

DIGITAL ELECTRONIC SYSTEMS

1.1. Identification

University:	Universidad Politécnica de Valencia														
School:	Escuela Técnica Superior de Ingeniería del Diseño														
Course:	DIGITAL ELECTRONIC SYSTEM														
ECTS:	6														
Semester:	<i>Winter</i>				X	<i>Summer</i>									
Category	<i>Fundamental course</i>				X	<i>Specialisation course</i>									
Module	<i>MFI</i>	X	<i>MFII</i>		<i>MFIII</i>		<i>MSI</i>		<i>MSII</i>		<i>MSIII</i>				
Teachers:	Luis Gil														
Language:	<i>English</i>				<i>Italian</i>				<i>Swedish</i>				<i>Spanish</i>		X

1.2. Learning-outcomes

- knowledge about the fundamentals of digital electronic

1.3. Competencies

▪ General

- to have critical understanding of technical and scientific tools
- to work and manage teams
- communication skills (both written and oral)
- to work in an international context

▪ Specific

- to know basic the digital circuits
- to interpret datasheet of the manufacturers
- to choose the most suitable components according to the circuit characteristics
- to assembly of the circuits in board or PCB
- to make measures to verify the correct operation of the circuit.
- to diagnose and to solve failures.
- to interpret results

1.4. Contents

Combinational circuits: multiplexors, comparators, encoders, decoders, arithmetic operators, integrated circuit, logic families, biestables, shift registers, counters, secuential systems, Programable Logic Devices, Memories, Microprocessors and microcontroller

1.5. Teaching Methodology

- Lecture sessions
- Practical sessions: “cooperative work” for solving problems
- laboratory sessions

1.6. Evaluation

- written exams
- oral evaluation of the problems solved by “cooperative work”
- oral evaluation of laboratory work

1.7. Bibliography

- N. P. Cook. “A first course in digital electronics” Prentice Hall, 1999
- W. Kleitz. Digital electronics: a practical approach. Prentice Hall. 1999
- R. P Jain. Digital electronics and microprocessors: Problems and solutions. Tata McGraw-Hill, 1990