

Program	09TT- Engineering in Telecommunication Technologies and Services
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Course number and name	
Number	95000073
Name	Boadcasting and Network Services Difusion y Servicios de Red
Semester	Y4-7S

Credits and contact hours	
ECTS Credits	6
Contact hours	60

Coordinator's name	Jesús García Jiménez
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Specific course information		
Description of course content		
It is presented the fundamentals for audiovisual signals broadcasting based on the European standards (DVB) of first generation. A brief description of second generation is provided. Other first generation standards, non European, are presented.		
List of topics to be covered		
1 Introduction to audiovisual signals, 2 Transport and Program Stream, 3 Broadcasting using COFDM, 4 Channel Codification, 5 DVB standars description, 6 Basic technologies for DVB second generation , 7 Advances and addittional issues, 8 Laboratory and practical issues		
Prerequisites or co-requisites		
It is recommended enough knowledge of the previous courses in the program about audiovisuals technologies, RF and signal processing.		
Course category in the program		
<input type="checkbox"/> R (required)	<input type="checkbox"/> E (elective)	<input checked="" type="checkbox"/> SE (selective elective)

Specific goals for the course
Specific outcomes of instruction
RA1: Ability for implementation, operation and management of telecommunication services and aplicaciones, understanding these as reception systems, analog and digital processing, codification, transmission, presentation, storage, management and presentation of audiovidual services and multimedia information.
RA2: Ability to analyze, specify, implement, and maintain systems, equipments, and

installations of television, audio and video, in fixed and mobile environment.
 RA3: Ability for implement, codify, manage, and transport multimedia contents attending criteria on accessibility of audiovisual, broadcasting and interactive services

Student outcomes addressed by the course

CE-SI1, CE-SI2, CE-SI5

Bibliography and supplemental materials

U. Reimers, DVB “*The Family of International Standards for Digital Video Broadcasting*”. Ed. Springer, 2005

A. Delgado, “Transmisión de señales de TV digital el estandar terreno DVB-T”, 2002, web Departamento

A. Delgado, “Flujos de programa y transporte MPEG 2 Aplicación a DVB”, web Departamento

J.H. Stott, "The how and why of COFDM", EBU Technical Review - Winter 1998

M.Kornfeld y U. Reimers, “DVB-H The Emerging Standard for Mobile Data Communication”, EBU Technical Review - Summer January 2005.

Mohammed El-Hajjar and Lajos Hanzo, “ A Survey of Digital Television Broadcast Transmission Techniques”, IEEE COMMUNICATIONS SURVEYS & TUTORIALS, VOL. 15, NO. 4, FOURTH QUARTER 2013

M. Cominetti, V. Mignone, A. Morello, M. Visintin, “The European System for Digital Multi-Programme Television by Satellite” IEEE Transac. on Broadcasting, vol. 41 n° 2 June 1995, pp 49-62

Y.Wu, E.Pliszka,B.Caron,P.Bouchard and G. Chouinard, “Comparison of Terrestrial DTV Transmission Systems The ATSC 8-VSB,the DVB-T COFDM, and the ISDB-T BST-OFDM”, IEEE Trans. on Broadcasting vol. 46, n° 2 June 2000.

Vangelista et alt., “Key Technologies for the Next Generation Terrestrial Digital Television Standard”, IEEE Communication Magazine, October 2009, pp. 146-153

Digital Video Broadcasting (DVB); Measurement guidelines for DVB systems;

Documents available on www.dvb.org

Teaching methodology

<input checked="" type="checkbox"/> lectures	<input checked="" type="checkbox"/> problem solving sessions	<input checked="" type="checkbox"/> collaborative actions	<input checked="" type="checkbox"/> laboratory sessions
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Other: