

DEGREE IN SOUND AND IMAGE IN TELECOMMUNICATION ENGINEERING (2019-20)

Código: C201	Fecha de aprobación: 22/03/2012	Precio: 20,27 1st-registration credits
Créditos: 240	Título: Undergraduate 3-5 years (ECTS)	

RAMA

Engineering and Architecture

PLAN

DEGREE IN SOUND AND IMAGE IN TELECOMMUNICATION ENGINEERING

TIPO DE ENSEÑANZA

Face-to-face

CENTROS DONDE SE IMPARTE

Polytechnic School

ESTUDIO IMPARTIDO CONJUNTAMENTE CON

Solo se imparte en esta universidad

FECHAS DE EXAMEN

[Acceda al listado de fechas de examen para esta titulación.](#)

PLAN DE ESTUDIOS OFERTADO EN EL CURSO 2019-20

Nodo inicial:

Leyenda: No ofertada Sin docencia

FIRST YEAR

CORE SUBJECTS

48 créditos

Curso	Título	Créditos	Subject
1	CORE	6	20000 - ELECTRONICS
1	CORE	6	20001 - CIRCUIT ANALYSIS
1	CORE	6	20002 - PROGRAMMING I
1	CORE	6	20003 - FUNDAMENTALS OF ENGINEERING PHYSICS I
1	CORE	6	20004 - MATHEMATICS
1	CORE	6	20006 - COMPUTERS
1	CORE	6	20008 - FUNDAMENTALS OF ENGINEERING PHYSICS II
1	CORE	6	20009 - MATHEMATICS I

COMPULSORY SUBJECTS

12 créditos

Curso	Título	Créditos	Subject
1	COMPULSORY	6	20005 - DIGITAL ELECTRONICS
1	COMPULSORY	6	20007 - PROGRAMMING II

BRIDGING COURSE FOR HOLDERS OF 3-YEAR DEGREE IN TELECOMMUNICATIONS (SOUND AND IMAGE)

SUBJECTS

60 créditos

Curso	Título	Créditos	Subject
1	COMPULSORY	6	20007 - PROGRAMMING II
2	COMPULSORY	6	20012 - FUNDAMENTALS OF ENGINEERING OPTICS
2	COMPULSORY	6	20016 - DIGITAL ELECTRONIC SYSTEMS
2	COMPULSORY	6	20019 - DIGITAL SIGNAL PROCESSING
2	CORE	6	20017 - BUSINESS ADMINISTRATION
3	COMPULSORY	6	20026 - TELECOMMUNICATIONS REGULATIONS AND SERVICES
4	COMPULSORY	6	20037 - TRANSMISSION MEDIA
4	COMPULSORY	6	20038 - TELECOMMUNICATIONS PROJECTS AND INFRASTRUCTURES II
4	END OF DEGREE WORK	12	20042 - FINAL PROJECT

OPTIONAL SUBJECTS

1 créditos

Superado este bloque se obtiene

DEGREE IN SOUND AND IMAGE IN TELECOMMUNICATION ENGINEERING

SECOND YEAR

CORE SUBJECTS

12 créditos

Curso	Título	Créditos	Subject
2	CORE	6	20013 - MATHEMATICS II
2	CORE	6	20017 - BUSINESS ADMINISTRATION

COMPULSORY SUBJECTS

48 créditos

Curso	Título	Créditos	Subject
2	COMPULSORY	6	20010 - ACOUSTICS
2	COMPULSORY	6	20011 - ANALOG ELECTRONICS
2	COMPULSORY	6	20012 - FUNDAMENTALS OF ENGINEERING OPTICS
2	COMPULSORY	6	20014 - SIGNALS AND SYSTEMS
2	COMPULSORY	6	20015 - COMMUNICATION THEORY
2	COMPULSORY	6	20016 - DIGITAL ELECTRONIC SYSTEMS
2	COMPULSORY	6	20018 - ACOUSTIC TRANSDUCERS
2	COMPULSORY	6	20019 - DIGITAL SIGNAL PROCESSING

THIRD YEAR

COMPULSORY SUBJECTS

42 créditos

Curso	Título	Créditos	Subject
3	COMPULSORY	6	20020 - INSULATION AND SOUNDPROOFING
3	COMPULSORY	6	20021 - TELEVISION
3	COMPULSORY	6	20022 - NETWORKS
3	COMPULSORY	6	20023 - DIGITAL AUDIO PROCESSING
3	COMPULSORY	6	20024 - DIGITAL IMAGE PROCESSING

3	COMPULSORY	6	20025 - VIDEO ENGINEERING
3	COMPULSORY	6	20026 - TELECOMMUNICATIONS REGULATIONS AND SERVICES
OPTIONAL SUBJECTS			
18 créditos			
Curso	Título	Créditos	Subject
3	OPTIONAL	6	20027 - VIBROACOUSTICS
3	OPTIONAL	6	20028 - ACOUSTIC DESIGN OF VENUES
3	OPTIONAL	6	20029 - DIGITAL SOUND SYNTHESIS
3	OPTIONAL	6	20030 - DIGITAL SIGNAL PROCESSORS
3	OPTIONAL	6	20033 - ULTRASOUND AND ITS APPLICATIONS
3	OPTIONAL	6	20034 - ENVIRONMENTAL ACOUSTICS
3	OPTIONAL	6	20035 - INFOGRAPHICS
3	OPTIONAL	6	20036 - AUDIOVISUAL PRODUCTION CENTRES
3	OPTIONAL	6	20040 - INTERNSHIPS I
3	OPTIONAL	6	20041 - INTERNSHIPS II
3	OPTIONAL	6	34541 - ENGLISH I
3	OPTIONAL	6	34542 - ENGLISH II

FOURTH YEAR

COMPULSORY SUBJECTS			
42 créditos			
Curso	Título	Créditos	Subject
4	END OF DEGREE WORK	12	20042 - FINAL PROJECT
4	COMPULSORY	6	20031 - ADVANCED AUDIOVISUAL SYSTEMS
4	COMPULSORY	6	20032 - TELECOMMUNICATIONS PROJECTS AND INFRASTRUCTURES I
4	COMPULSORY	6	20037 - TRANSMISSION MEDIA
4	COMPULSORY	6	20038 - TELECOMMUNICATIONS PROJECTS AND INFRASTRUCTURES II
4	COMPULSORY	6	20039 - MULTIMEDIA SERVICES

OPTIONAL SUBJECTS			
18 créditos			
Curso	Título	Créditos	Subject
4	OPTIONAL	6	20027 - VIBROACOUSTICS
4	OPTIONAL	6	20028 - ACOUSTIC DESIGN OF VENUES
4	OPTIONAL	6	20029 - DIGITAL SOUND SYNTHESIS
4	OPTIONAL	6	20030 - DIGITAL SIGNAL PROCESSORS
4	OPTIONAL	6	20033 - ULTRASOUND AND ITS APPLICATIONS
4	OPTIONAL	6	20034 - ENVIRONMENTAL ACOUSTICS
4	OPTIONAL	6	20035 - INFOGRAPHICS
4	OPTIONAL	6	20036 - AUDIOVISUAL PRODUCTION CENTRES
4	OPTIONAL	6	20040 - INTERNSHIPS I
4	OPTIONAL	6	20041 - INTERNSHIPS II
4	OPTIONAL	6	34541 - ENGLISH I
4	OPTIONAL	6	34542 - ENGLISH II

LANGUAGE

Superado este bloque se obtiene

DEGREE IN SOUND AND IMAGE IN TELECOMMUNICATION ENGINEERING

ITINERARY 1

ITINERARY 1 OPTIONAL SUBJECTS			
18 créditos			
Curso	Título	Créditos	Subject
3	OPTIONAL	6	20027 - VIBROACOUSTICS
3	OPTIONAL	6	20028 - ACOUSTIC DESIGN OF VENUES
4	OPTIONAL	6	20033 - ULTRASOUND AND ITS APPLICATIONS
4	OPTIONAL	6	20034 - ENVIRONMENTAL ACOUSTICS

Superado este bloque se obtiene

ITINERARY 1: ACOUSTIC ENGINEERING

ITINERARY 2

ITINERARY 2 OPTIONAL SUBJECTS			
18 créditos			
Curso	Título	Créditos	Subject
3	OPTIONAL	6	20029 - DIGITAL SOUND SYNTHESIS
3	OPTIONAL	6	20030 - DIGITAL SIGNAL PROCESSORS
4	OPTIONAL	6	20035 - INFOGRAPHICS
4	OPTIONAL	6	20036 - AUDIOVISUAL PRODUCTION CENTRES

Superado este bloque se obtiene

ITINERARY 2: AUDIOVISUAL TECHNOLOGY

DEGREE COURSE AIMS

The general aim of this programme is to produce versatile, creative and competitive graduates, capable of designing audio, video and telecommunications systems, working together with professionals in related technologies and taking technological decisions based on criteria of cost, quality, safety, time and respect for professional standards.

Graduates are expected to acquire the capacity to:

- * Work in the audiovisual, acoustic, information and telecommunications industry;
- * Carry out telecommunications, audiovisual and acoustic engineering projects and design.

General aims include:

- 1 The ability to draft, develop and sign off on projects in the field of telecommunications engineering, involving the design, development and operation of telecommunications and electronics networks, services and applications.
- 2 The knowledge, understanding and capacity to work within legislation applicable to Technical Telecommunications Engineering, and the ability to handle specifications, regulations and obligatory standards.
- 3 An understanding of basic materials and technologies, equipping the student to learn new methods and technologies, and conferring the versatility to adapt to new situations.
- 4 The ability to solve problems and take decisions with initiative and creativity, and to communicate and transmit knowledge, skills and expertise, adhering at all times to the ethical and professional guidelines applicable to Technical Telecommunications Engineering.
- 5 The skills necessary to produce measurements, calculations, assessments, appraisals, evaluations, studies, reports, schedules and similar tasks within the field of telecommunications.
- 6 The capacity to work within specifications, regulations and obligatory standards.
- 7 The capacity to analyse and assess the social and environmental impact of technical solutions.
- 8 To understand and apply the basic principles of economics, human resources management and project planning, together with telecommunications legislation, regulations and standards.
- 9 The ability to work in multi-disciplinary and multi-lingual environments, and to transmit knowledge, procedures, outcomes and ideas in the field of telecommunications and electronics, both orally and in writing.

- [Credit structure of the degree course](#)
- [Distribution of credits per subject type](#)
- [General description of the course programme](#)
- [Optional subjects and routes](#)

CREDIT STRUCTURE OF THE DEGREE COURSE

Subjects in the Degree in Sound and Image Engineering, worth 6 European ECTS credits each, are organized into semesters. Students must take 5 subjects each semester to complete 30 credits per semester, and thus 60 credits per academic year and a total of 240 credits over the four academic years.

In order to make the course compatible with other activities, students are allowed to take a part-time course consisting of 30 credits per academic year.

DISTRIBUTION OF CREDITS PER SUBJECT TYPE

SUBJECT TYPE	CREDITS
Core	60
Compulsory	132
Optional	36
Final Project	12
TOTAL CREDITS	240

GENERAL DESCRIPTION OF THE COURSE PROGRAMME

The course has been structured around three main areas:

Firstly, and in accordance with the terms of Royal Decree 1393/2007, the first half of the course programme contains the **core subjects**, worth a total of 60 ECTS credits and pertaining to the disciplines of Engineering and Architecture.

Secondly, **compulsory subjects** comprise a total of 132 ECTS, and are aimed at guaranteeing that students acquire the skills associated with the degree, whilst the compulsory Final Project, undertaken in the final year and aimed at assessing the skills corresponding to the degree, comprises 12 ECTS. Prior to enrolling for the final project, the student must provide evidence of ability in a foreign language. Among other possible qualifications, at the University of Alicante the minimum necessary requirement is to have attained level B1 of the European Framework of Reference for Languages, and this requirement may be raised in the future.

The 132 ECTS corresponding to compulsory subjects are divided up into 60 ECTS complementing the basic telecommunications module, 48 ECTS which complement the specific Sound and Image technology module and 24 which are common to both modules, complementing telecommunications and specific technology studies.

Finally, students are required to take 36 ECTS corresponding to **optional subjects**. Firstly, there is a group of eight optional subjects, divided into two different routes: Acoustic Engineering and Audiovisual Technology. Each route is worth 24 ECTS (comprising 4 subjects, each worth 6 ECTS), although students need only take 18 ECTS to pass either route. Secondly, two optional subjects in English are offered, specific to all courses at the Polytechnic University College at the University of Alicante. Lastly, a maximum of 12 ECTS credits are offered for work experience programmes. These are optional and may be taken in modules, each worth 6 ECTS. Thus, a wide range of possibilities are available to the student as regards combining optional subjects, as shown below:

- Route 1 + 1 or 2 free-elective optional subjects + 12 or 6 work experience ECTS.
- Route 2 + 1 or 2 free-elective optional subjects + 12 or 6 work experience ECTS.

- 4 free-elective optional subjects + 12 work experience ECTS.
- Route 1 + Route 2

Furthermore, as part of the free-elective optional group of subjects, students may be awarded up to 6 ECTS credits for participating in cultural, sporting, student representation, charity and cooperation activities at university.

OPTIONAL SUBJECTS AND ROUTES

CODE	SUBJECT	ECTS
ROUTE I: ACOUSTIC ENGINEERING		
20027	VIBROACOUSTICS	6
20028	ACOUSTIC DESIGN OF VENUES	6
20033	ULTRASOUND AND ITS APPLICATIONS	6
20034	ENVIRONMENTAL ACOUSTICS	6
ROUTE 2: AUDIOVISUAL TECHNOLOGY		
20029	DIGITAL SOUND SYNTHESIS	6
20030	DIGITAL SIGNAL PROCESSORS	6
20035	INFOGRAPHICS	6
20036	AUDIOVISUAL PRODUCTION CENTRES	6
WORK EXPERIENCE		
20040	WORK EXPERIENCE I	6
20041	WORK EXPERIENCE II	6
ENGLISH		
34541	ENGLISH I	6
34542	ENGLISH II	6

LANGUAGE REQUIREMENT (IN A FOREIGN LANGUAGE)

Students who study an **undergraduate degree** at the University of Alicante must **confirm** a minimum **level of B1 in a foreign language** (a B2 is recommended) in order to **obtain the diploma**.

The required language level is in accordance with the Common European Framework of Reference for Languages.

The language accreditation requirement can be obtained previously or at any time during university studies. However, the language requirement will be necessary in order to be able to **assess the final year project**.

The **different forms** of obtaining such language requirement can be consulted in the additional information in this section.

[+info](#)

LANGUAGE TEACHING COMPETENCE CERTIFICATE

Students who want to have a career in non-university **teaching** when they finish their studies are **recommended** to obtain the **teaching competence certificate** (Valencian and/or foreign languages).

This certificate can be obtained by taking specific itineraries in your university studies or by taking the **UA teaching competence course in Valencian, German, French and English**.

[+info](#)

FINAL YEAR PROJECT (TFG)

All the official undergraduate degrees must be completed by preparing and defending a final year project, which must be done in the final phase of the studies and be aimed at the assessment of competences associated to the degree.

