

Program	09TT- Engineering in Telecommunication Technologies and Services
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Course number and name	
Number	95000086
Name	Consumer Photonics Fotónica de Consumo
Semester	Y3-S6

Credits and contact hours	
ECTS Credits	4.5
Contact hours	45

Coordinator's name	Santiago Aguilera Navarro
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Specific course information		
Description of course content		
The course reviews the application of photonic and optoelectronic devices in consumer products: displays, LED illumination, optical storage of information, holography, etc.		
List of topics to be covered		
1. Introduction: Basic concepts of photonics, 2. Display systems, 3. Acquisition systems: photography, digital video, scanners, 4. LED illumination systems, 5. Laser printers and holography, 6. Optical systems for information storage, 7. Remote control systems.		
Prerequisites or co-requisites		
None, but it will be assumed that students have basic knowledge of optics from General Physics II and optoelectronic devices from Introduction to Electronics.		
Course category in the program		
<input type="checkbox"/> R (required)	<input checked="" type="checkbox"/> X_ E (elective)	<input type="checkbox"/> SE (selective elective)

Specific goals for the course

Specific outcomes of instruction

RA45 - Knowledge and skills of the scientific and technological contents of consumer photonics.

Student outcomes addressed by the course

CG4, CG7, CG8
 CEB4
 CECT3

Bibliography and supplemental materials

- Ken C. Pohlmann; "Principles of digital audio", Mc Graw-Hill (2005).
- R. Bouillot; "Curso de Fotografía Digital. Fundamentos y Aplicaciones", Ediciones Omega (2003).
- L. W. MacDonald and A.C. Lowe, Eds.; "Display Systems. Design and Applications", Wiley (1997).
- Collier, Burckhardt, Lin; "Optical Holography", Academia Press (1971).
- P. Mottier; "LEDs for Lighting Application", Wiley (2009).
- C. Webb y J. Jones Editores; "Handbook of laser technology and applications", IOP Publishing (2004).
- web resources: <http://moodle.upm.es/titulaciones/oficiales>

Teaching methodology

<u> X </u> lectures	<u> </u> problem solving sessions	<u> X </u> collaborative actions	<u> </u> laboratory sessions
Other:	Oral presentation of essays.		