UNIVERSITÀ DI PAVIA

Anno Accademico 2018/2019

DIGITAL SYSTEM DESIGN	
Enrollment year	2017/2018
Academic year	2018/2019
Regulations	DM270
Academic discipline	ING-INF/05 (DATA PROCESSING SYSTEMS)
Department	DEPARTMENT OF ELECTRICAL,COMPUTER AND BIOMEDICAL ENGINEERING
Course	COMPUTER ENGINEERING
Curriculum	Computer Science and Multimedia
Year of study	2°
Period	1st semester (01/10/2018 - 18/01/2019)
ECTS	6
Lesson hours	74 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	LEPORATI FRANCESCO (titolare) - 4 ECTS CRISTIANI ANDREA MARIA - 2 ECTS
Prerequisites	Fundamentals of digital systems electronics and microprocessors architecture.
Learning outcomes	Fundamentals of a typical microprocessor architetcure and its instruction set. HW and SW description of a system for signal acquisition based on a Digital Signal Processor. Blue Tooth communication between DSP and PC. Labview software interfaces for data transfer between DSP and PC.
Course contents	Basic elements of assembly programming and correlation with the corresponding microprocessor design. Introduction to Labview. Software design in G language for file, arrays, strings management. Vi design for data acquisition through traditional USB ports or Blue

	Tooth connections. Design of a system managed through a DSP to read sensors for industrial and biomedical applications.
Teaching methods	Lessons: 15 Practice exercises: 45
Reccomended or required readings	Lecture notes that can be downloaded from the course site (mclab.unipv.it)
Assessment methods	The final exam is organised in two distinct trials: 1) Design of a new version of the microprocessor architecture seen during the lessons, to implement new instructions. 2) Design a LabVIEW program and a assembly code for the data acquisition through DSP.
Further information	THE ATTENDANCE TO THE COURSE IS MANDATORY
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile