Information and Communications Technologies
Branch of Engineering and Architecture

Bachelor’s Degree in Computer Engineering
Bachelor’s Degree in Technical Telecommunications Engineering
Bachelor’s Degree in Telecommunications Systems, Sound and Image Engineering
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Each bachelor's degree is required to be included under one and only one of the following five branches of knowledge under which university studies of this level are classified:

· Arts and Humanities
· Engineering and Architecture
· Health Sciences
· Sciences
· Social and Legal Sciences

These branches correspond to the five major fields of knowledge, whose hallmark is a set of basic subjects, which in the case of Engineering and Architecture, are as follows:

· Business
· Chemistry
· Computer Science
· Graphic Expression
· Mathematics
· Physics

Each bachelor's degree requires a minimum of 60 ECTS credits in basic level studies. Of these, 36 ECTS relate to basic subjects included under the branch of knowledge and are offered in the first two academic years of the degree programmes in courses of no less than 6 ECTS. The others can be awarded for subjects included under another branch, as long as they are shown to be basic or transversal.

The assignment of a bachelor's degree to a branch of knowledge is doubly important; firstly it determines what secondary subjects can be considered in the specific phase or what professional modules are of preferential access, when setting the mark for acceptance into a certain bachelor's degree programme; and secondly, the basic subjects approved in one bachelor's degree programme are automatically validated in any other bachelor's degree under the same branch of knowledge.

Notwithstanding the foregoing, upon completing the first 120 credits of a degree programme, i.e. the first two academic years, students receive a Certificado de Estudios Universitarios Iniciales (University Diploma), a diploma certifying that they have a basic university education, without having to wait until they have completed their studies.
The Higher Polytechnic School of Alcoy (EPSA) is a Century-old institution, heir to the higher education center founded in 1853. It currently has over 2,300 students and nearly 200 faculty members. The UPV ranks second among public university schools in Spain in terms of years of experience educating engineers, as demonstrated by the fact that it has been doing so for over 157 consecutive years.

Services and facilities

The Higher Polytechnic School of Alcoy includes three historical buildings originally built during the industrial revolution and fully restored: the landmark Viaducto building and the old textile mills of Ferrándiz and Carbonell. It is a magnificent example of a university school fully integrated in a historic, friendly, safe and functional city.

In Alcoy you will find all the amenities of a modern university combined with more personalized attention. The ratio of personal computers to students is approximately 1 to 1, among the highest of all Spanish public universities.

A project is currently under development for a large scale sports area with an indoor sports pavilion and outdoor courts complete with other university services. The aim is for the School to be consolidated as a highly competitive, differentiated university center which constantly adapts to its environment.

One of the School's aims is to ensure that its graduates are quickly employed. For this purpose, it has an Internship Service which manages the internships offered, for which students are paid a minimum of 300 euros per month. Also available is an Employment Service, the only qualified associated Servef (Valencian Employment Service) centre in the province.

University life

The School takes special care to assure that its first year students successfully adapt to university life. For this purpose, it has implemented several initiatives: welcome sessions, bridge courses in different subjects, study skills workshops, a personal care area, etc.

It has also a large variety of sports facilities and activities, including a full gymnasium and
multiple municipal facilities open to students at no charge. Throughout the academic year, it organizes plays, musicals and film series, etc. The School has its own dormitory, Ovidi Montilol, which offers quality accommodations at affordable prices. Moreover, Alcoy has a large number of flats for rent which are cheaper than in other cities. Studying in Alcoy costs only half what it costs in the capital city of the province.

Alcoy is a university town: one in twenty inhabitants belongs to the university community and this causes the surrounding area to have its own flavor. The town is surrounded by two natural parks (Font Roja and Sierra Mariola), areas of high ecological and scenic value, which can be explored on foot or by bike.

**Relations with other universities**

The Higher Polytechnic School of Alcoy has an International Relations Service which manages academic exchange programmes: Erasmus, Séneca, Promoe and Leonardo da Vinci. Over the past academic year, it hosted over one hundred foreign students and promoted exchange programs enabling its students to continue their studies not only in Europe, but also in other countries around the world.

**Bachelor’s degrees offered**

- Business Administration and Management
- Chemical Engineering
- Computer Engineering
- Electrical Engineering
- Industrial Design Engineering and Product Development
- Mechanical Engineering
The Higher Polytechnic School of Gandia was founded in 1994. As a School of the Universitat Politècnica de València, it offers the same proven and recognized quality, but the relationship with students is closer and education is more personalized. Currently, it has approximately 2,200 students and 200 faculty members.

