Master's degree in Automotive Engineering

The automotive industry is facing significant new challenges, such as the introduction of alternative fuels, hybrid and electric vehicles, and intelligent driving support systems. It therefore requires professionals who have been trained to deal with these challenges and who are up to date on new technologies and management systems. The aim of the master’s degree in Automotive Engineering is to produce specialists who are equipped to respond to the needs of this industrial sector.

GENERAL DETAILS

Duration and start date
Two academic years, 120 ECTS credits. Starting September

Timetable and delivery
Afternoons. Face-to-face

Fees and grants
Approximate fees for the master’s degree, excluding degree certificate fee, €6,535 (€9,802 for non-EU residents).
More information about fees and payment options
More information about grants and loans

Language of instruction
80% of the subjects are taught in Spanish and 20% in Catalan.

Location
Barcelona School of Industrial Engineering (ETSEIB)

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

ADMISSION

General requirements
Academic requirements for admission to master’s degrees

Specific requirements
Applicants seeking admission to this master’s degree should be university graduates with one of the following scientific or technical degrees:


- A pre-EHEA degree in Industrial Engineering; Industrial Engineering with a concentration in Mechanics, Manufacturing Technologies or Transports and Vehicles; Materials Engineering; Telecommunications Engineering; Automatic Control and Industrial Electronics; Electronic Engineering; or Physics.

- A pre-EHEA diploma in Mechanical Engineering, Electrical Engineering or Electronic Engineering.

Admission criteria
- English level B2.2 and Spanish level B2 (foreign students) are required.
- Academic record.
- First degree and university of origin.
Professional experience.

Places
30

Pre-enrolment
Pre-enrolment closed (consult the new pre-enrolment periods in the academic calendar).

How to pre-enrol

Enrolment
How to enrol

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

DOUBLE-DEGREE AGREEMENTS

Double-degree pathways at a single school
- Master's degree in Automotive Engineering + Master's degree in Industrial Engineering (ETSEIB)

Double degrees with foreign universities
- Bachelor's degree in Industrial Technology Engineering + Master's degree in Automotive Engineering and Diplôme d'ingénieur from one of the Écoles Centrales (Lille, Lyon, Marseille, Nantes, Supélec).

PROFESSIONAL OPPORTUNITIES

Professional opportunities
Graduates will be able to easily adapt to positions of responsibility in companies or research centres that belong to the automotive sector.

Competencies

Generic competencies
Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

Specific competencies
On completion of the course, students will:

- Know the principles of calculation and design of automotive bodywork.
- Know the principles of aerodynamics.
- Have acquired a theoretical and practical grounding in steering, suspension and brake systems and their effect on the dynamic behaviour of vehicles.
- Be familiar with the various transmission systems used in the driveline.
- Be familiar with the power and injection systems of reciprocating internal combustion engines (RICE) and their combustion processes.
- Be able to analyse the environmental impact of RICE and apply techniques to control and minimise pollution.

ORGANISATION

UPC school
Barcelona School of Industrial Engineering (ETSEIB)

Academic coordinator
CURRICULUM

January 2019. UPC. Universitat Politècnica de Catalunya - BarcelonaTech