

THE DEGREE IN ARCHITECTURE STUDIES AND THE MASTER'S DEGREE IN ARCHITECTURE
TAUGHT BY THE UNIVERSITAT POLITÈCNICA DE CATALUNYA (UPC)

Notification to the European Commission and to the Member States regarding the degree in Architecture Studies and the master's degree in Architecture taught at the Universitat Politècnica de Catalunya (UPC), pursuant to Article 46 of Directive 2005/36/EC

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1 NOTIFICATION

Universitat Politècnica de Catalunya
2014-2015

NOTIFICATION	
ARTICLE 21(7) OF DIRECTIVE 2005/36/EC	
Requesting Member State:	SPAIN
Full reference of the Annex to Directive 2005/36/EC:	Annex V.7. ARCHITECT 5.7.1 Evidence of formal qualifications of architects recognised pursuant to Article 46 (1)
Justification for the updating of the Annex	New format in Spain: degree in Architecture Studies + master's degree in Architecture
Evidence of formal qualifications	Official qualification "degree in Architecture Studies" awarded by the Universitat Politècnica de Catalunya Official qualification "master's degree in Architecture" awarded by the Universitat Politècnica de Catalunya Approval of the Spanish Government
Academic year of reference	2014-2015
Awarding body	Universities Council. Ministry of Education, Culture and Sport
Certificate accompanying the evidence of qualifications (if any)	Degree in Architecture Studies: approval of the Council of Ministers of the Spanish Government 07/10/2016. Official Gazette of the Spanish Government (BOE) 26/10/2016 http://www.boe.es/boe/dias/2016/10/26/pdfs/BOE-A-2016-9786.pdf . Master's Degree in Architecture: approval from Council of Ministers of the Spanish Government 17/04/2015. Official Gazette of the Spanish Government (BOE) 07/05/2015 http://www.boe.es/boe/dias/2015/05/07/pdfs/BOE-A-2015-5077.pdf
Annex	The curriculum, in the language in which it is taught and also in English.

2 BRIEF HISTORY OF THE UNIVERSITY

(FOUNDATION, BEGINNINGS OF THE DEGREES IN ARCHITECTURE, ETC.)

In 1968, the Instituto Politécnico Superior was created by grouping together existing state technical schools of architecture and engineering in Barcelona, which were founded in the mid-nineteenth century. In 1971, the Universitat Politècnica de Barcelona was established. Initially it comprised the Barcelona School of Industrial Engineering, the Terrassa School of Industrial Engineering and the Barcelona School of Architecture. In 1984, the name was changed to **Universitat Politècnica de Catalunya**.

The University carries out teaching and research in five main fields: architecture, biotechnology, civil and industrial engineering, computer science and telecommunications. This work is supported by a structure comprising 16 schools, 19 departments, 15 libraries, 2 science and technology parks and a range of specialised support centres.

The UPC has two schools of architecture: the Barcelona School of Architecture (ETSAB) and the Vallès School of Architecture (ETSAV).

Barcelona School of Architecture

Officially founded in 1875, the Escuela Provincial de Arquitectura de Barcelona continued the teaching begun by Antoni Celles in the early nineteenth century at the Escuela de Nobles Artes de la Lonja.

In the period until the 1950s, the School underwent a series of changes and adaptations brought by the national political situation, in particular the Civil War and the early post-war years. In 1961, under the management of Robert Terrades i Via, the School was transferred to the new university site in Pedralbes, which coincided with a considerable rise in student numbers.

A major institutional change took place in 1973, when the School left the Universidad de Barcelona and became part of the new Universitat Politècnica. Further changes were brought by Oriol Bohigas, director of the School from 1977 to 1980, who oversaw the introduction of a new curriculum (1979) and extensions to the building (1978-1985) designed by José Antonio Coderch. A series of events placed a new focus on the School's ties to the city of Barcelona. The School and its staff took a keen interest in life outside the institution, including important events such as the 1992 Olympic Games and the 2004 Universal Forum of Cultures and general developments in the construction of the city and the wider region.

In recent years, European convergence has brought contact with a broad network of universities and a wider educational framework, creating a complex and dynamic environment in which traditional, generalist training in architecture must be complemented by specific teaching structures that meet the growing demand for specialisation.

Vallès School of Architecture

The history of what is now the ETSAV dates back to 1973, when the ETSAB opened a sister school in the Vallès Occidental. Six years later, the school acquired independent status and began its life as the Vallès School of Architecture (ETSAV). The School moved to its permanent home in the 1991-1992 academic year, when the Sant Cugat del Vallès City Council ceded the lease to a site that would become the Sant Cugat Campus.

April 2006 saw the opening of the Research and Technology Transfer Centre (CRITT) in a new building adjacent to the ETSAV. The CRITT provides services to support innovation and technology transfer in architecture, knowledge dissemination, applied research, training for research staff, and lifelong learning for postgraduate students. The CRITT building also houses the Local Administration Research and Services Centre (CRAL), the Centre for Computer Applications in Architectural and Urban Design (CAIRAT) and the Solar Research Centre (CISOL).

The CISOL has grown in influence in recent years thanks to the ETSAV's participation in Solar Decathlon Europe 2010, an international competition for the design of self-sufficient homes. In 2011, as a continuation of the project, the LOW3 team, with the support of the ETSAV and the CISOL, installed its self-sufficient home on the Sant Cugat Campus to be used as an experimental laboratory for sustainable construction, energy efficiency and renewable energies.

The site is a specialised campus for architecture, urbanism and building construction, providing comprehensive infrastructure for the various areas of teaching, scientific research and technology transfer that make up this branch of knowledge. Resources and expertise are shared between the ETSAV and its Research and Technology Transfer Centre, which houses innovative laboratories and spaces for experimentation.

3 BRIEF HISTORY OF THE DEGREE

The current degree in Architecture Studies of the Universitat Politècnica de Catalunya was approved by the Council of Ministers on 17 April 2015 and published in the Official Gazette of the Spanish Government on 7 May 2015. The master's degree in Architecture was approved by the Council of Ministers on 7 October 2016 and published in the Official Gazette of the Spanish Government on 26 October 2016.

The degree in Architecture Studies and the master's degree in Architecture both have two pathways: Pathway 1 is taught at the ETSAB (Barcelona) and Pathway 2 is taught at the ETSAV (Sant Cugat del Vallès).

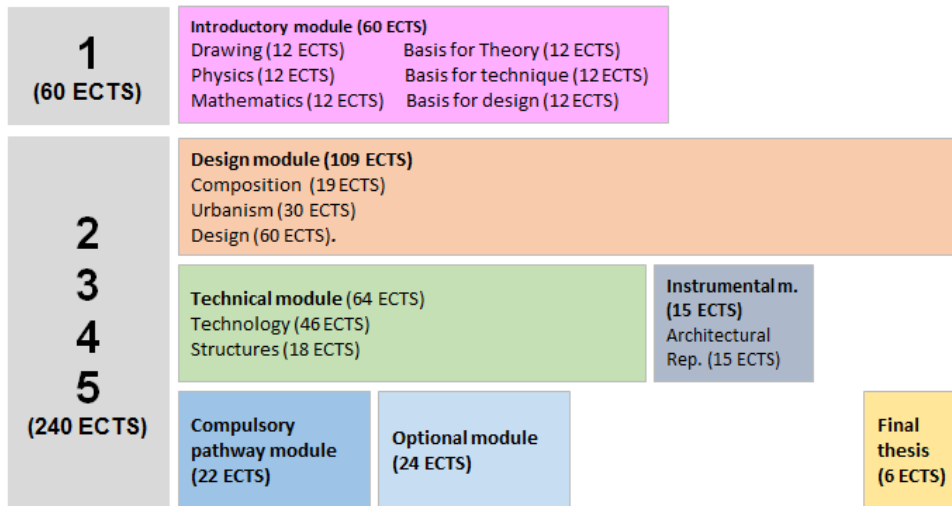
The first students were admitted to the degree in Architecture Studies in the 2014-2015 academic year and the first students were admitted to the master's degree in Architecture in the 2015-2016 academic year.

The integrated degree comprising the degree and the master's degree replaces the pre-EHEA degrees (1994 curriculum) and the bachelor's degree in Architecture (2010 curriculum) offered by the ETSAB and the ETSAV, which are gradually being phased out.

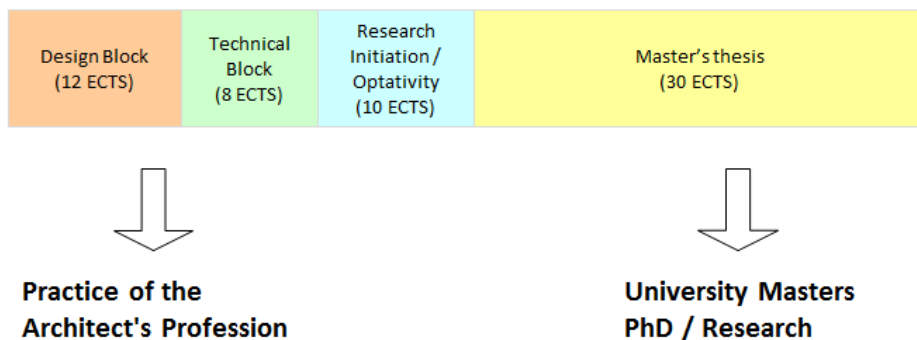
4 STRUCTURE OF THE CURRICULUM

4.1 General structure of architecture degrees at the UPC

Degree in Architecture Studies (300 ECTS)



Master's degree in Architecture (60 ECTS)



Pursuant to Royal Decree 1393/2007, of 29 October, amended by Royal Decree 861/2010, of 2 July, which establishes the organisation and planning of official university education, and Order EDU/2075/2010, which establishes the requirements for the validation of official university degrees that qualify for professional practice as an architect, the integrated curriculum leading to the award of the degree in Architecture Studies and the master's degree in Architecture provides generalist training in the discipline, has a study load of 300+60 ECTS credits, as stipulated in Article 5 of Royal Decree 1393/2007, and requires students to present and defend a thesis, the preparation of which should represent a total workload equivalent to 30 ECTS credits. The curricula are organised in two pathways, each of which is taught at one of the UPC's two architecture schools: the ETSAB and the ETSAV.

The curricula are competence-based and therefore designed around a series of learning outcomes that students must achieve as they progress through the degree. In terms of curriculum structure, a series of individual **modules** have been created to enable students to configure their own curricular design and progressive learning process.

Similarly, the curricula have two **levels**:

- one comprising the subject areas (units of knowledge) described in Table 2 and referred to in tables 1, 3 and 4 in the appendices,
- and the other the subjects described in Table 4 and referred to in tables 1, 2 and 3 in the appendices.

4.2 Degree in Architecture Studies

Type of subject area	Credits
Basic subjects	60
Compulsory subjects	188
Compulsory pathway subjects	22
Optional subjects	24
Final thesis	6
Total	300

The **compulsory subjects** are part of three **modules**: the Introductory, Technical and Design modules. The final thesis is also compulsory. These modules are foreseen in Order EDU/2075/2010, which establishes the requirements for the validation of degrees that qualify for professional practice as an architect. In addition, each pathway is defined by the compulsory pathway subjects, which make up 22 credits.

The 24 ECTS credits for **optional subjects** may be obtained for the following types of activities:

- Optional specialisation subjects related to the subject areas in the curriculum.
- External academic placements.
- Additional academic recognition of mobility and academic recognition of students' participation in university extension activities.

The **generic foreign language competency**, preferably in English, is recognised as having been attained with the certification of a minimum level corresponding to Level B2.2 in the Common European Framework of Reference: <https://www.upc.edu/slt/ca/certifica/modificacio-acord-junta-del-cic-dacreditacio-linguistica.pdf>

Distribution table of modules and subject areas. Common to both schools

Introductory module	60	(minimum 60)
Basic subjects of the discipline	36	(minimum 36)
Drawing	12	
Physics	12	
Mathematics	12	
Basic initial stage subjects	24	
Composition (Basic Theory)	6	
Technology (Basic Technology)	6	
Design (Basic Design)	12	
Technical module	64	(minimum 60)
Technology	46	
Structures	18	

Design module	109 (minimum 100)
Composition	19
Urbanism	30
Design	60
Instrumental module	15
Architectural Representation	15
Compulsory pathway module	22
Optional module	24
Optional subjects	24
Final thesis	6
Final thesis	6

Description of the levels. Pathway 1. ETSAB

Level 1

This is the first, introductory academic year that contains all of the basic subjects in the introductory module (a total of 60 ECTS credits), which is referred to in Royal Decree 1393/2007. A first group of subjects worth 36 ECTS credits is composed of basic subjects of the discipline, Engineering and Architecture, that is, Mathematics, Drawing and Physics, and a second group worth 24 ECTS credits, which constitutes an introduction to architecture, is composed of the basic subjects in the initial stage, that is, Basic Theory, Basic Technology and Basic Design.

Level 2

Comprising the second, third and fourth years, this curricular block is organised thematically with a general learning objective, taught through the design and technical modules established by the Ministerial Order, in the form of thematic design-based units and thematic technology-based units. These modules, together with the Architectural Representation subject area and the optional subjects, provide a general framework for the teaching approach and satisfy the general learning objective of the corresponding year.

Level 3

The fifth and final year comprises, in addition to design and technology content, a series of semester-long thematic workshops with study loads of 15 ECTS credits, which can be taken alongside optional specialisation modules with study loads of 9 ECTS credits. The workshops are organised and taught with a thematic focus, without going into the detail of the accompanying specialisation modules. As such, they provide the depth of knowledge required for specialisation in the master's degree and the final thesis but also prepare students for a diverse range of postgraduate studies and lay the foundations for specialisation in various areas. The three general areas that provide the framework for the workshops are the following: THEORY AND DESIGN, ARCHITECTURAL TECHNOLOGY AND URBANISM, AND LANDSCAPE ARCHITECTURE AND MANAGEMENT.

Level 4

The final element is the **final thesis**, which is an original piece of academic work on any of the subjects of the degree.

Description of the levels: Pathway 2. ETSAV

Level 1 (semesters 1 to 6)

The set of subjects related to architectural design (the **Architecture and Design Workshops**) is the fundamental instrument for learning and characterising architecture. This teaching model, in which design brings together the various disciplines, guarantees that students acquire fundamental competencies such as teamwork, the ability to summarise and the ability to apply the knowledge acquired in different areas to a joint project. The compulsory Architecture and Design Workshops structure students' learning in the first six semesters, and in the last four semesters students begin to build their own profile in their choice of optional subjects.

Level 2 (semesters 7 to 10)

The two years that complete the degree build on the first three years, which guarantee that students acquire a grounding in all of the theory- and workshop-based subjects. The final two years allow students to build their own profile by taking optional Architecture and Design Workshops, optional subjects and the final thesis. With reference to the Architecture and Design Workshops, the aim is, once students have come into contact with the workshops in each subject area in the first three years, for them to be able to take the optional workshops that respond to their interests.

Similarly, the **optional subjects** taught at the ETSAV allow students to concentrate on the subjects that are of most interest to them and that will best contribute to their careers.

Level 3 (final thesis)

The final element is the **final thesis**, which is an original piece of academic work on any of the subjects of the degree.

4.3 Master's degree in Architecture

Type of subject area	Credits
Compulsory subjects	20
Optional subjects	10
Master's thesis	30
Total	60

Subject areas that make up the master's degree

The curriculum is composed of the following compulsory subject areas in both of the pathways:

- Building construction and urbanism theory and design
- Technological and structural systems in building construction
- Master's thesis

It also contains the following **optional subject area**:

- Specialisation and research in architecture, which is divided into two complementary subject areas, one composed of the optional subjects and the other of the optional external placement.

Description of the levels/academic years: Pathway 1. ETSAB

Level 1

This is the first semester, which comprises design, technical and specialisation/research subjects areas, as previously established:

- Building construction and urbanism theory and design (12 ECTS credits, compulsory), a subject area that brings together in a coordinated fashion the subjects Composition, Design and Urbanism.
- Technological and structural systems in building construction (8 ECTS credits, compulsory), a subject area that brings together in a coordinated fashion the subjects Construction, Structures and Installations.
- Specialisation and research in architecture (10 ECTS credits, optional)

Level 2

This level involves the writing, presentation and defence of an original, individual piece of academic work to a university examination committee that brings together all of the competencies acquired on the degree, that is, the master's thesis, which is worth 30 ECTS credits.

Description of the levels/academic years: Pathway 2. ETSAV

Level 1. Research stage

In the first semester, the workshops Architectural Design (12 ECTS credits) and Architectural Technology (8 ECTS credits) complement each other because shared topics are worked on. The **workshops** are a central part of the master's degree from an interdisciplinary perspective; they are linked to the territory, have a social impact and promote a broad and integrated view of sustainability in the design process. Technology acts as a backbone of the **three specialisations** of the master's degree: habitat, heritage and the city.

Level 2. Master's thesis

This level involves the writing, presentation and defence of an original, individual piece of academic work to a university examination committee that brings together all of the competencies acquired on the degree, that is, the master's thesis, which is worth 30 ECTS credits.

4.4 Assessment

The assessment systems applied at each school encompass a varied range of activities:

- Short-answer tests
- Long-answer tests
- Multiple-choice tests
- Oral presentations
- Assignments and reports
- Tests and reports on experimental work
- Oral presentation in class
- Problem-solving tests
- Assessment of work submitted
- Assessment of tutored external placements
- Certification of curricular activities
- Individual practical exercises
- Group practical exercises
- Assessment of projects (combination of assessment systems)

To carry out the three basic forms of assessment—diagnostic, formative and summative—the schools validate their students' knowledge on two levels:

Subject assessment

In a competence-based learning model, assessment is designed to appraise the student's progress towards achieving the desired learning outcomes. It must therefore be carried out on a continuous basis under the supervision of the subject coordinator. Assessment is also intended to give students a means of charting their own progress and regulating their workload during the year. The assessment criteria proposed by the teaching staff are approved by the Academic Assessment Committee before being published in the course guide for students.

During the teaching period, the coordinators of each subject oversee the implementation of the assessment activities set out in the course guide and notify students of their results and their general progress.

Curricular assessment

The subjects of the degree in Architecture, and also those of the master's degree in Architecture in the case of the ETSAV, are grouped into curricular blocks. Once a student has completed all of the subjects that make up a specific curricular block, the curricular assessment is carried out by the corresponding assessment committee. Curricular assessment is the formal procedure by which the grades and credits obtained and the competencies acquired in a specific curricular block are validated by the University.

Curricular assessment builds on the premise that evaluating learning must be a responsibility that is shared between individual teachers and the institution as a whole. The bodies responsible for verifying that each student has acquired the competencies of a curricular block are the **Curricular Assessment Committees** (CECs), which are formed by members of each school's technical and management team, subject coordinators and student representatives. These committees are responsible for:

- coordinating the teaching materials for the curricular block.
- defining learning outcomes.
- validating planned activities.
- validating the teaching methodologies for each activity.
- assessing the students' progress towards achieving the desired learning outcomes.

The CECs validate the overall assessment of curricular blocks and assign students the corresponding grades.

If they find that students are struggling to work at the required pace, the CECs propose corrective measures and suggest personalised enrolment plans for the following semester. The UPC's academic progress regulations set out the criteria for monitoring and assessing student performance once the initial phase of a degree has been completed.

The school's governing bodies establish the academic measures that should be applied, in addition to tutorial guidance, if a student obtains a performance coefficient (the ratio of successfully completed credits to enrolled credits, excluding credits for recognised or validated subjects) of less than a given value (generally, less than 0.5). These measures may include specific restrictions on the student's enrolment options, in addition to the general restrictions established in the school's academic regulations.

Notwithstanding the above conditions, students enrolled in any undergraduate degree at the UPC will be automatically withdrawn from their studies if they obtain a performance coefficient of less than 0.3 in three consecutive teaching periods, for degrees with semester-long teaching periods, or two consecutive teaching periods, for degrees with annual teaching periods.

Proportion of credit types (theory, practical/workshop and laboratory) in each subject

Table 3 of the appendices shows the distribution among theory, practical/workshop and/or tutorial credits.

5 FACILITIES

As indicated above, the UPC has two schools of architecture, located in different towns within the province of Barcelona.

Pathway 1. ETSAB

(Avenida Diagonal 649, Barcelona)

Classrooms

The ETSAB has 73 teaching facilities in the form of classrooms for lectures and workshops and teaching support facilities, which cover a floor area of over 7,100 m² and have a seating capacity of almost 4,000, as shown in the table.

Type of facility	Floor area	Capacity	Number of facilities	Seating capacity	Number	Seating capacity	Number
Lecture rooms	1,383.66 m ²	1,275	10	165-180	4	90-100	6
Rooms for practicals	2,414.89 m ²	1,200	34	24	6	28-32	17
				40-56	10	70	1
Computer classrooms	311.58 m ²	184	4	10	1	48	3
ICT study room	76.97 m ²	62	1	62	1		
Auditorium	811.55 m ²	444	1	444	1		
Thesis defence room	107.68 m ²	68	1	68	1		
Graduation hall	176 m ²	80	1	80	1		
Final thesis room	59.38 m ²	30	1	30	1		
Laboratories	83.04 m ²	19	2	18	1	11	1
Study rooms	547.51 m ²	308	5	96	1	72	1
				68	1	32	1
				40	1		
Reading rooms library	922.77 m ²	170	8	78	1	76	1
				4	2	2	4
Meeting rooms	156.62 m ²	66	4	30	1	8	1
				12	2		
Other	74 m ²	29	1	29	1		
Total	7,125.65 m²	3,935	73				

ETSAB computer services

Computer classrooms

There are four computer classrooms that are each equipped with 20 computers for students and one for the professor. All of the classrooms are connected to the school's intranet, which gives access to data repositories and software licence servers and facilitates teamwork. They also have internet access, which can be shut down at the professor's request. There is a computer room for practicals that is free to use. It is equipped with the same kinds of computers and software as the computer classrooms.

Multimedia rooms

Most rooms are fitted with an RGB/RCA projector, amplifier and loudspeakers, wired and wireless internet connections for laptops, standard video connections (DVD, digital camera) and a PA system. Slide projectors and traditional overhead projectors are also available.

All classrooms have wired and wireless internet connections for laptops and projector screens for use with portable multimedia devices. There is also a room with full video-conferencing facilities.

Wireless internet access

The school has its own WiFi network, for students who wish to connect from laptops or other mobile devices. WiFi is available in all common areas of the Segarra and Coderch buildings (study rooms, teaching rooms, auditorium, corridors, the terrace of the Coderch Building, atrium, etc.).

Study, work and internet rooms

There are five study rooms on different floors in the school, with a capacity of almost 310 seats for individual study and group work. They have data and electric connections for laptops and work tables for practical and modelling work. All of the rooms have a WiFi internet connection.

Internet

The school has its own WiFi network, for students who wish to connect from laptops or other mobile devices. WiFi is available in all common areas of the Segarra and Coderch buildings (study rooms, teaching rooms, auditorium, corridors, the terrace of the Coderch Building, atrium, etc.) and rooms with wired data connections. Students can also access the internet from some of the computers in the library, within the standard opening hours.

All computer rooms, rooms for practicals and study rooms provide priority access to UPC servers, enabling students to access teaching intranets, Bibliotècnica digital library services, school web pages, and their UPC e-mail accounts.

Data zone

Users have several means of storing, accessing and downloading information and data of different types.

Teaching intranet	Content: Student-staff area Server: Moodle, read and write Access: Computer rooms, departments and online Duration: Renewed each semester
Storage PC	Content: Academic documents provided by teaching staff to be handed out to students Server: FTP, read-only Access: Computer rooms, departments and online Duration: Renewed each semester
Temporary	Content: Temporary storage space for file transfer between rooms Server: FTP, read and write Access: Only from computer rooms Duration: 7 days

ETSAB library

The library at the ETSAB offers its services primarily to the ETSAB community and to the departments and research centres based in the same building.

In the 2009-2010 academic year the ETSAB opened a new building to house its library services, with a total area of 1,430 m² distributed over 3 floors and individual study areas for 150 students. Each individual study area has WiFi access, and 28 are also equipped with a computer.

The new building houses all of the library services for teaching and research, as well as the ETSAB Graphic Archive, the Gaudí Chair collection, and the repository of final theses and bachelor's theses.

The general library collection contains specialised material on **architecture, urbanism and building construction**, including the recommended reading listed in course guides, specialised collections, legal texts and regulations, reference works, journals, audiovisual materials, maps, revision notes and past papers, and final, bachelor's and doctoral theses.

The **ETSAB library** houses the main architecture, urbanism and building construction collection and a series of historical collections, most notably:

- The ETSAB Graphic Archive, which comprises plans and projects and student drawings that chart the history of the School since its creation in 1875.
- Library and document collections belonging to the Gaudí Chair, specialising in Gaudí and Catalan *Modernisme*.

Pathway 2. ETSAV

(Calle Pere Serra 1-15, Sant Cugat del Vallès - 15 km from Barcelona, within the metropolitan area)

Building

The ETSAV building has a total area of 8,072.72 m² and is divided into two main blocks: one for services (SC1), which houses the offices of teaching staff belonging to the different departmental sections at the ETSAV, academic services for students, management offices, catering services, copy services, the Model Workshop and the Esteve Vicens Materials Laboratory; and another for academic activities (SC2), which houses the classrooms and study rooms, computer rooms, the CCLAIA computer laboratories, the library and the auditorium.

In 2007, the ETSAV became a pilot centre for the Energy Saving Improvement Plan, in which students, teaching staff and administrative and service staff achieved a considerable reduction in CO² emissions and cost savings on energy consumption across the ETSAV building and the rest of the Campus.

High-speed wireless internet access is available throughout the building, satisfying the demand of an increasing number of students with laptops and mobile devices and turning the ETSAV buildings into a single study space.

The School is open 24 hours a day 365 days a year, ensuring that its students have permanent access to the facilities they need to learn and progress.

a) Teaching spaces at the Vallès School of Architecture (buildings SC1 and SC2)

Name	TOTAL CAPACITY	CP	VP	PD	VC	PC	AU	VD	WiFi	XC	SB	PiC	PI
6 classrooms	527	1	1	1		1	1	1	Yes	Yes			

All classrooms have desks for students.

Computer rooms

Name	CAPACITY	CP	VP	PD	VC	PC	AU	VD	WiFi	XC	SB	PiC	PI
2 classrooms	64	1	1			17			Yes	Yes			1
2 classrooms	32					8			Yes	Yes			

Workshops

To assist individual learning and study, the School provides each student with a personal work space, which includes a drafting table, chair and data connections. The design of teaching spaces and the movable furniture and equipment in practical work areas, multi-purpose rooms and the Aula Magna ensure that facilities can easily be adapted to suit different types of learning activities, events and group work. The facilities meet all standard accessibility requirements.

Name	CAPACITY	CP	VP	PD	VC	PC	AU	VD	WiFi	XC	SB	PiC	PI
8 classrooms	1200								Yes	Yes			

Divisible spaces with movable furniture and equipment to accommodate specific teaching requirements

Multi-purpose rooms

Name	FLOOR AREA	CAPACITY	CP	VP	PD	VC	PC	AU	VD	WiFi	XC	SB	PiC	PI
Management meeting room	49.66	30	1	1		1				Yes	Yes		Yes	
Room XV	56.85	50	1	1	1			1	1	Yes	Yes	1		
Room S1	36.91	30	1	1	1		1		1	Yes	Yes			
Room MU	37	30	1		1		1			Yes	Yes			
Lab MU	37	15								Yes	Yes			

Aula Magna (auditorium)

Name	FLOOR AREA	CAPACITY	CP	VP	PD	VC	PC	AU	VD	WiFi	XC	SB	PiC	PI
Aula Magna	238.28	150	1	1	2	1	1	1	1	Yes	Yes			

FLOOR AREA → Total floor area in m²

CAPACITY → Seating capacity

CP → Video projector

VP → Opaque projector

PD → Slide projector

VC → Video-conferencing equipment

PC → Workstation

AU → Audio installations (integrated amplifier, microphones and loudspeakers). The Aula Magna and Room XV are fitted with more advanced equipment (mixers, etc.).

VD → Video/DVD player

WiFi → Wireless (WiFi) network coverage

XC → Wired data connection points

SB → Starboard – interactive blackboard

PiC → Interactive whiteboard

PI → Interactive screen

b) Mobile learning

To facilitate study in any area of the Campus, the School provides a mobile learning environment that comprises:

- Wireless internet access throughout the ETSAV building.
- Laptop loan service, offered by the library and the ETSAV computer services.
- Mobile classroom: the ETSAV has portable PC-Kar rack cabinets for laptops, providing mobile workstations for up to 16 students.
- Portable video-conferencing equipment, enabling communication and simultaneous teaching with other schools in Spain and abroad.

c) Laboratories/workshops to support academic activities

Model Workshop

The Model Workshop at the Vallès School of Architecture offers teaching and research facilities that are unique in Spain. It was set up to provide advice and support to teachers and students and to foster greater awareness of the importance of modelling in exploring the relationship between built volumes.

Students are encouraged to experiment with and acquire expertise in this mode of architectural expression, which allows for detailed analysis of planned structures. Throughout this process it is essential to select and use the most suitable materials and construction techniques.

The ETSAV Model Workshop is a dedicated work space where students can create the models required by specific subjects in the curriculum, choosing from the range of resources on offer.

An open, rectangular area of 198.26 m² on the ground floor of building SC1 with its own entrance from the street, the Workshop is fitted with marble tables and all the necessary equipment for the creation of architectural models.

Services offered:

- 24-hour study area
- Training and guidance
- Collaboration in research assignments

Esteve Vicens Laboratory

The Esteve Vicens Laboratory, which is managed by the Department of Architectural Technology, was set up to house the measurement tools and scientific apparatus owned or leased by the different ETSAV departments. It aims to foster more effective use of resources, to disseminate results to a wider audience, and to facilitate more extensive use of laboratory facilities in degree subjects, providing an enhanced learning experience that enables students to measure key parameters for architectural design (acoustics, light, thermal response of construction materials, etc.).

Work is carried out under strict adherence to standard safety regulations and occupational health and safety guidelines.

Digital Architectural Image Laboratory (LIDIA)

The Digital Architectural Image Laboratory (LIDIA), which forms part of the ETSAV's Computer Services, offers students, teaching staff and researchers a range of tools and support services for editing and processing digital images in different architectural disciplines.

Users of the Digital Architectural Image Laboratory (LIDIA) have access to the following equipment:

Total area	13 m ²
	3 Apple workstations (21" and 24")
	2 SUN Microsystems workstations running on Windows
	4 Wacom A3 digitiser tablets
	3 12" and 17" CINTIQ graphics tablets
	2 analogue video capture and conversion devices
	Blu-Ray recorder
	Digital cameras and high-resolution digital video cameras
	Portable multimedia drives for storage of graphics files
	2 tablet PCs
	3 laptops: Apple, MS and Linux
	1 photo printer and 1 CD printer

CCLAIA (Computer Services – Computer Applications in Architecture Laboratory)

The Laboratory offers information and communication technology (ICT) services to ETSAV students, teaching staff, researchers, and administrative and service staff and to the wider UPC community. The following equipment is available:

- Computer classrooms (57 m²/62 m²/62 m²): 17 workstations, A4 b/w laser printer and A3 colour printer, video projector, interactive blackboard, audio and video installations.
- Computer rooms open to students (42 m²/31 m²/18 m²): the three rooms have 9, 9 and 2 computers, respectively. Specific equipment (printers, plotters, scanners, etc.) is available for group work, self-service printing, digitisation, etc.
- Server and communications room (18 m²): adapted space housing the ETSAV's servers and telecommunications infrastructure.
- Meeting room and small-group teaching room (14 m²): room for meetings or IT training, for groups of up to eight people, equipped with an LCD screen and workstation for presentation, and connections for mobile classroom equipment.

- Support service and workshop (19.3 m²): service offering individual support to computer room users (students and teaching and research staff) and specific assistance with software/hardware issues.
- Offices (81 m²): work and support spaces for CCLAIA staff.

All CCLAIA offices have wireless internet access, wired Ethernet connections and an uninterruptible power supply, to guarantee continuous operation during power outages.

The following services are offered at the ETSAV through the Computer Applications in Architecture Laboratory (CCLAIA) and the Digital Architectural Image Laboratory (LIDIA):

- Self-service large-format printing
- Self-service A4, A3, slide and negative digitisation
- Software distribution
- Informal training
- Laptop loans
- Work area and personal storage space
- E-mail
- Support and management of the ATENEA Virtual Campus
- Hosting for web pages and personal e-portfolio
- Hosting and support for subject web pages
- Video-conferencing service
- Video recording and streaming service
- Video digitisation service
- Desktop video-conferencing

Library

The Vallès School of Architecture has a library with a total area of 439.69 m², which opens from 9 a.m. until 9 p.m. from Monday to Friday. The library is one of 13 libraries coordinated by the Libraries, Publications and Archives Service (SBPA) and houses a specialised collection in architecture, urbanism and building construction, containing the recommended reading listed in course guides, specialised collections, legal texts and regulations, reference works, journals, final theses, bachelor's theses and audiovisual materials.

COMMON RESOURCES AND SERVICES FOR ALL UPC SCHOOLS

• ATENEA: THE UPC'S VIRTUAL LEARNING ENVIRONMENT

Atenea is the virtual campus used at the UPC. It was designed with the collaboration of the teaching staff, departments, schools and research institutes to support the process of adapting courses of study at the UPC to the requirements of the European Higher Education Area. Atenea is built on the open-source Moodle platform.

• LIBRARIES

The ETSAB and ETSAV libraries offer users a broad selection of services and access to extensive bibliographical collections and the UPC's digital library; they also provide specialist bibliographical, scientific and technical resources for degree courses in each of the knowledge areas at the UPC and electronic resources (e-journal databases, etc.) to support online learning and research.

Library management is carried out through strategic planning and management by objectives. This approach has had a positive impact on the quality of library services at the schools. The Libraries, Publications and Archives Service (SBPA) has been successfully audited by the Catalan University Quality Assurance Agency (AQU Catalunya) on several occasions and received quality approval from the National Agency for Quality Assessment and Accreditation (ANECA).

In the field of external relations and collaboration, the SBPA is a founder member of the Consortium of Academic Libraries of Catalonia (CBUC) and a member of the National Academic Libraries Network (REBIUN). It is also an active member of international library organisations such as the International Association of Technological University Libraries (IATUL).

A) Information resources

Bibliographic collections

The scientific and technical collections are divided into basic collections containing the recommended reading listed in the course guides for degree subjects and specialised collections on specific subject areas. The overall collection comprises more than 556,538 monographs and 20,397 journals and periodicals.

Digital collections

The libraries also provide access to a range of digital information resources, through the catalogue or via the UPC's digital library: e-dictionaries and e-encyclopaedias, e-books, databases, e-journals, etc. Full-text access is currently offered to 8,403 e-journals.

