

COURSE NAME			
Neuromorphic and Fuzzy Systems: Applications and Case Studies			
CREDITS	6 ECTS	TYPE	Elective
SCHEDULING	2nd Term	CHARACTER	Theoretical-Practical

CONCISE COURSE CONTENTS

- Neural, fuzzy and neuro-fuzzy systems.
- Practical cases.
- Design on ASICs and programmable devices.
- Techniques for hardware-software co-design.
- CAD tools.

LEARNING OBJECTIVES

- Get to know the broad application scope where neuromorphic and fuzzy systems have been successfully applied.
- Estimate the advantages this kind of systems can offer as opposed to other type of solutions.
- Get to know and analyze practical cases in applications like artificial vision, non-linear control, autonomous robotics, multimedia systems, smart sensor networks etc.
- Acquire capabilities for designing this kind of systems on chips and/or programmable chips.
- Apply techniques for hardware-software co-design in order to design this type of systems.
- Learn the use of specific CAD tools for the design of these systems.
- Acquire the capability of proposing solutions based on neuromorphic and fuzzy systems and analyze their feasibility.

LEARNING ACTIVITIES

- Online theoretical-lectures classes.
- Practical classes and/or exercises: tutorials, resolution of selected problems and practical work.

EVALUATION SYSTEM

- Assimilation of concepts: on-going evaluation supported by exercises and problems.
- Evaluation of capacities: practical cases with optional individual online presentation.
- Examinations.