

Program	09TT- Engineering in Telecommunication Technologies and Services
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Course number and name	
Number	95000098
Name	Introduction to Ambient Intelligence Introducción a los Entornos Inteligentes
Semester	Y3-S6

Credits and contact hours	
ECTS Credits	4.5
Contact hours	45 hours

Coordinator's name	Álvaro Araujo Pinto
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Specific course information		
Description of course content		
A course of a brief introduction to Ambient Intelligence both IoT point of view (sensors and actuators, communications, interfaces, security, applications) and the most used programming language for this kind of systems, C programming language.		
List of topics to be covered		
<ol style="list-style-type: none"> 1. Introduction: Embedded Systems, programming languages, development frameworks, AmI applications 2. Embedded System Design for AmI: user interface, secure management, information processing, refactoring, control mechanism, mass production aspects. 3. Applications: automotive, smartphones, industrial control, smartcities,... 		
Prerequisites or co-requisites		
None, but it will be assumed that students have basic programming knowledge.		
Course category in the program		
<input type="checkbox"/> R (required)	<input checked="" type="checkbox"/> E (elective)	<input type="checkbox"/> SE (selective elective)

Specific goals for the course	
Specific outcomes of instruction	
RA358: To be able to analyze problems, work in group and to talk in public.	
RA359: To understand embedded systems problems and fundamentals of programming.	
Student outcomes addressed by the course	
CG7, CG8, CG10, CEB2	

Bibliography and supplemental materials

The C Programming Language, Second Edition by Brian W. Kernighan and Dennis M. Ritchie. Prentice Hall, Inc., 1988
 Programming Embedded systems in C and C++, Michael Barr. Ed. O´ Reilly Associates, 1999
 Recommended papers
 Web site: moodle.upm.es

Teaching methodology

X lectures	X problem solving sessions	X collaborative actions	— laboratory sessions
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Other: