



Escola d'Enginyeria de Telecomunicació
i Aeroespacial de Castelldefels

UNIVERSITAT POLITÈCNICA DE CATALUNYA

ENGINEERING

A graphic consisting of several overlapping, semi-transparent purple and blue shapes that form a stylized, rounded arrow pointing to the right. The text 'Aero+Telecom' is centered within this graphic.

Aero+Telecom



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH



Campus del Baix Llobregat
UNIVERSITAT POLITÈCNICA DE CATALUNYA



→ TELECOM



Telematics Engineering (4 years, 240 ECTS)

The union of telecommunications and computer science has resulted in the large-scale development of networks and services enabling powerful applications in a simple and global fashion across all areas of society, such as industry, business, leisure, culture, health, work, commerce, etc.

- › *Elements of computers and programming*
- › *Electronic digital systems*
- › *Protocol engineering*
- › *Telematics systems and instrumentation*
- › *Data transmission*
- › *Architecture of nodes, networks, systems and services*
- › *Projects*
- › *Design, management and development of networks, services and applications*
- › *Mobile, access and transport networks*
- › *Internet, telecommunication operators, companies, industries and the information society.*

Telecommunication Systems Engineering (4 years, 240 ECTS)

Professionals able to carry out multiple activities in the electrical, electronics, communications and IT industries through the co-ordination and direction of the design, construction and exploitation of telecommunication systems, services or equipment, telephone and radio-electrical installations.

- › *Circuit analysis and linear systems*
- › *Electronic components, circuits and equipments*
- › *Elements of computers and programming*
- › *Electromagnetic theory of communication systems.*
- › *Communication Networks*
- › *Telecommunication systems and projects*
- › *Optical communications technologies*
- › *Radio communications technologies*
- › *Terrestrial and satellite image, voice or data communications*
- › *Broadcasting, mobile or fixed voice and data transmission systems and networks*



Master in Geomatics and Navigation (1.5 years, 90 ECTS)

Train professional experts in geoinformation, earth monitoring and remote sensing, starting with the acquisition and processing of data and its analysis, while ending with data management and usability for a huge number of applications, many of them still to be defined in this innovative sector. In collaboration with the Geomatics Research Institute and sponsored by the Institut Cartogràfic de Catalunya

MASTEAM

Master of Science in Telecommunication Engineering & Management (2 years, 120 ECTS)

Train professionals who know how to plan complex multidisciplinary projects and create new technologies, who master the most advanced technologies, who can broaden the use of existing technologies by creating new fields of application and who can provide advice to sectors that traditionally have not used telecommunications very much, such as small and medium sized business, the government and the society at large. Train researchers to do advanced research in the IT field, while doing a PhD in collaboration with the Research Institutes at the Mediterranean Technology Park and several departments and research groups.

Main fields of specialisation are:

- › **Telecommunication Technologies, Services and Networks**
- › **Telecommunication Policies and IT business management.**

MASTEAM was awarded in 2004 by the Catalan Government as the best Master for the Organization, Syllabus and Quality in Teaching. It's completely oriented to Project Based Learning (PBL).

MASTEAM is organised in collaboration with the European CLUSTER of leading universities of science and technology and offers dual degree agreements with KTH, TKK, UCL, IST and PoliTo.

Convalidation of 60 ECTS (maximum) depending on previous studies is possible.

→ AEROSPACE

Air Navigation Engineering (4 years, 240 ECTS)

Train professionals to carry out multiple activities in the field of air navigation and air space management, avionics, communication, navigation and surveillance oriented to improve efficiency of the aviation systems. Planning, designing, installing, verifying and certifying all types of air space and traffic systems, as well as associated aeronautical infrastructures. Aerodynamics, propulsion, materials, aircraft design are also included in syllabus

- › *Electronic components, circuits and equipments.*
- › *Elements of computer programming.*
- › *Design and management of air navigation control and communication systems.*
- › *Management and optimization of air traffic and transport*
- › *Avionics*
- › *Management and optimization of air traffic and transport*
- › *Aerodynamics and propulsion.*
- › *Materials science and structures*
- › *Mechanics and thermodynamics*
- › *CAD tools and aeronautical projects.*



Airport Engineering (4 years, 240 ECTS)

Train professionals able to direct the design, construction and exploitation of airports, as well as all the airport infrastructure and related services. Planning, designing, installing, verifying and certifying all types of airport infrastructures. Aerodynamics, propulsion, materials, structures, mechanics and aircraft design are also considered in syllabus.

- › *Electronic components, circuits and equipment*
- › *Elements of computer programming*
- › *Management of aeronautical and airport infrastructure and services*
- › *Design and management of airport terminals and signalling*
- › *Airport communications equipments and standards*
- › *Aerodynamics and propulsion*
- › *Mechanics and thermodynamics*
- › *Materials and structures*
- › *Airline management*
- › *CAD tools and airport projects*



Master in Airports and Air Navigation (1 year, 60 ECTS)

Train professionals to a prestigious sector, learning about air space, aviation and airport management, facilitating a student certification to become air traffic controller (ADI/ADV, Aerodrome Control Instrument / Visual Rating for Tower)

Jointly organized with Astac and Aeria, with teaching staff recognised by the National Air Safety Agency (AESA) and instructors from NATS organisation.

Master in Aerospace Science and Technology (1.5 years, 90 ECTS)

Advanced training in the sciences and technology being most used in the fields of aeronautics and space. Design, develop and manage aerospace systems and projects, as well as satellite communication and networks and UAVs, create or innovate on products, systems and processes in accordance with regulatory and environmental guidelines; carry out advanced research in international R&D divisions in the aerospace field.

