentes pasivos para sistemas de comunicaciones de alta frecuencia (DSCAF) (ASM)	A	**H. Esteban**, V. Boria, and S. Cogollos
30737	Aspectos industriales del electromagnetismo (AIE)	A	**Felipe Peñaranda** and Jose Manuel Catalá
30735	Electromagnetismo avanzado aplicado a las comunicaciones (EAC)	A	**M. Ferrando**, M. Baquero and A. Valero
30734	Técnicas de codificación y detección en comunicaciones (TCDC)	A	**Vicenç Almenar** and Alberto González
30741	Detección, estimación y clasificación de señales (DECS)	A	**L. Vergara** and J. Igual
30751	Comunicaciones multimedia (CM)	A	**Juan Carlos Guerri**
30745	Análisis y dimensionado de redes de comunicaciones móviles (ARCM) (TTC)	A	**Vicente Casares** and Pablo Escalle
30746	Modelado y evaluación de redes de comunicaciones (MER)	A	**Jorge Martinez** and Vicent Pla

Highlighted **in bold** is the professor responsible for each subject

In green the professors who come from outside the campus de Vera.

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2. MODULE "SEMINARS"

In the second semester, students must get 6 ECTS equivalent to seminars, for doing that they must choose one of the following 3 options:

1st Option:

Seminars are offered (each one with an academic load of 1 ECTS) on specific and advanced research topics from different areas of knowledge of the degree. The student must choose six topics between the following:

Seminars by professors from UPV

Code	Seminars in English (1 credit, semester B)	Professor
31214	Simulation of Communication Systems	Juan Luis Corral
33023	Communication Networks Simulation based on Opnet Modeler Software	Fernando Boronat
33025	Practical design of antennas for wireless devices using comercial electromagnetic simulation software	Eva Antonino

Code	Seminars en Spanish (1 credit, semester B)	Professor
31221	Sistemas de mando y control para gestión de emergencias	Manuel Esteve
31969	Nuevas Tecnologías para Redes Vehiculares y Servicios para Entornos Inteligentes	Juan Reig
31970	Redes Ópticas de Nueva Generación y Eficiencia Energética	Roberto Llorente
31684	Comunicaciones Industriales	Victor M. Sempere
31971	Redes de acceso basadas en fibra óptica: FTTx	Borja Vidal
31674	Caracterización teórica y experimental del canal radio móvil	Lorenzo Rubio
31968	Técnicas avanzadas de medida y automatización en RF	V. Miquel Rodrigo
33024	Protocolos de encaminamiento	Jaime Lloret

In green those who come from outside the campus de Vera.

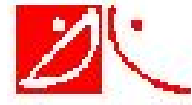**Seminars by guest professors from EEES (in English)**
The responsible professor is always the one who invites

Code	Subject (1 credit, semester B)	Professor
31219	Technology Innovation and Strategy	**M. Guglielmi (ESA)** and V. Boria
31676	Ad Hoc and Mesh Networking: MAC, Routing and QoS	**Frank Li (Agder U, Noruega)** and Vicent Pla
31967	Wireless sensor Networks Applications and Systems	**G. Fortino (U. Callabria)** and C. Palau

Seminars by guest professors from Spain (In Spanish)
The responsible professor is always the one who invites

Code	Subject (1 credit, semester B)	Professor
31229	Seminario: Antenas para comunicaciones (SEM-2)	**J. Romeu (UPC)** and M. Baquero

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Subjects from other master's degrees (In Spanish)

Code	Subject	Credits	Sem	Master
33217	Estructuras asimétricas topológicas y fuzzy. Aplicaciones	3	B	Máster de Investigación Matemática
33215	Métodos numéricos para la resolución de sistemas de ecuaciones	3	B	Máster de Investigación Matemática
33203	Sistemas dinámicos discretos, caos y fractales	3	B	Máster de Investigación Matemática
33218	Tratamiento de señales e imágenes mediante wavelets	3	B	Máster de Investigación Matemática
30596	Conceptos y métodos de la computación paralela	4	A	Máster en Computación paralela y distribuida
30597	Herramientas de computación de altas prestaciones	4	A	Máster en Computación paralela y distribuida
30616	Algoritmos paralelos en procesamiento de la señal	2	B	Máster en Computación paralela y distribuida

2nd Option:

Students who have training courses in research topics related to the master's areas in international conferences, in Networks of Excellence, in universities with existing mobility agreements, or work in a company in R & D activities, etc.. can apply for recognition of up to six credits for this reason. It will be recognized 1 ECTS for each 30 hours of training received and in the case of R & D activities, 1 ECTS for each month worked:

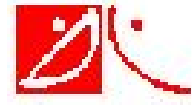| |
|---|
| Training courses received in international conferences (1 ECTS) |
| Training courses received in European networks of excellence (2 ECTS) |
| R & D activities (3 ECTS) |

In order to recognize the previous activities, the student must deliver to the master's director the following:
* Report of the work done in the company with an emphasis on the R & D activities carried out.
* Job contract.
*Letter from the company supervisor supporting his request for recognition of credits.

3rd Option:

Students who do the master's thesis abroad can validate the seminars by enrolling for the activities of the 2nd Option:

Training courses received in international conferences (1 ECTS)
Training courses received in European networks of excellence (2 ECTS)
R & D activities (3 ECTS)

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3. MODULE "MASTER'S THESIS"

The "master's thesis" consists of 24 ECTS and is made up of a presentation and defense of an original exercise performed individually before a university tribunal. It consists of a novel research project in one of the areas concerned. For the defense of the master's thesis, the student must have passed all the credits of the curriculum.

The "Documento Marco of the UPV" establishes the relationship between the ECTS and the number of hours of classroom and non-classroom work to be made by the student. For all the training activities, 1 ECTS equals to 10 hours of in-person work and 15 to 20 hours of not in-person work (personal student work).

Code	Subject
31078	Tesina de máster en tecnologías, sistemas y redes de comunicación (24 credits, semester B)

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