

Master's degree in Urban Mobility

The aim of the **master's degree in Urban Mobility** is to improve urban mobility in our cities and around the world. This requires not just improvements in technical infrastructure (towards intelligent transport infrastructure, the Internet of Things, etc.) but also holistic planning, execution and operation. Urban transformation obliges stakeholders to interact and understand others' perspectives to make this improvement. This programme trains students from a variety of engineering backgrounds and equips them with the sector's specific skills. It allows them to gain further, in-depth knowledge of the transition towards sustainable mobility, future services and markets and the impact of ICTs and energy technologies. The programme also provides fundamental tools in entrepreneurship and innovation for dealing with the rapid transformation of global society. There is currently no other master's degree in Spain that provides such comprehensive education in this field.

The **master's degree in Urban Mobility** is proposed as part of the higher education provided by the **Urban Mobility Master School**, which is part of the European Institute of Technology (EIT). Within this initiative, which also has a scholarship programme, if the first year is taken at one of the universities in the consortium and a second year is taken at another university, students may be awarded a double degree.

The entire master's degree can also be taken at the UPC, independently of the EIT's proposal.

A minimum of 30 ECTS credits for the subjects in the Innovation and Entrepreneurship specialisation, from an initial offer of 54 ECTS credits comprising subjects of between 3 and 10 credits, must be taken for the degree to be awarded.

Four pathways are currently offered:

- Future Mobility Markets and Services (2020-2021 academic year)
- Transition towards Sustainable Mobility (2020-2021 academic year)
- Data Science and Analysis for Smart Mobility (2021-2022 academic year)
- Innovative Technologies for Urban Mobility (2021-2022 academic year)

GENERAL DETAILS

Duration and start date

2 academic years, 120 ECTS credits. Starting September

Timetable and delivery

Face-to-face

Fees and grants

- Students enrolled to the **EIT Urban Mobility programme (international)**: approximate fees per academic year, excluding degree certificate fee, €4,000 (€16,000 not EU nationals members countries). [More information](#).
- Students enrolled to the **UPC local programme** (outside the EIT Urban Mobility programme): approximate fees for the master's degree, excluding degree certificate fee, €6,535 (€9,803 for non-EU residents).

Language of instruction

English

Information on [language use in the classroom and students' language rights](#).

Location

[Barcelona School of Civil Engineering \(ETSECCPB\)](#)

Official degree

Official title

ADMISSION

General requirements

[Academic requirements for admission to master's degrees](#)

Specific requirements

Admission to EIT Urban Mobility Master programme (international)

Information about the admission, specific requirements, proof of English proficiency and application process is available at EIT Urban Mobility Master Program: <https://www.eiturbanmobility.eu/detailed-master-school-programme-information/>

Admission to Urban Mobility master's degree programme (UPC local programme, outside EIT)

Direct admission

Holders of the following qualifications may be admitted to the master's degree directly, without having to take bridging courses:

- Bachelor's degrees in engineering (Industrial Engineering, Civil Engineering, Construction Engineering, Telecommunications Engineering, Informatics Engineering, Engineering Physics, other engineering fields).
- Pre-EHEA and second-cycle degrees (Industrial Engineering, Civil Engineering, Telecommunications Engineering, Informatics Engineering, Engineering Physics, other engineering fields).
- Pre-EHEA degrees in Architecture.

Bridging courses

Holders of bachelor's degrees in science (Physics, Mathematics, Statistics) or other bachelor's degrees will be required to take 30 ECTS credits in bridging courses.

Holders of pre-EHEA diplomas in the field of industrial engineering and in Public Works (Civil Constructions, Hydrology and Urban Transport and Services) or other technical diplomas will be required to take up to 30 ECTS credits in bridging courses.

Given that **the master's degree is taught entirely in English**, CEFR English Level B2 is required and can be demonstrated by providing proof of any of the following:

- English is your mother tongue.
- You have studied in an English-speaking country (for at least a semester).
- You have taken an academic university programme taught in English (for at least a semester).
- You are the holder of a qualification awarded by an institution in the European Higher Education Area that includes English Level B2.
- You are in possession of one of the English-language certificates listed below.
 - Cambridge: FCE
 - TOEFL PBT:> = 567; TCC:> = 227; IBT:> = 87
 - IELTS: 5.5
 - TOEIC: 750
 - Escola Oficial d'Idiomes: Advanced level certificate (Level 5)

An English B2 certificate can also be obtained at the UPC.