Oriented to:

- › Perform a PhD thesis in the aerospace discipline
- › Join a R&D&I department in the aero-space industry

MAST is organised in collaboration with Baie, CNES, CTAE, ESA, IEEC, IG, INDRA and other national as well as international aerospace companies and research institutions.



Postgrade in Entrepreneurship and Business Development (30 ECTS)

Train professionals in starting up new businesses and new business units within companies that explore new innovative concepts and business opportunities, providing the theoretical and practical training needed to complete this process. This includes business management, innovation, operations and finance with the participation of industry, business and innovation experts.

Common skills are:

EETAC 's mission is to provide a higher education of outstanding quality at BSc, MSc and PhD levels to contribute to the social and economic development of the country and to carry out important R&D activities, many of them in collaboration with other organizations especially through:

- › *Favouring initiative and critical thinking.*
- › *Promoting solid working and team working habits.*
- › *Facilitating students to collaborate closely with EETAC research groups.*
- › *Motivating self learning and a continuous update of knowledge in line with the emergence of new technologies.*
- › *Introducing ethics and values in daily lectures and activities.*
- › *Encouraging cooperation with other universities as a way of personal enrichment.*
- › *Working with Project based learning methodology*
- › *Understanding the impact of engineering in a social and global context*

Internship in companies

A period of practical training in a company is included in the syllabus (optional for Master students)
EETAC has contacts with more than 180 companies and research institutes, guaranteeing that students are able to choose according to their professional preferences. Students can acquire this experience by doing the Diploma/ Master Thesis at a company or by spending part of one semester working as trainee student in some of the companies with which EETAC has collaboration agreements. The availability of internships is periodically updated at the school intranet being accessible by all the students and staff.

Mobility programs

We encourage our students to spend part of their studies at universities abroad. This is usually accomplished through institutional Student Exchange Agreements. Students stay at least one semester and usually extend their stay to a full academic year obtaining in some cases a Dual Degree. EETAC participates in several universities consortiums such as **CLUSTER, CINDA, CAESAR**, orientated to provide "High Quality" Engineering Education and improve links between Engineering schools and universities. There are several official exchange programmes which offer scholarships, for example: **Socrates/Erasmus, Leonardo, UPC-Europe, UPC-America Latina, UNITECH**, etc

There is an **EETAC Orientation Program for Incoming Students**, which introduces the services available at the school, academic issues, students associations, sport facilities, cultural life and entertainment, etc.



www.univers.upc.edu



A QUALITY SCHOOL



Since 1991 **EETAC is a pioneer in quality in teaching and laboratory training**. Each year more than 70 university centers visit us. Some of our characteristics are:

- > **A reduced number of students per class** (40 in lectures, 20 in laboratories, 10 in oriented academic activities), **favoring an accurate individual supervision and an easy relationship with professors.**
- > **A continuous assessment system based on student's work.**
- > **The significant weight given to experimental lessons and use of laboratories** (30% of total ECTS), **with free access when no classes are running.**
- > **Practical training included in the syllabus** (more than 250 students per year, around 400 h/student, more than 180 companies)
- > **25% of degrees have spent one or two semesters at another university.**
- > **Excellent academic achievements, 80% of the students graduate in the expected time and find a job in less than 2 months.**
- > **Facilities and resources to innovative students willing to create their own company.**
- > **Campus facilities as library, canteen, cultural and sports activities, student associations, weekly seminars.**
- > **Opportunity to collaborate with research institutions and companies at the Mediterranean Technology Park** (ICFO, CTTC, CIMNE, IG, etc.)

HOW TO REACH EETAC



Escola d'Enginyeria de
Telecomunicació i Aeroespacial
de Castelldefels

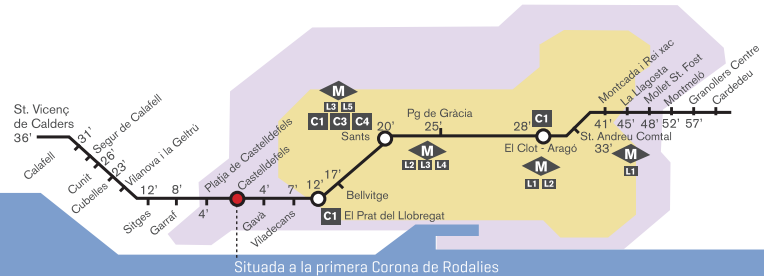
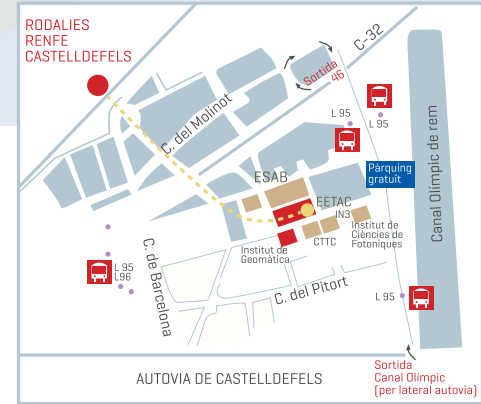
Esteve Terradas, 7
08860 Castelldefels



Tel: 93 413 70 00
Fax: 93 413 70 07

www.eetac.upc.edu

e-mail: eetac.info@upc.edu



Situada a la primera Corona de Rodalies