UPC studies

MASTER'S DEGREE IN ENERGY ENGINEERING

ETSEIB
Barcelona School of Industrial Engineering

UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

International Campus of Excellence

MASTER'S DEGREE IN ENERGY ENGINEERING

825 work placement agreements

54% international mobility students

8 consolidated research groups contribute to the master's degree

4 specialisations: Electrical Energy, Thermal Energy, Renewable Energies and Energy Management

The master's degree in Energy Engineering approaches current energy problems from the following perspectives: energy resources; energy production, transmission and distribution technologies; environmental impact; energy efficiency, saving and rational use; and the optimisation of systems and equipment in the field of energy.
Its aim is to produce graduates who have the knowledge and skills needed to analyse cases of technological application and manage projects that focus on the sustainable generation, transformation, distribution and consumption of energy from different sources.

You will study the master's degree in the Barcelona School of Industrial Engineering (ETSEIB), a school that combines a long tradition with a spirit of continuous renewal and improvement that has made it a benchmark university school internationally.
As a student, you can specialise in: Electrical Energy, Thermal Energy, Renewable Energies, Energy Management.
The master's degree in Energy Engineering was selected for the Catalunya-La Pedrera Foundation's scholarship programme for master's degrees of excellence.

Why choose this master's degree?

The master's degree provides you rigorous training in the field of energy and responds to the high demand for specialists in this field in Catalonia, the University's area of influence, which has a strong industrial fabric. The master's degree also has a clear international outlook that is expressed particularly in its participation in the educational programme KIC InnoEnergy.

KIC InnoEnergy

KIC InnoEnergy is a knowledge and innovation community set up by the European Institute of Innovation and Technology (EIT) to foster innovation in the field of renewable energies. It includes an educational programme that promotes international master's degrees that foster student mobility and has its own grants programme.
The master's degree in Energy Engineering participates in KIC InnoEnergy's educational project with the following master's programmes:

- Environomical Pathways for Sustainable Energy Systems (SELECT)
- Renewable Energy (RenE)
- Energy for Smart Cities
- Smart Electrical Networks and Systems (SENSE)

Professional opportunities

Graduates of the master's degree will be experts in energy engineering who are likely to practise in areas such as energy management, auditing and planning; the technological development and use of energy systems; energy economics; and the assessment of the social and environmental impact of energy systems.

Work placement

The ETSEIB fosters and maintains strategic, collaboration over the long term with companies whose purpose is to promote education and research. More than 800 educational cooperation agreements are signed each year for external academic placements at more than 300 companies working in various fields.

Mobility programmes

The ETSEIB participates in international mobility programmes that allow you to spend a semester abroad, generally through the Erasmus programme for Europe.

Double degrees

As a student of the master's degree you will also be able to take the master's degree in Industrial Engineering at the ETSEIB and thus graduate with a double degree. Students taking the specialisation in Renewable Energies can also study at the École Polytechnique in Paris, France and thus graduate with an international double degree.

Languages of instruction

Compulsory subjects are taught entirely in English and optional subjects in Spanish, English or Catalan.
The specialisation in Renewable Energies and specialisations linked to the KIC InnoEnergy programme can be taken entirely in English.

Curriculum

This information may be subject to change.
Up-to-date information is available at upc.edu

120 ECTS credits

First year

Energy Resources	5	Thermal Equipment	5
Power Systems	5	Electrical Equipment	5
Energy and Environment	5	Energy Markets	5
Renewable Energy Technology	5	Energy Efficiency and Rational Use of Energy	5
Optional subjects	10	Optional subjects	10

Compulsory subjects

Second year

Optional subjects	30
Master's thesis	30

Specialisations

The master's degree has four specialisations that allow you to concentrate on a specific area.

- Electrical Energy
- Thermal Energy
- Renewable Energies
- Energy Management

To specialise, you must take at least 30 ECTS credits in optional subjects for the specialisation and write your master's thesis on a topic related to the specialisation.

MASTER'S DEGREE IN

ENERGY ENGINEERING

The **Barcelona School of Industrial Engineering (ETSEIB)** has been training engineers for over 160 years and changing society through talent. It is at the vanguard of technological innovation in the field of industrial engineering in Spain and Europe. Its graduates receive a solid grounding in science and multidisciplinary training in technology, and they acquire a broad understanding of economics and management.

The **ETSEIB** is a school of the Universitat Politècnica de Catalunya BarcelonaTech (UPC), a benchmark public institution of research and higher education in the fields of engineering, architecture, science and technology. With 50 years of history and more than 30,000 students, the UPC has the greatest concentration of research and innovation in IT in southern Europe. It is the best Spanish university in Engineering and Technology, according to the 2020 QS World University Rankings by Subject.

The ETSEIB, the school that opens doors for you!

Further information:
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UPC Communication Service, 2020 (10061). Printed on eco-friendly paper. For information purposes only.