The SBPA also oversees the management of UPCommons (<http://upcommons.upc.edu>), a portal providing open access to the UPC's institutional repositories, which contain electronic copies of documents created and published by professors and researchers at the University. The repositories contain doctoral theses, teaching materials, eprints, journals, academic papers, etc. There is also a video library and specific repositories housing the UPC's heritage collections.

B) Basic and specialised library services

Facilities and equipment

The libraries offer various rooms and facilities for individual study and group work, copy and printing facilities, and training areas.

Library catalogue

The library catalogue is an integrated search tool for locating documents and items in any format that are available at UPC libraries (books, journals, revision notes, final theses, bachelor's theses, electronic resources, etc.). It can also be used to search the University Union Catalogue of Catalonia (CCUC), which lists all of the items held by libraries in the Consortium of Academic Libraries of Catalonia (CBUC) and at other participating institutions.

General and specialised information service

The bibliographic information service is a permanent service staffed by the UPC library team. It provides information on UPC libraries and the services they offer, and advice on how and where to find specialised information in the range of library resources. The subject librarians, who specialise in the specific collections in the main subject areas covered at the UPC, answer queries about specific information searches and other general requests.

Loans service

The loans service allows members of the university community to request items from UPC libraries for a fixed loan period. The service is centralised: items can be requested, collected from and returned to any UPC library.

Document Retrieval Service

The Document Retrieval Service obtains originals or copies of documents that are not available in UPC libraries for members of the university community. It also supplies originals or copies of documents from UPC libraries to external users and other institutions. The Service provides a wide range of documents: books, journal articles, doctoral theses, technical reports, patents, conference papers, etc., from any country in the world and in any language.

Laptop loans service

Laptop loans are available to library users. The service provides laptops to students, teaching and research staff, and administrative and service staff, enabling them to access information and electronic documents and connect to the UPC's wireless network. The service is a useful means of accessing the UPC's digital campuses and is therefore particularly helpful for blended-learning courses.

Training service for the cross-disciplinary competence in information skills

The libraries organise a range of specific training activities designed to improve the students' ability to retrieve, manage and use information effectively for academic study and future employment. These activities include introductory sessions for new students, training sessions (with a study load of 3 free-elective credits), specific training within UPC subjects, and sessions on information resources for research purposes.

Intellectual property service (SEPI)

The Intellectual Property Service (SEPI) provides guidance to the university community on the basic principles of copyright law, particularly with regard to information made available through the UPC library services. It also provides assistance with locating the identification numbers (ISBN, legal deposit, etc.) of documents that users intend to cite in university teaching or research.

"La Factoría" teaching resources service

"La Factoría" is a teaching resources and innovation service for teaching and research staff at the UPC. "La Factoría" is a specific library area for teaching and research staff that provides access to quality information resources, hardware (multimedia PCs, DVD recorders, video capture cards, scanners, colour printers) and software (image, sound and video editing tools, web content managers, desktop publishing software, digitisation tools) for the creation of digital teaching content and resources.

Remote connection to e-resources

The remote access service enables authenticated users to access the UPC's digital library resources from computers outside the university network.

Virtual Language Laboratory (LVI)

The LVI is an online portal for language learning and practising language skills, focusing mainly on English but also providing resources for those interested in learning Spanish and Catalan. A wide range of resources are available: language courses, grammar exercises, revision notes for exam preparation, etc.

WiFi access

Wireless internet access is available in all libraries, enabling users to access the UPC's online resources and browse the internet.

CanalBiB

CanalBiB is the multimedia information system for library users. LCD screens showing CanalBiB content are installed in all UPC libraries.

6 TEACHING STAFF

Staff profile (qualified architects/engineers, other qualifications depending on the subject), proportion of PhD holders, teaching positions (contracted professor, adjunct professor, associate professor, etc.)

The degree in Architecture Studies and the master's degree in Architecture of the UPC presented in this document have a duration of five years plus one year and are together worth 360 ECTS credits.

The teaching staff of both the ETSAB and the ETSAV had up to the present taught the degree in Architecture and the bachelor's degree in Architecture. It should be noted that, within the framework of the European Higher Education Area, some of the teaching staff also provide tuition for master's degrees in the area of architecture, urbanism and building construction. This new framework has also seen considerable effort put into adopting and implementing new teaching and learning methodologies.

To reflect the professional focus of the degree, most of the teaching staff at the UPC's two schools of architecture divide their time between academic and professional activities, which ensures that:

- A. The in-company placements that students complete during the degree, whether they are defined in the course plans of the corresponding subjects or arranged under educational cooperation agreements, are tutored by practising architects.
- B. The placements enable students to gain direct experience of the current socio-economic reality as part of their formative activities.

Members of the teaching staff specialise in the following knowledge areas:

- Architectural Technology
- Architectural Graphic Expression
- Mechanics of Continuous Media and Structural Theory
- Architectural Design
- Urban Design and Land Management
- Architectural Composition
- Computer Science and Artificial Intelligence
- Applied Physics

Teaching staff by category

	2015			2016		
	ETSAB	ETSAV	TOTAL ARCH UPC	ETSAB	ETSAV	TOTAL ARCH UPC
Full professor	18	6	24	17	6	23
Associate professor	45	15	60	44	13	57
University school associate professor	16	9	25	14	9	23
Contracted full professor	1		1	1		1
Tenured professor	12	7	19	12	7	19
Adjunct professor	149	59	208	162	62	224
Collaborating professor on an open-ended contract	7		7	7		7
Emeritus professor	2	1	3	3	1	4
Assistant professor	6	1	7	7	1	8
Total	256	98	354	267	99	366

Proportion of PhD holders

	2015			2016		
	ETSAB	ETSAV	TOTAL ARCH UPC	ETSAB	ETSAV	TOTAL ARCH UPC
% PhD holders vs. total teaching staff at the school	44.9%	40.8%	43.8%	45.3%	45.5%	45%

7 INTERNATIONAL AGREEMENTS WITH OTHER UNIVERSITIES

The UPC's schools of architecture have always had an international outlook. In recent years, each has built a strong network of student and staff exchange agreements with universities in Europe, North and South America, Asia and Oceania, in an effort to balance international demand for places at the UPC with an increasing awareness among UPC students and staff of the benefits of completing a placement abroad. At the departmental level, the schools are involved in collaborative research through a range of international networks.

The ETSAB, whose alumni and teachers have played key roles in constructing the city of Barcelona, is a leading international centre for building design and urban design and exports its expertise around the world. It advises foreign schools and institutes, contributes to external workshops, and organises international workshops and seminars.

Proportionally, the ETSAV has a higher student mobility rate than any other school at the UPC (students from other universities in Spain or abroad completing academic placements at the ETSAV, and students from the ETSAV completing academic placements at these universities or higher education institutions). This is the outcome of active efforts to extend the School's network of national and international contacts and the implementation of specific mobility strategies and policies.

Both schools actively encourage involvement in mobility initiatives among students, teachers and administrative and service staff, contributing to the ongoing debate over teaching quality in higher education.

7.1 Requirements

To be eligible to apply for an exchange placement, architecture students must meet a series of general requirements, which may vary slightly according to the mobility programme in question (specific language requirements, restrictions for students who have already completed an exchange placement, etc.). The ETSAV and ETSAB set the following general requirements:

- Applicants must be regular students at the School.
- Applicants must have completed at least 50% of the credits for their course of study.
- Applicants must not have been awarded another mobility placement for the same period.

