

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.

This bachelor's degree is taught at [Polytechnic School of Engineering of Vilanova i la Geltrú. EPSEVG](#)

GENERAL DETAILS

Duration

4 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

Fees and grants

Approximate fees per academic year: €2,551 (€3,827 for non-EU residents). [Consult the public fees system based on income \(grants and payment options\)](#).

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

[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
Fluid Mechanics	6	Compulsory
Fundamentals of Termical Engineering	6	Compulsory
Statistics	6	Compulsory
FOURTH SEMESTER		
Digital Electronics	6	Compulsory
Electronic Systems	6	Compulsory

Subjects	ECTS credits	Type
Electrotechnics	6	Compulsory
Fundamentals of Automatic Control	6	Compulsory
Mechanical Systems	6	Compulsory
FIFTH SEMESTER		
Analogue Electronics	6	Compulsory
Automatic Regulation	6	Compulsory
Digital Systems	6	Compulsory
Industrial Automation	6	Compulsory
Production Organisation	6	Compulsory
SIXTH SEMESTER		
Control Engineering	6	Compulsory
Electronic Instrumentation	6	Compulsory
Industrial Informatics	6	Compulsory
Power Electronics	6	Compulsory
Robotic Systems	6	Compulsory
SEVENTH SEMESTER		
Academic and Professional Communication Techniques	6	Optional
Applications of Electric Motors	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
Electrical Circuits	6	Optional
Electrical Machines I	6	Optional
Electrical Machines II	6	Optional
Electrical Power Lines	6	Optional
Electrical Power Systems	6	Optional
Fluid Engineering	6	Optional
Graphic Expression II	6	Optional
Industrial Maintenance Techniques	6	Optional
Industrial Structures and Constructions	6	Optional
Instrumentation Systems	6	Optional
Integrated Production Systems	6	Optional
Internet	6	Optional
Light Technology	6	Optional
Low, Medium and High Voltage Electrical Installations	6	Optional
Machine Design	6	Optional

Subjects	ECTS credits	Type
Machine Theory	6	Optional
Manufacturing Processes	6	Optional
Power Plants and Renewable Energies	6	Optional
Project Management	6	Compulsory
Renewable Energy	6	Optional
Solar and Wind Power Systems	6	Optional
Strength of Materials I	6	Optional
Strength of Materials II	6	Optional
Structural Materials	6	Optional
Thermal Engineering	6	Optional
Writing Techniques for Engineering	6	Optional
EIGHTH SEMESTER		
Academic Skills for Project Development	6	Optional
Accessibility Applied	6	Optional
Language Practice	3	Optional
Sustainability Applied	6	Optional
Bachelor's Thesis	24	Project