Bachelor's degree in Industrial Electronics and Automatic Control Engineering
Vilanova i la Geltrú School of Engineering (EPSEVG)

On the **bachelor's degree in Industrial Electronics and Automatic Control Engineering**, you will acquire the knowledge needed to supervise and manage engineering projects in the fields of industrial electronics and automatic control: design and development of analogue, digital and power electronic systems and industrial control and automation systems. You will receive multidisciplinary training in the fields of analogue, digital and power electronics, systems modelling and simulation, automatic regulation and control techniques and their application in industrial automation, and the principles and applications of robotic systems, industrial informatics and communications.

GENERAL DETAILS

Duration
4 academic years

Study load
240 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.

Delivery
Face-to-face

Language of instruction

Check the language of instruction for each subject (and timetable) in the course guide in the curriculum.

Information on language use in the classroom and students' language rights.

Fees and grants
Approximate fees per academic year: €1,107 (€2,553 for non-EU residents). Consult the public fees system based on income (grants and payment options).

Location
Vilanova i la Geltrú School of Engineering (EPSEVG)

Official degree
Recorded in the Ministry of Education's degree register

ADMISSION

Places
200

Registration and enrolment
What are the requirements to enrol in a bachelor's degree course?

Legalisation of foreign documents
All documents issued in non-EU countries must be legalised and bear the corresponding apostille.

PROFESSIONAL OPPORTUNITIES

Professional opportunities

- Drafting and supervision of projects involving automation and control installations and electronic drive regulation.
- Design, installation and maintenance of electronic control, power and instrumentation systems.
- Design and development of industrial informatics and process monitoring systems.
- Design, management and maintenance of industrial equipment and installations.
- Drafting of technical, advisory and feasibility reports.
- Management, organisation, planning and quality control.
- Teaching and research.

ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

Academic calendar

General academic calendar for bachelor's, master's and doctoral degrees courses

Academic regulations

Academic regulations for bachelor's degree courses at the UPC

Language certification and credit recognition

Queries about language courses and certification

Vilanova i la Geltrú School of Engineering (EPSEVG)

This bachelor's degree is also taught at

- Barcelona · EEBE · Show degree
- Manresa · EPSEM · Show degree
- Terrassa · ESEIAAT · Show degree

CURRICULUM

Subjects	ECTS credits	Type
FIRST SEMESTER		
Chemistry	6	Compulsory
Fundamentals of Mathematics	6	Compulsory
Informatics	6	Compulsory
Physics I	6	Compulsory
Sustainability and Accessibility	6	Compulsory
SECOND SEMESTER		
Advanced Calculus	6	Compulsory
Differential Equations	6	Compulsory
Graphic Expression	6	Compulsory
Materials Science	6	Compulsory
Physics II	6	Compulsory
THIRD SEMESTER		
Business	6	Compulsory
Electrical Systems	6	Compulsory

Subjects	ECTS credits	Type
Fluid Mechanics	6	Compulsory
Fundamentals of Termical Engineering	6	Compulsory
Statistics	6	Compulsory
FOURTH SEMESTER		
Digital Electronics	6	Compulsory
Electronic Systems	6	Compulsory
Electrotechnics	6	Compulsory
Fundamentals of Automatic Control	6	Compulsory
Mechanical Systems	6	Compulsory
FIFTH SEMESTER		
Academic and Professional Communication Techniques	6	Optional
Agile	6	Optional
Analogue Electronics	6	Compulsory
Automatic Regulation	6	Compulsory
Digital Systems	6	Compulsory
Emobility	6	Optional
Formula Student 1	6	Optional
Industrial Automation	6	Compulsory
Moto Student 1	6	Optional
Production Organisation	6	Compulsory
Writing Techniques for Engineering	6	Optional
SIXTH SEMESTER		
Academic Skills for Project Development	6	Optional
Control Engineering	6	Compulsory
Electronic Instrumentation	6	Compulsory
Emobility Lab	6	Optional
Formula Student 2	6	Optional
Industrial Informatics	6	Compulsory
Moto Student 2	6	Optional
Power Electronics	6	Compulsory
Robotic Systems	6	Compulsory
SEVENTH SEMESTER		
Battery Management Systems	6	Optional
Computer-Assisted Design and Simulation	6	Optional
Cross-Platform and Distributed Programming	6	Optional
Distributed Industrial Systems	6	Optional
Electric and Hybrid Vehicles	6	Optional
Electric Drives	6	Optional

Subjects	ECTS credits	Type
Electrical Circuits	6	Optional
Electrical Machines I	6	Optional
Electrical Machines II	6	Optional
Electrical Power Lines	6	Optional
Electrical Power Systems	6	Optional
Electronics in Renewable Energy Systems	6	Optional
Fluid Engineering	6	Optional
Graphic Expression II	6	Optional
Industrial Structures and Constructions	6	Optional
Instrumentation Systems	6	Optional
Integrated Production Systems	6	Optional
Internet	6	Optional
Low, Medium and High Voltage Electrical Installations	6	Optional
Machine Design	6	Optional
Machine Theory	6	Optional
Management and Saving of Electrical Energy	6	Optional
Manufacturing Processes	6	Optional
Motors and Electric Mobility	6	Optional
Power Plants and Renewable Energies	6	Optional
Project Management	6	Compulsory
Railway Technologies	6	Optional
Renewable Energy Sources and Systems	6	Optional
Strength of Materials I	6	Optional
Strength of Materials II	6	Optional
Structural Materials	6	Optional
Thermal Engineering	6	Optional
EIGHTH SEMESTER		
Accessibility Applied	6	Optional
Language Practice	3	Optional
Social Robotics Workshop	6	Optional
Sustainability Applied	6	Optional
Bachelor's Thesis	24	Project