Services and facilities

The Higher Polytechnic School of Gandia has the following facilities:

- Lecture room building: it consists of 5,500 m² divided into two floors which house a total of 22 classrooms of different sizes, various audiovisual laboratories and a study hall.

- Resource Center for Learning and Research comprising a new generation library (which, in addition to browsing areas, has researcher and group work rooms, a multimedia library, projection rooms, etc.) several computer areas (seven computer rooms and an open-access area with state of the art equipment) and two language learning laboratories.

- Laboratory and faculty office buildings, organized according to the School's thematic areas. In the case of the telecommunications area, there is one block of over 5,000 m² with twelve laboratories (radio-communications, signal, video, telematics, instrumentation, microelectronics, digital and power electronic systems, etc.) for both teaching and research. It also houses a TV and a radio studio, various editing booths, an anechoic chamber and a reverberating chamber.

- Administration buildings, including different services (international relations, internships, medical clinic, etc.), conference rooms, a lecture hall, an auditorium and a study hall open 356 days a year.

- Gymnasium and sports facilities for rowing, rugby, beach volleyball, aerobics, funky, GAP, yoga, and pilates, etc. The School has also entered into agreements so that students can use the municipal swimming pool, racquetball and athletics track.

- Other facilities such as the cafeteria (with an open terrace), stationary and photocopying service, offices and meeting rooms for the Student Union... In 2011, a new form of residence hall will be inaugurated.
University life

In the Higher Polytechnic School of Gandia a multitude of cultural activities are held: conferences, congresses, exhibitions, courses, trips, etc. Students rely on the university’s support to hold all types of cultural, sports and recreational activities, such as those held by the Monminet theatre group and the Big Band. The Higher Polytechnic School of Gandia receives nearly 200 Erasmus students per year, contributing to an open and international climate.

The School is located in the Grau, very close to the beach. Therefore, students are able to find inexpensive accommodations nearby, since a wide variety of apartments are available for rent at off-season prices from October to June. The campus is also well connected by means of the train and free shuttle bus service.

The city of Gandia has become a tourist destination for thousands of visitors every year because it combines the sun and beach with numerous cultural events.

Relations with other universities

The Higher Polytechnic School of Gandia has entered into over 400 cooperation agreements with universities from all over the world, as a result of which approximately 160 students are completing their studies in universities located in Europe, the United States, Canada, Latin America, Australia, China and Japan. Many students even take advantage of their stay to obtain international dual degrees.

Bachelor’s degrees offered

- Audiovisual Communications
- Environmental Sciences
- Telecommunications Systems, Sound and Image Engineering
- Tourism
The School of Engineering is the UPV’s heir to the long tradition of teaching and research of the old School and Faculty, which were pioneers in the teaching of computer science in the Valencia region since their inception in 1982 and have nearly 10,000 graduates.

Teaching excellence has led the School of Computer Engineering to be rated as one of the five best Schools in Spain and the School whose graduates have the highest employability rate.

Services and facilities

The School has the facilities and resources required to provide high quality teaching and to ease the students’ everyday university life: classrooms, laboratories, study halls, open access computer rooms, multimedia laboratories, WiFi, laptop connections and accessibility in buildings, among others. In the library, which has almost 200 work stations, students will find bibliographic materials to support their studies, an extensive collection of computer magazines, software distribution, films, and final-year projects which have already been defended.

The School of Computer Engineering houses the showcases of the Computer Museum, in which you can see some of the first video game consoles (the legendary Spectrum and Atari) and computers, peripherals, micro-perforated cards and floppy disks.

University life

The School of Computer Engineering proposes a large number of educational, cultural, recreational and career development activities aiming to provide students with a comprehensive education better enabling them to enter the job market.

Other initiatives include on-line television, cultural week, computer science week (a key event in the Valencia region), different conferences and seminars, which in addition to addressing computer technologies and services, deal with problems relating to the practice of the computer engineering profession: from professional ethics or current legislation to professional development opportunities in areas such as cooperation in developing and improving the environment.

This energizes the day to day life in the School and leads to increased digital and social activity.
Relations with enterprises are the pillar on which the School of Computer Engineering bases its professional career promotion activities. The internationally renowned faculty members of the School, as well as the agreements and Joint Chairs with companies make the organization of seminars by world class companies such as Indra, Microsoft, Google and Intel possible. These activities allow students to learn more about the professional profile required by businesses, and find their first jobs by means of the recruiting sessions organized regularly at the School.

Relations with other universities

The School of Computer Engineering offers students the chance to study courses, attend seminars and do their final-degree projects in other Spanish and foreign universities, which offers them a means of personal and professional enrichment.

The School takes part in a number of academic exchange programmes, both Spanish (SICUE programme and Séneca scholarships) and foreign (Erasmus, Promoe, Leonardo da Vinci and Vulcanus agreements). Consequently, the students may choose destinations in Spain, the European Union, Latin America, the USA, Australia, China and Japan, among others. Additionally, with certain universities there are dual-degree agreements.

Students also have the possibility of adding international experience to their CV by taking the courses that the School offers in English. The ultimate goal is to open up the job market of the computer engineers graduating from the School of Computer Engineering to a world which is increasingly more global and borderless.

Bachelor’s degree offered

- Computer Engineering
The School of Telecommunications Engineering was founded in 1991 and is located on the Vera campus of the Universitat Politècnica de València. Since its inception, the engineers taught in its classrooms have come to hold senior positions in leading institutions and companies in the telecommunications sector. The School of Telecommunications Engineering is a consolidated school and is considered to be one of the most prestigious in Spain.

Currently, there are approximately 1,300 people studying in this School. There are 170 faculty members, who also carry out research and development in the different departments.

**Services and facilities**

The School has the infrastructure and resources required for teaching excellence and quality. The classrooms are equipped with a video projector, computer and megaphone system. There are numerous communications, electronics, telematics, and sound and image laboratories. It also has a study room, several computer laboratories, local alumni associations, etc. The building has WiFi coverage and is adapted enabling students with physical disabilities to study without any problems. All the aforementioned services and facilities will be increased and enhanced with the inauguration and launch of the new building assigned to the School (next to the current school) which will be completely operative in the academic year 2010-2011.

**University life**

The School offers a large amount of cultural and sports activities through different organizations: the Student Union, the Sports Club, the local offices of the IEEE (the largest non-profit international technical professional association), etc. The Branch of Culture and University Extension organizes and fosters a number of initiatives: courses, conferences, workshops, cinema, music concerts, and literary meetings, as well as cooperating for development in collaboration with NGOs and with the UPV’s Cooperation Office.
The School of Telecommunications Engineering is very involved in the fostering of relationships with companies and employers at all levels. For this purpose, a number of initiatives are carried out, including the following: Company Classrooms, in which the sector companies showcase their latest products and concerns to the university community; Telecommunication’s Night, an annual event bringing together representatives of the telecommunications sector in the region of Valencia; and direct agreements with companies for the creation of Joint Chairs with companies and for the performance of paid internships by our students.

Relations with other universities

The School of Telecommunications Engineering has a long tradition of international contacts with universities in other countries, especially European ones. The School manages different exchange programmes such as Erasmus, Leonardo, Promoe, Séneca and IAESTE, etc. It has also entered into a number of specific agreements with academic, scientific and industrial institutions worldwide. Annually, over one third of each year’s students study, or do internships or research abroad.

Bachelor’s degree offered

· Technical Telecommunications Engineering
After completing your studies, you will be able to design, develop and assess computer applications and systems, assuring their reliability, security and quality. You will be able to manage and maintain computer applications, systems and networks; programme applications in a sound, secure and efficient manner; and manage projects, services and computer systems.

What skills will you have upon completion of this degree?

Computer systems allow for an improved quality of life. Besides encouraging the development of social networks and video games, computer engineering is key to the design and production of large projects such as eGovernment, the management of savings and shopping online, the most sophisticated and cleanest means of transportation and home automation solutions.

The computer engineering provides professionals with the knowledge required to face challenges such as managing and coordinating teams that study the needs of companies and individuals, designing and developing solutions at all levels (material, processing, networking, etc.) and adapting proposals to current standards.

This bachelor’s degree offers two career paths at different UPV schools:
- Higher Polytechnic School of Alcoy
- School of Computer Engineering.

What does this degree entail?

It is recommendable for students to be willing to make a personal effort and dedicate time to studying, and to have work organization and abstract reasoning skills as well as the ability to approach and resolve specific problems. Although previous knowledge is not required, is it recommendable to have a strong base in mathematics, physics and English.

What should you master beforehand?

What should you master beforehand?
What are your professional options after you finish this degree?

Computer engineering graduates are capable of running companies in the information and communications technologies sector and the information technology departments of companies and public institutions, and hold senior positions in computer system development and management.

According to recent reports, there is a great lack of graduates in the sector. A graduate in Computer Engineering can work in disciplines such as artificial intelligence, multimedia design, computer animation, videogame programming, programming of mobile devices, computer network and system security, medical computing and building automation, etc.

What are your internships options?

Internships complete a student's education, enabling him to enter the professional world with some technical and human expertise. Following are some of the companies and institutions that receive students: Indra, Bull, British Telecom, Iberdrola and the regional government of Valencia. 98% of the internships offered are paid.