Students on the degree in Architecture Studies at the ETSAV may apply for mobility placements once they have successfully completed the first six semesters of the curriculum.

Mobility options

Exchange placements are generally arranged through one of the following channels:

- A. Mobility programmes
 - ERASMUS+ Student mobility for studies
- B. Specific and bilateral agreements
 - UPC-Europe
 - Latin America
 - Asia (particularly China)
 - Australia
 - Canada
 - USA
- C. By personal arrangement, in the case of visiting students from institutions with which no specific exchange agreement exists.

The ETSAB and ETSAV offer a large number of mobility placements each academic year. Each school assigns a coordinator who is responsible for selecting candidates and for providing tutorial

assistance during the placement at the host university. The tutorial work also facilitates the recognition and validation of the subjects completed at the host university.

The ETSAB and ETSAV organise information sessions for prospective students, during which members of the teaching staff give general presentations of the schools and their role as host institutions. General descriptions of each type of agreement are given below.

A. Mobility programmes

- ERASMUS+ Student mobility for studies

The ERASMUS+ Student mobility for studies programme encourages students to take part of their education at another European university, to contribute to the recognition and validation of studies between participating institutions.

- SICUE/SENECA

The SICUE/SENECA programme helps students to take part of their education at another Spanish university.

B. Specific and bilateral agreements

- UPC-Europe

The programme facilitates mobility flows with European universities that are not part of the general Erasmus framework.

- Latin America

This programme is designed to help students arrange a period of study at any Latin American university with which the UPC has signed a specific exchange agreement.

- Asia

- Australia

- Canada

- USA

C. Visiting students

The ETSAB and ETSAV reserve a number of mobility places each academic year for students who would like to complete a year of their degree in architecture at the UPC but whose home institution does not have a specific exchange agreement with the University. These students are selected on the strength of their CVs.

7.2 Institutions with which the UPC has mobility agreements

The UPC has student exchange agreements with the following schools of architecture around the world:

ERASMUS+ Student mobility for studies	
Austria	Technische Universität Wien - Fakultät für Architektur und Raumplanung
Belgium	Université Libre de Bruxelles - Faculté d'Architecture La Cambre-Horta
Belgium	Université Catholique de Louvain
Belgium	Université de Liège
Czech Republic	Ceské Vysoké Učení Technické v Praze - Fakulta Architektury
Germany	Technische Universität Berlin - Fakultät VI - Institut für Architektur/Institut für Landschaftsarchitektur und Umweltplanung
Germany	Technische Universität Darmstadt- Fachbereich Architektur
Germany	Leibniz Universität Hannover - Fakultät für Architektur und Landschaft

Germany	Technische Universität München - Fakultät für Architektur
Germany	Universität Stuttgart - Fakultät Architektur und Stadtplanung
Germany	TU Dresden
Germany	HU Hamburg
Germany	Karlsruher IT
Germany	FH Oldenburg
Germany	Bauhaus Uni Weimar
Germany	Aachen
Austria	TU Graz
Denmark	Aalborg University
Finland	Tampere University of Technology
France	École Nationale Supérieure d'Architecture de Grenoble
France	École Nationale Supérieure d'Architecture et de Paysage de Lille
France	École Nationale Supérieure d'Architecture de Lyon
France	École Nationale Supérieure d'Architecture de Paris-Malaquais
France	École Nationale Supérieure d'Architecture de Paris La Villette
France	École Nationale Supérieure d'Architecture de Paris-Belleville
France	École Nationale Supérieure d'Architecture de Toulouse
France	École Nationale Supérieure d'Architecture de Versailles
France	École Nationale Supérieure du Paysage de Versailles
France	École des Beaux-Arts de Bordeaux
France	École Nationale Supérieure d'Architecture de Montpellier
France	Ecole Nationale Supérieure d'Architecture de Nantes
France	École d'Architecture de la Ville & des Territoires à Marne-la-Vallée
Greece	Ethniko Metsovio Polytechnio (National Technical University of Athens) - Scholi Architektonon
Greece	Ethniko Metsovio Polytechnio-Athina
Greece	Aristoteleo Panepistimio Thessalonikis
The Netherlands	AHK Amsterdamse Hogeschool Voor Kunsten - Academie van Bouwkunst Amsterdam
The Netherlands	Technische Universiteit Eindhoven
Hungary	Budapesti Műszaki Egyetem - Építészmérnöki Kar
Italy	Università degli Studi di Ferrara - Facoltà di Architettura
Italy	Università degli Studi di Firenze - Facoltà di Architettura
Italy	Politecnico di Milano - Facoltà di Architettura Civile di Milano Bovisa
Italy	Politecnico di Milano - Facoltà di Architettura e Società Milano Leonardo
Italy	Università degli Studi di Palermo - Facoltà di Architettura
Italy	Sapienza Università di Roma - Facoltà di Architettura
Italy	Università degli Studi di Roma Tre - Facoltà di Architettura
Italy	Politecnico di Torino - Facoltà di Architettura
Italy	Università IUAV di Venezia - Facoltà di Architettura
Italy	Università degli Studi di Napoli Federico II
Italy	Università degli Studi di Trieste
Ireland	University College Dublin - Architecture
Ireland	Dublin Institute of Technology
Lithuania	Kauno Technologijos Universitetas- Statybos ir architektūros fakultetas
Norway	Arkitekt hogskolen i Oslo
Norway	Norges Teknisk Naturvitenskapelige Universitet - Fakultet for arkitektur og billedkunst
Norway	Arkitektur og Design hogskolen i Oslo
The Netherlands	Technische Universiteit Delft - Faculteit Bouwkunde
Portugal	Universidade de Lisboa - Instituto Superior Técnico
Portugal	Universidade de Lisboa - Instituto Superior de Agronomia
Portugal	Universidade do Porto - Faculdade de Arquitectura
Portugal	Universidade do Minho
Poland	Politechnika Krakowska - Wydział Architektury
Poland	Politechnika Warszawaska - Wydział Architektury
Romania	Universitatea de Arhitectură și Urbanism "Ion Mincu"
Sweden	Lunds Tekniska Högskola - Arkitektskolan
Sweden	Kungliga Tekniska högskolan - Skolan för arkitektur och samhällsbyggnad
Sweden	Blekinge Institute of technology
Sweden	Chalmers Tekniska Högskolan Göteborg

