

# Bachelor's degree in Telecommunications Technologies and Services Engineering + master's degree in Telecommunications Engineering. Sequential academic programme (PARS): Telecommunications Engineer

The bachelor's degree in **Telecommunications Technologies and Services Engineering** provides a solid grounding in the fundamentals of ICT engineering and the specific skills pertaining to each of the majors that are offered. It produces versatile professionals who are able to change work environments and meet the sector's future challenges and those that will occur in industrial sectors that employ these technologies. The degree also ensures concentrated learning in the following majors: Audiovisual Systems, Telecommunications Systems and Network Systems.

Given that ICTs are crucial in any industrial, research and innovation sector, graduates' professional opportunities are wide-ranging: they will be able to accomplish a broad range of technical and management tasks and start new entrepreneurial projects in this technological field.

Communications are ever more necessary in all environments and scenarios, and specialists are highly sought after in fibre optics; in mobile communications, to serve the fourth generation and develop the foundations of the fifth; and in GPS technologies and services. Other examples are projects involving cities whose intelligence increases as networks of sensors, such as cameras and pollution sensors, are implemented to improve the lives of citizens, and the extensive use of communication networks and the so-called Internet of Things, a use that demands that the privacy and security of our data be protected. The audiovisual sector also requires highly skilled professionals to design advanced systems, for 3D sound and image technologies, for example, and not just for direct consumers of media, such as music shows or the cinema, but also for important sectors such as health and the automotive and transport industries. In these sectors, there is a clear need for developing electronic devices and instruments that provide accurate and reliable data, to monitor patients' progress, for example. Another area that is emerging forcefully is the design of new solar cells and photovoltaic systems in the energy sector.

## Major in Audiovisual Systems

You will acquire the knowledge to conceive, design, implement and operate products, systems and services in the field of audiovisual systems engineering, including the fields of acoustics, image, audio, video and multimedia environments.

## Major in Telecommunications Systems

You will acquire the knowledge to conceive, design, implement and operate telecommunications systems based on generating, transmitting, receiving and processing electrical, acoustic and optical signals across the frequency spectrum and processing related information.

## Major in Network Systems

You will acquire the knowledge to conceive, design, implement and operate telematic networks, their security mechanisms and the data that are transmitted through them; the protocols that allow them to function; and the distributed and centralised services and applications that they offer.

## Majors

- Audiovisual Systems
- Telecommunications Systems
- Network Systems

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## GENERAL DETAILS

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### Duration

6 academic years

### Study load

360 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.

### Delivery

Face-to-face

### Language of instruction

Check the language of instruction for each subject (and timetable) in the course guide in the curriculum.

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

### Fees and grants

Approximate fees per academic year: €1,107 (€2,553 for non-EU residents). [Consult the public fees system based on income \(grants and payment options\)](#).

### Location

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

### Official degree

[Recorded in the Ministry of Education's degree register](#)

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## ADMISSION

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### Places

40

### 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](#).

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### 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](#)

Barcelona School of Telecommunications Engineering (ETSETB)

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## CURRICULUM

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