COURSE NAME			
Advanced Design Techniques			
CREDITS	6 ECTS	TYPE	Elective
SCHEDULING	2nd Term	CHARACTER	Theoretical-Practical

CONCISE COURSE CONTENTS

- Design techniques for very low power consumption, low biasing voltage and high-speed operation.
- Advanced modeling of behavior and performance measurement.
- Problems related to the operation of high-performance and non-conventional CMOS circuits.

LEARNING OBJECTIVES

- Know how to apply design techniques for very low power consumption, low biasing voltage and high-speed operation.
- Learn to model the behavior of VLSI CMOS circuits and analyze their performance.
- Get to know the inherent problems related to the operation of high-performance CMOS circuits, like the distribution of signals and power supply, clock imbalance, signal integrity, switching noise, etc.
- Get to know the circuit structures and design techniques other than those of conventional CMOS design.
- Acquire knowledge to start research work in these areas.

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.