The final year project must be an original, independent and personal work. The elaboration of it may be individual or coordinated. Each student will prepare this project under the supervision of a tutor, allowing students to show the received training content in an integrated way, as well as the acquired competences associated to the undergraduate degree.

In order to **register in the final year project**, students must comply with the requirements established in the "Regulations for continuation studies for students registered in undergraduate degrees at the University of Alicante". Among the requirements established to be able to register in the final year project, a minimum of 168 credits must be passed in undergraduate degrees with a total of 240 credits, and a minimum of 228 credits in undergraduate degrees with a total of 300 credits or more.

In order for **the final year project to be assessed**, a B1 level of a foreign language (B2 is recommended) must be confirmed.

[+info](#)

- [Access routes](#)
- [Procedure for applying for admission](#)
- [Recommended applicant profile](#)
- [Number of places and pass marks](#)
- [A.R.A. Groups \(High academic achievement\)](#)

ACCESS ROUTES

Admission to this degree course is open to any applicant who meets one of the following entrance requirements:

1. **SPANISH BACCALAUREATE (LOMCE) UNIVERSITY ENTRANCE EXAM (PAU):** Although students can access university by means of any Baccalaureate specialization, the recommended one is **Sciences**.

ADMISSION SCORES FOR THIS DEGREE CAN BE IMPROVED BY TAKING THE SPECIFIC MODULES OF THE UNIVERSITY ENTRANCE EXAM (PAU) AS INDICATED IN THE TABLE BELOW WITH THEIR RESPECTIVE WEIGHTINGS.

TABLE 1

MODULE WEIGHTINGS		PERFORMING ARTS	BIOLOGY	AUDIO VISUAL CULTURE I	TECHNICAL DRAWING II	DESIGN	BUSINESS ECONOMICS	PHYSICS	FUNDAMENTALS OF ART II	GEOGRAPHY	GEOLOGY	GREEK II	HISTORY OF PHILOSOPHY	HISTORY OF ART	LATIN II	MATHEMATICS APPLIED TO SOCIAL SCIENCES II	MATHEMATICS II	CHEMISTRY
		Academic year 2017/18	0,1		X			X	X				X					
	0,2				X			X									X	

2. **PREVIOUS BACCALAUREATES WITH OR WITHOUT A PASS IN THE UNIVERSITY ENTRANCE EXAM (PAU):** Students who have completed their Baccalaureate under previous education systems and have passed the PAU will be able to use the mark obtained in their application.

HOWEVER, STUDENTS CAN TAKE SPECIFIC EXAM MODULES DURING THE VOLUNTARY PAU EXAM PERIOD IN ORDER TO IMPROVE THEIR ADMISSION SCORE AS SHOWN IN TABLE 1. THEY CAN ALSO SIT FOR THE OBLIGATORY PAU EXAMS, IN WHICH CASE THEY WILL HAVE TO TAKE ALL THE EXAMS SCHEDULED DURING THIS PERIOD.

3. **VOCATIONAL EDUCATION:** Vocational educational qualifications such as senior technician, senior technician of plastic arts and design, or senior technician in sports is the preferred professional area although access to this degree may be through any professional field.

ADMISSION SCORES CAN BE IMPROVED BY TAKING THE PAU EXAM IN UP TO 4 OF THE MODULES IN TABLE 1.

4. **STUDENTS FROM EDUCATION SYSTEMS IN COUNTRIES OF THE EUROPEAN UNION OR OTHER STATES WITH WHICH SPAIN HAS AN INTERNATIONAL AGREEMENT:** Accreditation is required and issued by *Universidad Nacional de Educación a Distancia (UNED)*.

STUDENTS CAN SIT FOR EXAMS IN SUBJECTS INCLUDED IN THE PRUEBAS DE COMPETENCIAS ESPECÍFICAS (PCE), ORGANISED BY THE UNED, IN ORDER TO IMPROVE THEIR ADMISSION SCORE UP TO 14 POINTS AS INDICATED IN THE WEIGHTINGS IN TABLE 1.

5. **STUDENTS FROM FOREIGN EDUCATION SYSTEMS:** Prior to applying for the validation of their foreign Baccalaureate, students may sit for up to 4 exams in subjects offered by the *Pruebas de Competencias Específicas (PCE)* organised by **UNED** (at least one subject from the core subjects).

THE WEIGHTINGS INDICATED IN TABLE 1 WILL BE APPLIED TO CORE AND/OR OPTIONAL SUBJECTS.

6. **OTHER:** University degrees and other similar qualifications. University entrance exam for students over 25 (preferential option: Engineering and architecture). Access on the basis of professional experience (applicants over 40 years of age). Access to applicants aged 45 years or more by means of an exam.