Admission criteria

The academic records of applicants are reviewed by the academic committee, which selects the applicants to be admitted directly and those who must take bridging courses because they do not have the necessary knowledge and skills. The admission criteria are the academic record (60%), professional experience (10%), the English-language level, if it is above the minimum level required for admission to the master's degree, and the correspondence between the competencies of the entrance qualification and the competencies of this master's degree (15%).

Pre-enrolment

To pre-enrol to the **EIT Urban Mobility programme (international)**

- For admission to this programme in the framework of the double degrees of the EIT Urban Mobility Master School, applications must be submitted before 3 February (period 1) or, if there are places available, before 17 April (period 2) in the following portal: <https://www.eiturbanmobility.eu/detailed-master-school-programme-information/>

To pre-enrol to the **UPC local programme** (outside the EIT Urban Mobility programme)

- Follow the [pre-enrolment procedure for the UPC master's degrees](#)

Places

60

Pre-enrolment

To enrol for an interuniversity master's degree coordinated by a university other than the UPC, you must enrol through the coordinating university:

<https://www.eiturbanmobility.eu/detailed-master-school-programme-information/>

Legalisation of foreign documents

All documents issued in non-EU countries must be [legalised and bear the corresponding apostille](#).

PROFESSIONAL OPPORTUNITIES

Professional opportunities

Graduates may find employment in logistics, transport management, mobility and sustainability departments in public bodies, mobility operators, urbanism, consultancy, the automobile sector, private mobility services, etc.

Their potential future careers are as urban planners and designers of public spaces, planners of sustainable mobility policies, advisors in private and public companies in the sector, designers and managers of mobility services, mobility energy strategists, citizen participation coordinators and international mobility project managers.

They will have high-level competencies in entrepreneurship and innovation and may develop business initiatives on a self-employed basis or set up a business.

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

- To analyse and design mobility and logistics services, in whole or in part, by applying methods, techniques and tools that are appropriate for specific functions and aims.
- To design procedures for collecting mobility data that take into consideration their specificity, and to apply appropriate techniques for processing them, analysing them and drawing conclusions from them so that they can be used in the models that require them.
- To design and carry out demand analysis studies, and to model demand and its structure in accordance with mobility models.
- To apply modelling, optimisation and simulation techniques for solving problems that arise in mobility design, operation and management.
- To diagnose the implications of globalisation phenomena and changes in markets for the operation of supply chains.
- To calculate fundamental variables in transport and mobility systems that affect the safety, quality and sustainability of transport infrastructure and the optimisation of the functioning of these systems.
- To plan, manage and operate transport and mobility systems, and to analyse the levels of service to users, operating costs and the social and environmental impacts of public passenger transport, traffic, private vehicles, air transport, maritime transport, intermodal transport and urban mobility.
- To identify the future consequences of short- and long-term plans and decisions from an integrated scientific, ethical and intergenerational perspective, and to bring these elements together in a solution-based approach to advance towards a sustainable society. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To translate innovations into viable business solutions. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To foster one's ability to think beyond pre-established limits and systematically explore and generate new ideas. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To apply knowledge, ideas and technology to create or significantly improve new products, services, processes, policies, business models and jobs. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To use and apply cutting-edge research methods, processes and techniques to create and grow new

businesses and in interdisciplinary teams and contexts. (Specific competency of the Innovation and Entrepreneurship specialisation)

- To transform practical experiences into research problems and challenges. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To make decisions and foster one's leadership abilities on the basis of a holistic understanding of the contributions of higher education, research and businesses to value creation, in teams and contexts that are limited in size or scope. (Specific competency of the Innovation and Entrepreneurship specialisation)
- To carry out and present and defend before an examination committee an original, individual piece of work consisting of an urban mobility project, of a professional or research nature, that synthesises and integrates the competencies acquired on the master's degree.

ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

UPC school

[Barcelona School of Architecture \(ETSAB\)](#)

[Barcelona School of Civil Engineering \(ETSECCPB\)](#)

[Barcelona School of Telecommunications Engineering \(ETSETB\)](#)

[Barcelona School of Industrial Engineering \(ETSEIB\)](#)

[Barcelona School of Informatics \(FIB\)](#)

Academic coordinator

[Mónica Aguilar Igartua](#)

[Francesc Soriguera Martí](#)

Academic calendar

[General academic calendar for bachelor's, master's and doctoral degrees courses](#)

Academic regulations

[Academic regulations for master's degree courses at the UPC](#)

CURRICULUM