Where can you spend a semester abroad?

Computer Engineering students have a wide choice of international destinations at which to study for a semester, complete their final-year project or do an internship. Agreements have been entered into not only with some of the best European universities, but also with universities in the USA, China, Japan and Australia.

What are your master's degree options?

With a Bachelor's Degree in Computer Engineering, students can study the following Master's degree programmes offered by the UPV: Parallel and Distributed Computing; Computer Engineering; Software Engineering, Formal Methods and Information Systems; Artificial Intelligence, Pattern Recognition and Digital Imaging; and Automation and Industrial Computing.

Students can also enroll in any UPV master's degree programme as long as they take the appropriate bridge courses.
Technical Telecommunications Engineering

**Branch:** Engineering and Architecture  
**Cycle:** Bachelor's degree  
**Type:** attendance-based  
**Year of implementation:** 2010-2011  
**Credits:** 240 ECTS (4 academic years)

What does this degree entail?

In this degree programme, students study the techniques and technologies required to resolve problems relating to signal transmission and receiving and communication networking.

This bachelor's degree offers four areas of specialization:

- Telecommunications Systems
- Electronic Systems
- Telematics
- Sound and Image

What should you master beforehand?

Students studying for this degree must be willing to work and should have analytical skills. A strong background in mathematics and physics is essential and knowledge of languages and computers is highly recommendable.

What skills will you have upon completion of this degree?

Graduates in Telecommunications Engineering may plan and manage public and private communication networks, terminals and ancillary equipment, and the related transmission media.

Among other matters, students learn cable, fibre optics; radio and antenna, and space communication technologies; sound and image (multimedia) treatment and broadcasting systems; television, mobile and fixed telephone services; traffic control; navigation; communication electronics; electronic instruments; micro-electronics; bio-engineering; telematics, telemedicine and telelearning systems, etc.

What are your professional options after you finish this degree?

This bachelor's degree enables you to practice the profession of technical telecommunications engineering. The education you receive will enable you to hold positions within the management teams of private firms or public institutions, and to lead
and manage research and development projects in the most advanced technologies. The jobs you can choose include the following:

- Private sector: companies designing and using telecommunications services, large telecommunications, aerospace, security, consulting, ICT, radio and television, banking and electronic commerce companies, as well as telecommunications-related SMEs.
- Freelancing: in project work, the provision of expert opinions, and facilities, as well as the start-up of technology-based companies.
- Public Administration: as a government official or as part of the technical workforce in all types of public administrations: European, state, regional and local, and mainly in ICT areas.
- Research, development and innovation: in public and private centers and the R&D+i departments of large enterprises.
- Public and private teaching: both in secondary education and the university.

What are your internships options?

These studies have a clearly practical focus, which is reflected in the many practicums and labs done throughout the degree programme, as well as the wide selection of internships at companies and research entities in the last two academic years (recognised with up to 24 ECTS), which is an important factor for learning and subsequent employability.

Where can you spend a semester abroad?

The School of Telecommunications Engineering has entered into a number of agreements with universities mainly located in Europe, but also in the USA, Canada, Australia and Japan, so that students are able to complete part of their studies abroad or in other Spanish universities through exchange programmes (Erasmus, Séneca, Promoe, etc.) and may also obtain a dual degree upon completion.

What are your master’s degree options?

With this bachelor’s degree, students can enroll in the future Telecommunications Engineering Master’s Degree Programme, which will enable them to practice the profession of this engineering.

Also, you can enroll in the following Master’s degree programmes offered by the UPV: Communications Technologies, Systems and Networks; Electronic Systems Engineering; Biomedical Engineering; and Acoustic Engineering. As in other cases, students can enroll in any UPV master’s degree programme as long as they take the appropriate bridge courses.
Telecommunications Systems, Sound and Image Engineering

What does this degree entail?

In this degree programme, students study the operation of systems used for encoding, transmitting, receiving and processing information in any format, whether audio, video or data, by various means (Internet, mobile communications, etc.). Additionally, it includes the study of audio and video systems and equipment, as well as the design of studios for the production and recording of audiovisual material.

The curriculum has a practical approach that simulates situations in the professional field, and analyzes and assesses the social and environmental impact of the solutions proposed. This degree is completed with courses in languages, economy, business organization and programming.

What should you master beforehand?

Students studying this degree should have a strong background in mathematics, physics, computers and technology. However, in many cases, success depends on the student's willingness to work, level of responsibility and ability to organize study time.

What skills will you have upon completion of this degree?