Weightings of the subjects of the specific phase of the Proof of Access to the University (PAU) in the previous years

High School Diploma Subjects	Weighting parameters	Music Analysis II	Biology	Earth and Environmental Sciences	Drawing II	Technical Drawing II	Design	Business Economics	Electronics	Physics	Geography	Greek II	History of Music and Dance	Art History	Latin II	Musical Language and Practice	World Literature	Mathematics Applied to the Social Sciences II	Mathematics II	Chemistry	Expressive techniques in the Arts and Crafts	Industrial Technology II	
Academic Years 2010-11 2011-12	0.1																						
	0.2		x	x		x	x	x	x	x									x	x			x
Academic Years 2012-13 2013-14 2014-15 2015-16 2016-17	0.1		x	x			x	x												x			x
	0.2								x	x									x				
							x																

PROCEDURE FOR APPLYING FOR ADMISSION: PRE-ENROLMENT AND REGISTRATION

- Anticipated number of places offered during the first pre-enrolment session: 80
- In order to apply for a place, the procedure and pre-enrolment periods established each year must be observed. [Information concerning the application procedure \(Pre-enrolment\)](#).
- Applicants admitted to a course must formally register within the timescale established annually in the enrolment calendar. [Registration Information](#).

RECOMMENDED APPLICANT PROFILE

The recommended educational background is a high school diploma, with a good grounding in mathematics and physics. Students should be practical, observant, meticulous, with a capacity to concentrate, improvise and synthesise. In addition, they should be logical, analytical, organized and methodical, able to work as part of a team and to lead groups and take decisions in unfavourable conditions.

Among the aptitudes and capabilities which should define the new student, although all of these will be developed during the Degree course, are the following: numerical skills (calculation ability, speed and accuracy, ability to handle figures and resolve quantifiable problems. Ability for mental arithmetic and estimating quantities), logical reasoning (capacity to understand the relationship between events and find the causes, predict consequences and thus resolve problems coherently), abstract reasoning (ability to separate or extract aspects of a situation or problem), observant (capacity to perceive the details of objects, phenomena or events, detecting their distinguishing qualities and appreciating their differences with respect to others), perceptive (capacity to acquire knowledge of the world around us via the sensory impressions received), capacity for attention (concentration, ability to voluntarily focus the senses and attention on an object or activity, disregarding other events happening at the same time).

Although new students will obviously have formed their own personalities, it would be an advantage if they were open, critical thinkers, responsible and dynamic, and interested in new advances.

NUMBER OF PLACES AND PASS MARKS

YEARS	NUMBER OF PLACES	PASS MARKS						
		GENERAL	OVER 25	OVER 40	OVER 45	GRADUATES	SPORTSPEOPLE	DISABLED
2010-11	80	5,884	8,090	6,840	---	6,280	---	---
2011-12	80	6,000	7,198	5,000	---	7,080	---	---
2012-13	80	6,109	5,000	---	---	5,000	---	---
2013-14	80	5,760	5,000	---	---	5,000	---	---
2014-15	80	5,520	5,000	---	---	---	---	---
2015-16	80	5,000	5,710	---	---	---	---	---

2016-17	80	5,816	5,000	---	---	---	---	---
2017-18	80	5,000	5,000	---	---	---	---	---

- "Pass marks" indicated correspond to the results of the first adjudication of June.
- The definitive marks can be inferior to the here collected.

A.R.A. GROUPS (HIGH ACADEMIC ACHIEVEMENT)

The groups of high performance academicians (ARA), to reinforce the potential of the most distinguished students since the beginning of their university studies offering part of teaching in English, as well as a series of aid and support for their training.

Students who want to receive teaching on a group ARA must request it at the time of enrolment take place. Shall be assessed the academic record and accredited knowledge of English.

[General information about ARA groups](#)

[Information pamphlet](#)

PROFESSIONAL PROFILE

This degree qualifies graduates to work as Telecommunications Engineering Technicians, specialising in Sound and Image. The professional attributes of the course are regulated by Law and professional practice is supervised by the Official College of Telecommunications Engineering Technicians.

Graduates may also enrol on professional Master's Degree courses, research courses and other post-graduate courses, in accordance with current legislation.

The main professional profiles associated with this Degree are:

- Radio communications engineering
- Electronic systems engineering
- Data communication engineering
- Design of digital signal processing applications
- Communications networks design
- Software and applications development
- Audiovisual and multimedia projects
- Acoustic engineering projects
- IT consultancy
- Technical service
- Product design
- Integration and test engineering
- IT marketing management
- IT project management
- Research and technology development

IMPLEMENTATION

The proposed course programme for the University of Alicante Degree in Sound and Image Engineering in Telecommunications will be implemented year by year.

It is envisaged that new University of Alicante Degree in Sound and Engineering in Telecommunication course will be fully implemented by the 2010/2011 academic year.

TIMESCALE		
ACADEMIC YEAR	IMPLEMENTATION OF THE DEGREE IN SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATIONS	PHASING OUT OF TELECOMMUNICATIONS ENGINEERING TECHNICIAN (SOUND AND IMAGE)
2010/2011	1 ST YEAR	1 ST YEAR
2011/2012	2 ND YEAR	2 ND YEAR
2012/2013	3 RD YEAR	3 RD YEAR
2013/2014	4 TH YEAR	

CREDIT EQUIVALENCE BETWEEN STUDIES IN TELECOMMUNICATIONS ENGINEERING TECHNICIAN, (SOUND AND IMAGE) STUDIES AND THE NEW DEGREE IN SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATIONS

TELECOMMUNICATIONS ENGINEERING TECHNICIAN, (SOUND AND IMAGE)		Credits	DEGREE IN SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATIONS	Credits
7033	Acoustic	7,5	Acoustic	6
7031	Circuit Analysis	7,5	Circuit Analysis	6
7028	Digital Electronics	12	Digital Electronics Basic Electronics	6 6
7030	Basics of Engineering Physics	12	Basics of Engineering Physics I Basics of Engineering Physics II	6 6
7034	Computers	6	Computers	6
7032	Basic Programming	6	Basic Programming I	6
7029	Basic Mathematical I	12	Basic Mathematics Mathematics I	6 6
7035	Technical English	6	English I	6
7036	Electroacoustics	18	Acoustic Transducers	6
7041	Television	7,5	Television	6
7038	Analogical Electronics	6	Analogical Electronics	6
7037	Linear Systems	15	Signals and Systems Communication Theory	6 6
7039	Basic Mathematics II	7,5	Mathematics II	6
7045	Video Engineering	9	Video Engineering	6
7044	Projects	6	Telecommunications Projects and Infrastructures I	6
7043	Digital Audio Processing	6	Digital Audio Processing	6
7046	Digital Image Processing	6	Digital Image Processing	6
7047	Multimedia Techniques	6	Multimedia Services	6
ADAPTED CORE AND COMPULSORY CREDITS				138
7063	Acoustic Insulation	7,5	Insulation and Soundproofing	6
7051	Infographics and Virtual Reality	7,5	Infographics	6
7055	Digital Signal Processors	7,5	Digital Signal Processors	6
7056	Computer Networks	7,5	Networks	6
7060	Digital Sound Synthesis	7,5	Digital Sound Synthesis	6
7058	Advanced Audiovisual Systems	7,5	Advanced Audiovisual Systems	6
ADAPTED OPTIONAL CREDITS				36
TOTAL ADAPTED CREDITS				174

Credits in **Telecommunications Engineering Technician (Sound and Image)** not listed in the above table may be validated by means of:

1. Degree course optional credits, up to the maximum number of optional credits established for each degree course.

Recognised free-elective credits originally awarded for university, cultural or representational activities will be validated for the degree course, with a maximum of up to 6 academic credits to be validated for various activities, as set out in Art. 12.8 Royal Decree 1393/2007 (participation in cultural, sporting, student representation, charity and cooperation activities).

**SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATION
DEGREE SUBJECTS WITH NO EQUIVALENCE TO SUBJECTS OFFERED UNDER THE CURRENT PLAN**

DEGREE IN SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATIONS	Credits
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Business Management	6
Basic Programming II	6
Basics of Engineering Optics	6
Digital Electronic Systems	6
Transmission Media	6
Digital Signal Processing	6
Telecommunications Projects and Infrastructures II	6
Telecommunications Regulations and Services	6
CORE AND COMPULSORY SUBJECTS WITH NO EQUIVALENCE	48
Vibroacoustics	6
Environmental Acoustics	6
Ultrasound and its Applications	6
Acoustic Design of Venues	6
Audiovisual Production Centres	6
English II	6
OPTIONAL CREDITS WITH NO EQUIVALENCE	36

In addition to the credit equivalence table for subjects in the proposed course programme and subjects in the **Telecommunications Engineering Technician (sound and image)** programme being phased out, the terms of the regulations of the University of Alicante must also be observed:

Transitional Provision Two. Students who do not wish to take the new degree course subjects are entitled to sit four examinations in the two academic years following the end of each year. Any students wishing to continue their studies after sitting and failing these tests will be required to follow the new plan, according to the adaptation system established in the new plan. Old (LRU) and new (ECTS) credits are one-to-one equivalent, although overall limits will be established for the credit equivalence system.

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BRIDGING COURSE FOR TELECOMMUNICATIONS ENGINEERING TECHNICIANS (SOUND AND IMAGE) WHO WISH TO OBTAIN THE DEGREE IN SOUND AND IMAGE ENGINEERING IN TELECOMMUNICATIONS

- [Envisaged number of students](#)
- [Entry and admission of students](#)
- [Degree bridging course programme](#)
- [Quality parameter results](#)
- [Implementation timescale](#)

.Envisaged number of students

Given the experience of other schools offering bridging courses this academic year, and taking into account the number of people holding this qualification, it is proposed to offer 50 places for Telecommunications Engineering Technicians (Sound and Image).

.Entry and admission of students

In response to the training needs of present holders of the Telecommunications Engineering Technician (Sound and Image) qualification, as identified by both the College of Telecommunications Engineering Technicians and a group of Engineers in the sector, the Polytechnic University College at the University of Alicante proposes to offer a Bridging Course intended for holders of the Telecommunications Engineering Technician (Sound and Image) qualification, in accordance with Royal Decree 1393/2007 and following the directives established by the University of Alicante and in this document. This Bridging Course will qualify these Engineers for positions at the same level in Public Administration as graduates.

Where the number of applications exceeds places offered, these will be assigned in accordance with the following priority criteria:

- Overall academic record (70%):
 - Academic record for the Telecommunications Engineering Technician (Sound and Image) qualification (75%)
 - Related Degree or Master's Degree (25%)
- Holder of the Telecommunications Engineering Technician (Sound and Image) qualification from the University of Alicante (20%)
- Experience as work experience or final project tutor for the Telecommunications Engineering Technician (Sound and Image) qualification (10%)

Holders of the Telecommunications Engineering Technician (Sound and Image) qualification from other universities who wish to obtain the Degree in Sound and Image Engineering in Telecommunications from the University of Alicante will be required to take the subjects indicated by the Centre's Commission for Recognition and Transfer of Credits, determined according to the subjects studied previously for the Engineering Technician qualification. Where students would need to study subjects which are not included in the Bridging Course, these Engineering technicians will not be admitted to the course.

.Degree Bridging Course Programme

The bridging course will consist of the eight subjects indicated in the table below, giving the academic year corresponding to implementation of each subject on the Degree course. Since the Degree in Sound and Image Engineering in Telecommunications will be implemented over a series of academic years, as indicated in the Degree authorisation document, the bridging course containing the eight subjects shown in the table below should be offered to holders of the Telecommunications Engineering Technician (Sound and Image) qualification in the academic year 2010-2011. Each of the subjects is worth 6 ECTS credits, whilst the Final Project is worth 12 ECTS credits.

SUBJECTS	SUBJECT TYPE	ACADEMIC YEAR	SEMESTER	ECTS	Doc. P
Fundamentals of programming II	Compulsory	1st	2nd	6	124
Business management	Core	2nd	2nd	6	102
Fundamentals of engineering optics	Compulsory	3rd	1st	6	131
Digital electronic systems	Compulsory	2nd	4th	6	126
Digital treatment of signal	Compulsory	2nd	4th	6	136
Telecommunications regulations and services	Compulsory	3th	6th	6	146
Telecommunications projects and infrastructures II	Compulsory	4th	8th	6	144
Transmission media	Compulsory	4th	8th	6	131
Final Project	Compulsory	4th	8th	12	166

SUBJECTS	BRIDGING COURSE	
	Semester 1	Semester 2
Fundamentals of programming II	X	
Business management	X	
Fundamentals of engineering optics	X	
Digital electronic systems	X	
Digital signal processing	X	
Telecommunications regulations and services		X
Telecommunications regulations and services II		X
Transmission media		X
Final Project		X

It is envisaged that teaching hours will be adapted to the particular circumstances of the students for whom this Bridging Course is intended, most of whom may be working. This timetable will achieve the dual objective of enabling students to attend the course, and avoiding any possible conflict of teaching duties between the Bridging Course and the Degree course, in accordance with the timetable established in the course programme.

.Quality parameter results

It is envisaged that the indicator values suggested for the Degree course will improve, since students will consist of qualified Telecommunications Engineering Technicians with a comprehensive knowledge of the subject matter and, in many cases, professional work experience. Therefore, the following indicator values are proposed:

- Effectiveness rate > 60 %.
- Graduation rate > 60 %.
- Dropout rate < 10 %.

_Implementation timescale for the Bridging Course between Telecommunications Engineering Technician (Sound and Image) and Degree in Sound and Image Engineering in Telecommunications

It is envisaged that implementation of the Bridging Course enabling holders of the Telecommunications Engineering Technician (Sound and Image) qualification to obtain a Degree in Sound and Image Engineering in Telecommunications will begin in the academic year 2011-2012, and will be offered until the academic year 2012-2013.

DEGREE IN SOUND AND IMAGE IN TELECOMMUNICATION ENGINEERING. SYLLABUS SUMMARY
ESTRUCTURA DEL PLAN DE ESTUDIOS POR TIPO DE MATERIA

TIPO DE MATERIA	CRÉDITOS
Formación básica (FB)	60
Obligatorias (OB)	132
Optativas incluidas	36
Prácticas Externas (OP)	12
Total créditos	240

DISTRIBUCIÓN POR CURSOS

PRIMER CURSO		SEGUNDO CURSO		TERCER CURSO		CUARTO CURSO	
Semestre 1	Semestre 2	Semestre 3	Semestre 4	Semestre 5	Semestre 6	Semestre 7	Semestre 8
Electrónica Básica 6 ECTS	Computadores 6 ECTS	Matemáticas II 6 ECTS	Administración de Empresas 6 ECTS	Aislamiento y Acondicionam. Acústico 6 ECTS	Ingeniería de Vídeo 6 ECTS	Sistemas Audiovisuales Avanzados 6 ECTS	Medios de Transmisión 6 ECTS
Análisis de Circuitos 6 ECTS	Fundamentos Físicos de la Ingeniería II 6 ECTS	Acústica 6 ECTS	Teoría de la Comunicación 6 ECTS	Televisión 6 ECTS	Normativa y Servicios de Telecomunicación 6 ECTS	Proyectos e Infraestructuras de Telecomunicación I 6 ECTS	Proyectos de Infraestructuras de Telecomunicación II 6 ECTS
Fundamentos Programación I 6 ECTS	Matemáticas I 6 ECTS	Electrónica Analógica 6 ECTS	Sistemas Electrónicos Digitales 6 ECTS	Redes 6 ECTS	Asignatura Optativa de Itinerario ⁽²⁾ 6 ECTS	Asignatura Optativa de Itinerario ⁽²⁾ 6 ECTS	Servicios Multimedia 6 ECTS
Fundamentos Físicos de la Ingeniería I 6 ECTS	Electrónica Digital 6 ECTS	Fundamentos Ópticos de la Ingeniería 6 ECTS	Transductores Acústicos 6 ECTS	Tratamiento Digital de Audio 6 ECTS	Asignatura Optativa de Itinerario ⁽²⁾ 6 ECTS	Asignatura Optativa de Itinerario ⁽²⁾ 6 ECTS	Trabajo Fin de Grado ⁽¹⁾ 12 ECTS
Matemáticas Básicas 6 ECTS	Fundamentos Programación II 6 ECTS	Señales y Sistemas 6 ECTS	Tratamiento Digital de Señal 6 ECTS	Tratamiento Digital de Imágenes 6 ECTS	Asignatura Optativa ⁽²⁾ 6 ECTS	Asignatura Optativa ⁽²⁾ 6 ECTS	

