Bachelor's degree in Electrical Engineering
Vilanova i la Geltrú School of Engineering (EPSEVG)

The **bachelor's degree in Electrical Engineering** covers the technological fundamentals of the generation and distribution of electrical energy and the control and protection of electrical systems. You will acquire the skills needed to supervise and manage engineering projects related to electrical systems, high-, medium- and low-power installations, machine and industrial production line automation, and the generation and distribution of electrical energy. You will also become familiar with emerging fields such as electric traction and the development of renewable energies.

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: €1,660 (€2,490 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

- Supervision and management of engineering projects related to the design, analysis, construction, verification and maintenance of systems and equipment for generating, transporting and distributing electrical energy.
- Analysis, design, testing and control of domestic and industrial electrical installations.
- Management of electrical power systems, installations and drives.
- Design, installation and maintenance of electromechanics, automation and industrial production lines.

- Energy and environmental management.
- Energy generation in wind and photovoltaic power systems.
- 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
- 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		
Electrical Circuits	6	Compulsory

Subjects	ECTS credits	Type
Electrical Machines I	6	Compulsory
Electronic Systems	6	Compulsory
Fundamentals of Automatic Control	6	Compulsory
Mechanical Systems	6	Compulsory
FIFTH SEMESTER		
Academic and Professional Communication Techniques	6	Optional
Agile	6	Optional
Automatic Regulation	6	Compulsory
Electrical Machines II	6	Compulsory
Electrical Power Lines	6	Compulsory
Emobility	6	Optional
Power Electronics	6	Compulsory
Production Organisation	6	Compulsory
Writing Techniques for Engineering	6	Optional
SIXTH SEMESTER		
Electric Drives	6	Compulsory
Electrical Installations and Industrial Automation	6	Compulsory
Electrical Power Systems	6	Compulsory
Emobility Lab	6	Optional
Low, Medium and High Voltage Electrical Installations	6	Compulsory
Power Plants and Renewable Energies	6	Compulsory
SEVENTH SEMESTER		
Analogue Electronics	6	Optional
Battery Management Systems	6	Optional
Computer-Assisted Design and Simulation	6	Optional
Control Engineering	6	Optional
Cross-Platform and Distributed Programming	6	Optional
Digital Electronics	6	Optional
Digital Systems	6	Optional
Electric and Hybrid Vehicles	6	Optional
Electronic Instrumentation	6	Optional
Electronics in Renewable Energy Systems	6	Optional
Electrotechnics	6	Optional
Fluid Engineering	6	Optional
Graphic Expression II	6	Optional
Industrial Automation	6	Optional
Industrial Informatics	6	Optional
Industrial Structures and Constructions	6	Optional

Subjects	ECTS credits	Type
Internet	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
Project Management	6	Compulsory
Renewable Energy Sources and Systems	6	Optional
Robotic 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		
Academic Skills for Project Development	6	Optional
Accessibility Applied	6	Optional
Language Practice	3	Optional
Social Robotics Workshop	6	Optional
Sustainability Applied	6	Optional
Bachelor's Thesis	24	Project