Upon completion of the bachelor's degree, you will be able to implement audio and video systems and equipment, and studios for the production and recording of audiovisual programmes, including acoustic insulation and conditioning.

You can carry out projects for the design, deployment and operation of telecommunications networks, services and applications: cable or fibre optics transmission systems (radio links and wireless networks, satellite communications,
mobile communications, broadcasting and TV), radio and radar systems.

You can also carry out solar energy and low voltage electrical projects, design computer networks and develop computer software applications in the telecommunications field.

What are your professional options after you finish this degree?

This degree enables you to practice the profession of technical telecommunications engineering, in relation to which job opportunities are quite varied, ranging from: telecommunications, mobile telephone, electronics, programming, telematics, cable and digital television and Internet companies, etc. to audiovisual companies, such as radio, television, recording, dubbing, and acoustically treated studios and consultants, etc.

This degree also enables you to work as a freelancer, fill technical positions in public administration (traffic, post offices and airports, etc.), and teach or do research.

What are your internships options?

The School has entered into a number of internship agreements (mostly paid) with companies in the sector. The international agreements entered into also enable students to do internships abroad.

Generally, internships offer students the opportunity to do the following: gain professional experience before finishing the degree programme, earn elective credits (up to 18 ECTS), or do their final-year project in the same company.

Where can you spend a semester abroad?

The School fosters student exchanges, and for this purpose, it has entered into agreements with universities across Europe, and also in Argentina, Australia, Brazil, Canada, China, the USA, Japan and Mexico, etc.

What are your master's degree options?

With this bachelor's degree, students can enroll in the future Telecommunications Engineering Master's Degree Programme, which will enable them to practice the profession of this engineering.

Also, you can enroll in the following Master's degree programmes offered by the UPV: Acoustic Engineering; Digital Post Production; Communications Technologies, Systems and Networks; and Electronic Systems Engineering.

As in other cases, students can enroll in any UPV master's degree programme as long as they take the appropriate bridge courses.
The Universitat Politècnica de València is a prestigious public institution providing modern and flexible degrees tailored to the needs of society. It is the only Spanish technological university ranked as one of the top universities worldwide in the Academic Ranking of World Universities (ARWU) published by the University of Jiao Tong in Shanghai.

We offer our students all types of resources and services: classrooms, libraries, laboratories, state-of-the-art computer equipment, wireless network, 28,000 computers, email account from the first day, classes in Spanish, Valenciano and English, scholarships and grants provided by the university itself so that no one is deprived of the opportunity to study, and much more.

Adapting to university life

By means of the Integra programme, faculty members and students help newcomers adapt to university life. Not only is their initial contact with the university facilitated, new students are also monitored at key times during the course year, and given advice on which electives to choose and how to improve their performance.

Student exchanges

The UPV has signed agreements with 400 different universities, under which students are able to spend a semester in one of the 50 countries where exchanges are offered: not only in Europe (Erasmus grants), but also in the US, Japan, China, Australia, Canada and Latin America.

Sports

We have excellent and freely accessible sports facilities throughout the campus. Students can choose from 75 different sports disciplines: sailing, rowing, diving, sport fishing, fencing, climbing, mountain climbing, archery, aikido, taekwondo, capoeira, cycling, yoga, rugby, handball, swimming, beach volleyball, athletics, tennis paddle, pelota valenciana, etc.

Cultural activities

With their UPV ID card, students can participate in a large variety of cultural activities: classical, pop and jazz concerts, painting and photography exhibitions, urban arts festivals, etc. Students can also participate in writing, gastronomy, wine tasting, and percussion workshops, among others, for which open electives credits are awarded.
Internships at companies

90% of our graduates take less than six months to find their first job. And this is largely due to the paid internships offered at companies. Additionally, the UPV's Servipoli Foundation manages the search for part-time jobs compatible with their studies.

Courses and masters

The UPV offers over 1,400 courses a year in all specialties so each student can shape their curriculum to meet their interests. Additionally, 56 master's degrees and 28 doctorate programmes of the highest quality standards are offered.

UPV campuses

The Universitat Politècnica de València has three fully equipped campuses. One is located in the city of Valencia (Vera) and the other two are located in Alcoy and Gandia. All of the UPV campuses share the same philosophy and provide the same opportunities. And, although there are no significant differences between studying in one city or another, Alcoy and Gandia offer a more personalized education and a more intimate environment.

Study at the UPV.
The best decision you'll ever make

Studying at the UPV is a goal which is increasingly easier to achieve: 83% of students pass their final exams and only 6% percent abandon their studies. Students like and are satisfied with the UPV. In fact, 95% would complete their degree at the Universitat Politècnica de València again if they had to start all over.