MASTER OF SCIENCE IN ELECTROMECHANICAL ENGINEERING

DESCRIPTION

The Master in Electromechanical Engineering is a one-year degree programme intended to prepare students for a future technical leadership role in industry. The programme offers in-depth training in all aspects of electromechanical engineering like mechatronics, manufacturing, automation, IoT, 4.0 Industry.

The master program aims to prepare students for working in design, development, implementation and management of technological innovation.

Master's graduates will also find wide-ranging career opportunities in engineering companies, industry, public authorities, research and higher education, and in the services sector.

Though there are a large number of openings in companies in the area of process, automation, computerised management, electronics, logistic, etc., the majority of companies in other sectors also have a growing need for skilled and versatile electromechanical engineers.

The program is organized in two semesters. In the first one, students get skills in key aspects of mechatronics like automation, control system, model and simulation or material. During the second semester, they have the opportunity to choose elective courses from a wide offer of subjects including practice in a real industrial environment. Finally, students must develop a Master's Thesis to get deeper knowledge in at least one domain of electromechanical area.

MASTER UNIVERSITARIO EN INGENIERÍA ELECTROMECÁNICA
MASTER OF SCIENCE IN
ELECTROMECHANICAL ENGINEERING
(PLAN 56 AE)

(All classes are taught in Spanish)

	CODE	ASIGNATURAS	COURSES	ECTS	Type
1st Semester (30 ECTS)	563000104	Instrumentación y Control	Instrumentation and Control	4.5	C
	563000105	Conocimientos Avanzados de Materiales y Aplicaciones	Advanced Knowledge of Materials and Applications	6	C
	563000106	Mecánica de Los Materiales	Mechanics of Materials	3	C
	563000107	Automatización	Automatization	3	C
	563000108	Simulación de Sistemas Mecánicos y Eléctricos	Simulation of Electrical and Mechanical Systems	6	C
	563000109	Seguridad en Trabajos en Instalaciones Electromecánicas	Security at Works in Electromechanical Installations	4.5	C
	563000110	Sensores y Adquisición de Datos	Sensors and Data Acquisition	3	C
2nd Semester (30 ECTS)	563000111	Microcontroladores y Lógica Programables	Microcontrollers and Programmable Logic	3	C
	563000112	Actuadores	Actuators	3	C
	563000113	Sistemas Mecatrónicos	Mechatronic Systems	3	C
	*563000149	Prácticas en Empresas	Internships and Professional Development*	6	C
	563000121	Trabajo Fin de Máster	Final Master Project	12	C
		ASIGNATURAS OPTATIVAS (Elegir 3 ECTS)	**OPTATIVE SUBJECTS (Choose 3 ECTS)**		
	563000114	Computadores y Programación	Computers and Programming	3	E
	563000115	CAD-CAM-CAE	CAD-CAM-CAE	3	E
	563000116	Robótica	Robotics	3	E
	563000117	Impactos y Gestión Ambiental	Impacts and Environmental Management	3	E
	563000118	Gestión de la Innovación en la Industria Eléctrica y Electromecánica	Management of Innovation in the Electrical and Electromechanical Industries	3	E
	563000119	Idioma Profesional	Professional Language	3	E

TYPES of subjects: ***C*** *= Compulsory, and* ***E*** *= Elective*

** Three ways to take this course:*

- *56300149 Professional Internships (6 ECTS)*
- *563000146 + 563000147 Professional development seminars (3 ECTS) and Mini Projects (3 ECTS)*
- *563000147 + 563000148 Mini Projects (3 ECTS) and Employability and Entrepreneurship (3 ECTS)*

www.masteres.etsidi.upm.es/master-electro.html