



# University of Oum El Bouaghi

## Master's degree in Engineering - Electrical & Electronic

### *Electronics of Embedded Systems*

Program Description:

The Master of Science in Electronics of Embedded Systems is a graduation engineering program offered at the University of Oum El Bouaghi, Faculty of Sciences and Applied Sciences, Department of Electrical Engineering. The master's degree is a 2-year program designed for students who have completed a bachelor degree in Electronics, Communication Engineering and other related Engineering fields, who want to get a thorough technical foundation in Embedded Systems engineering, Industrial Electronics and Automation Engineering.

The curriculum provides training in hardware and software, where students develop foundational knowledge from various engineering technology fields, including DSP, MCU and Microprocessor interfacing and programming, Real Time Systems, Networks, PLCs and Microelectronics, also VHDL, Java, Assembly and C/C++ coding...etc

With a balance between theory and practice through labs and final semester capstone project, students grounds solid engineering principles that qualifies them to be embedded systems engineers, able to develop smart embedded systems for innumerable applications with endless opportunities, and also prepare them to pursue post graduate studies or exceptional careers in hardware/software development and much more

### *Semester 1*

Teaching unit	Title of the Subject
Fundamentalteaching unit	Microprocessor system design
	Advanced digital electronics: FPGA and VHDL
	Advanced signal processing
	Digital ServoSystems
Methodologyteaching unit	TP Microprocessor System Design
	TP FPGA and VHDL
	Advanced Signal Processing / Digital Servo Systems
	Object-oriented programming in C++
Discoveryteaching unit	Chosen course
	Chosen course
Transversal teaching unit	Technical English and terminology

### *Semester 2*

Teaching unit	Title of the Subject
Fundamentalteaching unit	Processeurs des signaux numériques (DSP)
	Capteurs intelligents et MEMS
	Systèmes à microcontrôleurs
	Réseaux industriels de communication
Methodologyteaching unit	TP Processeurs des signaux numériques
	TP Systèmes à microcontrôleurs
	TP Capteurs intelligents/TP Réseaux industriels
	Etude et Réalisation des projets
Discoveryteaching unit	Chosen course
	Chosen course
Transversal teaching unit	Ethics and deontology

### Semester 3

Teaching unit	Title of the Subject
Fundamentalteaching unit	Embedded Systems
	Real Time Systems
	Programmable Logic Controllers
	Artificial Vision
Methodologyteaching unit	TP Embedded Systems/ TP Real Time Systems
	TP Programmable LogicControllers
	TP Artificial Vision
	JAVA language
Discoveryteaching unit	Chosen course
	Chosen course
Transversal teaching unit	Searching documentation conception of writing thesis