The Barcelona School of Telecommunications Engineering (ETSETB) has been an institution dedicated to teaching and research in the field of ICT since 1971. It has strong relations with the industry sector and develop an innovative activity through professors and researchers that reverse into the business and productive sector.

Telecommunications, engineering for the 21st century

Further information:
telecos.upc.edu
masters.etsetb@upc.edu

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UPC-ETSETB TelecosBCN
The master’s degree in Telecommunications Engineering (MET) provides students with a broad profile that includes skills and expertise in communications systems, networks, electronics and audiovisual systems and with the professional competencies that qualify them to practise as telecommunications engineers. After the first compulsory subject area, students can choose from a wide variety of subjects in order to acquire a general profile, specialise in a given area or engage in research and pursue a doctoral degree.

It is intended that modern industry assimilate these engineers as benchmark professionals in a multidisciplinary work and production scenario. To promote the employability of our graduates, both the master’s thesis and some of the ECTS credits for optional subjects can be taken at a company or a laboratory.

**Curriculum**
Starting: in September and February.
Timetable and delivery: Mornings and afternoons. Face-to-face.
Language of instruction: English.

**Master’s Thesis**

**Compulsory Subjects**

<table>
<thead>
<tr>
<th>Subject</th>
<th>ECTS credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s Thesis</td>
<td>30</td>
</tr>
</tbody>
</table>

**No specialisation**
Students must choose a concentration and take three subjects (15 ECTS credits). Double-degree students must follow this path and have to take 15 ECTS credits from one concentration and 60 or 90 ECTS credits (including 30 ECTS credits for the thesis) at a foreign university.

**Concentrations (15 ECTS credits)**

- Communications
- Electronics
- Multimedia
- Networks

**With specialisation**
Students take four compulsory subjects and two optional subjects in a specialisation.

**Specialisations (30 ECTS credits)**

- Antennas, Microwaves and Photonics for Communications and Earth Observation
- Electronics
- Fiber Optic Communications
- Internet and Networks Technologies
- Multimedia
- Wireless Communications

**International double-degree agreements**
The master’s degree offers double-degree pathways with universities around the world:
- BKTH Royal Institute of Technology, School of Electrical Engineering (Stockholm, Sweden). Master’s degrees in Electric Power Engineering; Electrophysics; Network Services and Systems; Systems, Control and Robotics; Wireless Systems.
- Illinois Institute of Technology (Chicago, USA). Master’s degrees in Electrical Engineering; Computer Engineering; Biomedical Imaging and Signals; Network Engineering; Telecommunications and Software Engineering; Information Technology and Management; Cyber Forensics and Security; Information Technology and Management.
- Politecnico di Milano (Milan, Italy). Laurea Magistrale in Ingegneria.
- Pontificia Universidad Católica del Perú (Lima, Peru). Maestría en Ingeniería de las Telecomunicaciones.
- Instituto Superior Técnico (Lisbon, Portugal). Master’s degree in Electrical and Computer Engineering, specialisation in Telecommunications or Electronics.

**Professional opportunities**
Graduates of this master’s degree may find employment as telecommunications engineers in any of the following areas:
- BKTH Royal Institute of Technology.
- Telecommunications operators.
- Telecommunications equipment industry.
- Electronic equipment industry.
- Semiconductor industry.
- IT consulting firms (as network solution designers, network planners and designers, network project leaders, etc.).
- Sales engineers.
- IT companies, from content producers and distributors to service providers.
- Regulatory bodies.
- Software editing firms.
- Other industries such as car manufacturers and consumer and industrial electronics companies, and in diverse areas such as health, energy, intelligent transport systems, etc.
They may also find employment as the following:
- Freelance professionals acting as telecommunications engineering advisors and consultants.
- Researchers and academics at public or private universities.
- Civil servants or employees of any public administration body at the EU, national, regional and local levels in the areas of telecommunications and ICT innovation.
- Research, development and innovation specialists in public and private companies.
- Researchers and academics at public or private universities.

**ECTS credits**
- 30 ECTS credits for practicals
- 120 ECTS credits
- Master’s degree graduate employment rate

**Source:** QS World University Rankings by Subject (2020)

**In-company placements**

<table>
<thead>
<tr>
<th>1st</th>
<th>Spanish university and one of the world’s 100 best universities in Telecommunication Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>Master’s degree graduate employment rate</td>
</tr>
<tr>
<td>97%</td>
<td>Master’s degree graduate employment rate</td>
</tr>
<tr>
<td>123</td>
<td>In-company placements during last year</td>
</tr>
</tbody>
</table>
MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING

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The ETSETB 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 Computer Science, Engineering and Technology, according to the 2020 QS World University Rankings by Subject.

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