

Program	09AQ-Master in Telecommunication Engineering
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Course number and name	
Number	93000794
Name	Multimedia systems and services Sistemas y servicios multimedia
Semester	Y1-S2

Credits and contact hours	
ECTS Credits	6
Contact hours	60

Coordinator's name	Narciso García Santos
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Specific course information		
Description of course content		
This course covers the techniques required for the design, development, integration, deployment and management of multimedia systems and services. Besides basic training in multimedia systems, this course provides students with a structured vision of problems related to multimedia services.		
List of topics to be covered		
1. Introduction to multimedia systems and services. 2. Multimedia content generation and production. 3. Compression of audiovisual signals. 4. Transport and distribution of multimedia signals. 5. Presentation of multimedia signals and human-machine interaction. 6. Use cases.		
Prerequisites or co-requisites		
None.		
Course category in the program		
<input checked="" type="checkbox"/> R (required)	<input type="checkbox"/> E (elective)	<input type="checkbox"/> SE (selective elective)

Specific goals for the course
Specific outcomes of instruction
RA1: Knowledge of the practical problems can be resolved through multimedia systems.
RA2: Knowledge and characterization of the elements of multimedia systems.
RA3: Knowledge of the techniques of capture, representation, processing, storage, compression, transportation and presentation used in multimedia services and applications.
RA4: Knowledge of techniques and tools to analyze, specify, implement and maintain multimedia systems and services.
RA5: Knowledge of the techniques required for the handling and distribution of multimedia content: creation, encoding, management, transport and distribution.

RA6: Use of mathematical and conceptual tools that underlie multimedia systems and services.

RA7: Use of computer tools required for the implementation and management of multimedia systems and services.

Student outcomes addressed by the course

CE1, CE4, CE6, CE9, CE15, CE16

CG1, CG2, CG3, CG4, CG5

CT1, CT2, CT3, CT4, CT5, CT6, CT7

Bibliography and supplemental materials

- PDF version of the slides for this course (available on-line at UPM's Moodle repository: <http://moodle.upm.es/titulaciones/oficiales>)
- A. Bovik, The Essential Guide to Video Processing, Academic Press, 2009.
- J. M. Castillo, Televisión, realización y lenguaje audiovisual (2ª Edición). Instituto RTVE, 2013.
- J. Owens, G. Millerson, Television Production (15th Edition). Focal Press, 2013.
- C. Poynton, Digital Video and HDTV Algorithms and Interfaces (2nd Edition), Morgan Kaufmann Publishers, 2012.
- M. van der Schaar, P. A. Chou, Multimedia over IP and Wireless Networks, Academic Press, 2007.
- J. Watkinson, The MPEG Handbook. MPEG-1, MPEG-2, MPEG-4 (2nd Edition), Elsevier, 2004.

Teaching methodology

<u>X</u> lectures	<u>X</u> problem solving sessions	__ collaborative actions	<u>X</u> laboratory sessions
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Other: