

Τίτλος (Ελλ.)	Τίτλος (Αγγλ.)	Υπεύθυνος	Διδάσκοντες
Κυβερνοφυσικά Συστήματα και Ευφυείς Υποδομές	Cyber-Physical Systems and Smart Infrastructures	ΛΟΥΚΑΤΟΣ	ΛΟΥΚΑΤΟΣ, ΑΡΒΑΝΙΤΗΣ, ΠΡΟΣΚΕΚΛΗΜΕΝΟΙ ΕΙΣΗΓΗΤΕΣ
Περιγραφή			
<p>These lecture series are dedicated in communicating the fundamentals of Cyber-Physical Systems and Smart Infrastructures, with emphasis on their agricultural exploitation.</p> <p>The areas being covered include but are not limited to:</p> <p>Cyber-physical system basics. Methods for selecting the participating components. Automatic control fundamentals. Techniques for intercepting and respond to triggers from the natural and human-made physical world, like handling asynchronous events, parallel processes, scheduling and threads. Inter process communication. Incorporating machine learning functionality. Performance evaluation. Security issues. Experimentation with actual cyber-physical systems for agricultural purposes.</p>			
WEEK	Course Contents		
1 ST	Defining the role of cyber-physical systems		
2 ND	Selecting sensors, actuators, microcontrollers and network entities		
3 RD	Automatic control fundamentals		
4 TH	Intercepting and respond to signals from the natural and human-made physical world		
5 TH	Handling time, synchronous and asynchronous events of diverse priority		
6 TH	Parallel processing and threads		
7 TH	Modelling states and context switching		
8 TH	Interconnecting and communicating with different modules and systems		
9 TH	Incorporating intelligent functions for autonomous operation		
10 TH	Evaluating the performance of the cyber-physical system		
11 TH	Addressing security and ergonomics issues		
12 TH	Custom agricultural robots as facilitators for the cyber-physical systems understanding		
13 TH	Experimentation with emphasis on agricultural applications		
Μέθοδος Αξιολόγησης			

Assessment method: A combination of written exams and project assignments during the semester