⁽¹⁾ Previamente a la evaluación del Trabajo Fin de Grado, el estudiante debe acreditar las competencias en un idioma extranjero. Entre otras formas de acreditación, en la Universidad de Alicante se considera necesario superar como mínimo, el nivel B1 del Marco de Referencia Europeo para las lenguas modernas, que podrá ser elevado en el futuro.

⁽²⁾ **Optatividad:** el alumno debe cursar 36 ECTS de asignaturas optativas. En primer lugar se ofertan un grupo de ocho asignaturas optativas, las cuales se agrupan en dos itinerarios diferenciados: **Ingeniería Acústica** y **Tecnología Audiovisual**. Cada itinerario está compuesto de 24 ECTS (cuatro asignaturas de 6 ECTS), aunque para que a un alumno/a se le reconozca un itinerario sólo será necesario que al menos curse 18 ECTS. En segundo lugar, se ofertan también dos asignaturas optativas de inglés, comunes a la Escuela Politécnica Superior de la Universidad de Alicante. Por último, se oferta hasta un máximo de 12 ECTS de Prácticas en Empresa, los cuales son optativos y se podrían cursar en módulos de 6 ECTS. De este modo, las posibilidades de configuración del currículum optativo del alumno son muy variadas, como se indica a continuación:

- Itinerario 1 + 1 ó 2 optativas libres + 12 ó 6 ECTS de prácticas en empresa.
- Itinerario 2 + 1 ó 2 optativas libres + 12 ó 6 ECTS de prácticas en empresa.
- 4 Optativas libres + 12 ECTS de prácticas en empresa.
- Itinerario 1 + itinerario 2.

ITINERARIO 1: INGENIERÍA ACÚSTICA		ITINERARIO 2: TECNOLOGÍA AUDIOVISUAL		PRÁCTICAS EXTERNAS ó INGLÉS	
Vibroacústica	6 ECTS	Síntesis Digital de Sonido	6 ECTS	Prácticas en Empresa I	6 ECTS
Diseño Acústico de Recintos	6 ECTS	Procesadores Digitales de Señal	6 ECTS	Prácticas en Empresa II	6 ECTS
Ultrasonidos y Aplicaciones	6 ECTS	Infografía	6 ECTS	Inglés I	6 ECTS
Acústica Medioambiental	6 ECTS	Centros de Producción Audiovisual	6 ECTS	Inglés II	6 ECTS

- [Verified Report](#)
- [Resolution from the Universities Council: Positive verification](#)
- [Resolution from the Universities Council: Accreditation renewal](#)
- [Authorization from the Valencian Government](#)

Internal Quality Assurance System (SGIC) of the Title

- [Structure of the Centre for Quality](#)
 - [Comission of Internal Quality Guarantee](#)
 - [Other Commissions](#)
- [Handbook SGIC](#)
- [Procedures](#)
 - [Strategic \(PE\)](#)
 - [Key \(PC\)](#)
 - [Support \(PA\)](#)
 - [Measurement \(PM\)](#)
- [Management of the SGIC \(Access to ASTUA\)](#) 

Follow-up of the Title

- [International quality label](#) 
- [Self-reports UA](#)
- [External reports AVAP](#)
- [Other reports](#)
- [Improvement Plans](#)
- [Progress and Learning Outcomes](#)

Information about the Centre	General information for students
<ul style="list-style-type: none"> • Polytechnic University College Telephone:+ 34 96 590 3648 Fax:+ 34 96 590 3644 eps@ua.es http://www.eps.ua.es/ • Mobility Programmes • Work experience with companies and institutions • Reception and welcome events • Tutorial Action Programme • Frequently asked questions about the implementation of degrees at the Polytechnic University College 	<ul style="list-style-type: none"> • Grants and assistance • Accommodation • Student refectories and cafeterias • Transport • Emergency medical care • Insurance • Services for students with special needs • Student representation and participation • University student identity card (TIU) • Frequently asked questions
UA: General Regulations	+ Information about qualifications
<ul style="list-style-type: none"> • Academic regulations and procedures of the University of Alicante 	<ul style="list-style-type: none"> • Official State Gazette (BOE) on publication of course programmes (Changing the name of the title) • Presentation document for the Degree in Sound and Image Engineering • Information pamphlet • Video presentation of the degree