Sweden	UMEA School of Architecture-UMA
Finland	Aalto Yliopisto - Taiteiden ja suunnittelun korkeakoulu (School of Arts, Design and Architecture)
Slovenia	Univerza v Ljubljani - Fakulteta za arhitekturo
Turkey	Yildiz Teknik Universitesi - Mimarlık Fakültesi
Great Britain	University of Edinburgh & Edinburgh College of Art - ESALA Landscape Arch.
Great Britain	University of Strathclyde-Glasgow
Great Britain	Newcastle University
Great Britain	Glasgow School of Art - Mackintosh School of Architecture
UPC-EUROPE	
Bosnia-Herzegovina	Univerzitet u Sarajevu - Arhitektonski Fakultet
Switzerland	École Polytechnique Fédérale de Lausanne - Faculté de l'environnement naturel, architectural et construit
Switzerland	Università della Svizzera Italiana - Accademia di Architettura di Mendrisio
Switzerland	Eidgenössische Technische Hochschule Zürich - D-Arch
Switzerland	Hochschule Luzern
Switzerland	Zürcher Hochschule für Angewandte Wissenschaften - Architektur, Gestaltung und Bauingenieurwesen
SICUE/SENECA	
Spain	Universidad de Alicante - Escuela Politécnica Superior de Alicante
Spain	Universidad del País Vasco - Escuela Técnica Superior de Arquitectura de San Sebastián
Spain	Universidad Politécnica de Madrid - Escuela Técnica Superior de Arquitectura de Madrid
Spain	Universidad de Málaga - Escuela Técnica Superior de Arquitectura de Málaga
Spain	Universidad de Sevilla - Escuela Técnica Superior de Arquitectura de Sevilla
Spain	Universidad Politécnica de Valencia - Escuela Técnica Superior de Arquitectura de Valencia
Spain	Universidad Politécnica de Sevilla
Spain	Universidade de a Coruña
Spain	Euskal Herriko Unibertsitatea Pais Vasco
Spain	Universidad de Granada
Spain	Universidad de Alcalá de Henares
Spain	Universidad de Zaragoza
Spain	Universidad de Valladolid - Escuela Técnica Superior de Arquitectura de Valladolid
LATIN AMERICA	
Argentina	Universidad de Buenos Aires - FADU- Facultad de Arquitectura, Diseño y Urbanismo
Brazil	UniRitter - Centro Universitário Ritter dos Reis
Brazil	Universidade Sao Paulo - FAU- Faculdade de Arquitetura e Urbanismo
Brazil	Universidade Federale do Rio de Janeiro - FAU- Faculdade de Arquitetura e Urbanismo
Brazil	Escola da Cidade
Brazil	FAU Sao Paulo
Brazil	Federal do Rio Grande do Soul
Chile	Pontificia Universidad Católica de Chile - FADEU- Facultad de Arquitectura, Diseño y Estudios Urbanos
Chile	Universidad Diego Portales - FAAD- Facultad de Arquitectura, Arte y Diseño
Chile	Pontificia Universidad Católica de Valparaíso - Facultad de Arquitectura y Urbanismo
Chile	Universidad del Bio-Bio
Chile	Universidad de San Sebastian
Colombia	Universidad de los Andes - Facultad de Arquitectura y Diseño
Mexico	Universidad de Guadalajara - CUAAD- Centro universitario de Arte, Arquitectura y Diseño
Mexico	Universidad Nacional Autónoma de México - Facultad de Arquitectura
Mexico	Instituto Tecnológico y de Estudios Superiores de Monterrey - Escuela de Arquitectura
Mexico	Universidad Iberoamericana de Estudios Superiores de Monterrey
Mexico	Universidad Iberoamericana de Puebla
Uruguay	Universidad de la República - FARQ- Facultad de Arquitectura
CANADA	
Canada	Université de Montréal - Faculté de l'Aménagement

USA	
United States	Illinois Institute of Technology - College of Architecture
United States	University of Illinois
United States	City College New York - Bernard and Anne Spitzer School of Architecture
United States	Georgia Institute of Technology - College of Architecture
United States	Drury University - Hammons School of Architecture
AUSTRALIA	
Australia	Royal Melbourne Institute of Technology - School of Architecture & Design
Australia	University of Technology, Sydney - Faculty of Design, Architecture and Building
Australia	Queensland University of Technology - School of Design and Built Environment
ASIA	
Japan	Tokyo Geijutsu Daigaku - Faculty of Fine Arts. Department of Architecture
Japan	Waseda University - Faculty of Science and Engineering. Department of Architecture
Korea	Hanyang University - College of Engineering. Department of Architecture
UPC-CHINA	
China	Tsinghua University - School of Architecture (UPC XINA)
China	Tongji University - College of Architecture and Urban Planning (UPC XINA)
China	Zhejiang University - College of Civil Engineering and Architecture (UPC XINA)
China	Beijing University
China	Harbin University
China	Tongji University Shanghai

8 ADMISSION

General requirements, educational background of applicants

Entrance requirements

The curricula leading to the award of official university master's degrees that qualify holders to practise as architects and to the award of bachelor's degrees that are an academic entrance requirement for the aforementioned master's degrees must comply with the following:

- Royal Decree 1393/2007, of 29 October, amended in Royal Decree 861/2010, which states that applicants who fulfil the entrance requirements stipulated in the prevailing regulations for bachelor's and master's degrees and are in compliance with the prevailing regulations governing university admission procedures will have access to bachelor's and master's degrees.
- Pursuant to the provisions of Ministerial Order EDU/2075/2010, of 29 July, and the Resolution of 28 July 2010 of the General Secretary for Universities, applicants must be in possession of the undergraduate degree that meets the conditions of the aforementioned order and resolution to gain admission to the master's degree in Architecture).

Educational background of applicants for the degree in Architecture Studies

Applicants' educational background refers to the combination of knowledge and skills that students must possess when they start a degree. The degree in Architecture Studies is intended for students with the following knowledge and skills:

- basic training in the technical applications of physics and mathematics, in preparation for the degree content on building stability and comfort; and
- basic training in technical drawing, in preparation for learning to use tools for visual and spatial analysis.

The recommended backgrounds are upper secondary school education (*bachillerato*) in Technology or Natural and Health Sciences followed by university entrance examinations (PAU) in either the Scientific-Technical or the Health Sciences specialisation.

In any case, students who are interested in applying should have a good general understanding of the technological aspects of mathematics and physics and prior training in drawing and history of art. The degree in Architecture Studies is intended for students with a high capacity for:

- understanding, transmitting and integrating ideas;
- integrating the humanistic and technological concepts of design;
- spatial awareness;
- developing processes from an analytical perspective;
- leading teams;
- creating and innovating through experimentation and artistic expression;
- considering social problems with an open and inquiring mind.

Educational background of applicants for the master's degree in Architecture

Pursuant to the provisions of Ministerial Order EDU/2075/2010, of 29 July, and the Resolution of 28 July 2010 of the General Secretary for Universities, applicants for the master's degree in Architecture, which qualifies holders to practise as architects, must be in possession of the undergraduate degree that meets the conditions of the aforementioned order and resolution.

According to these regulations, students wishing to take the master's degree in Architecture must show specific aptitudes that they have acquired on the degree in Architecture Studies of the UPC or another degree that is an entrance requirement. For this reason, applicants must have acquired the general and specific skills outlined in Ministerial Order EDU/2075/2010 and in the validation report on the master's degree in Architecture.

9 STUDENT INDICATORS AND RATIOS

Proportion students/professors

	ETSAB		ETSAV		TOTAL ARCH UPC	
	15-16	16-17	15-16	16-17	15-16	16-17
EETC (1)/PDIETC (2)	13.35	13.23	11.93	12.04	12.95	12.90

(1) Equivalent number of full-time students (EETC)

Equivalent number of full-time students: this equivalent number considers the number of credits enrolled by all of the students on the degree divided by the average number of credits that students must take each year to complete the degree in the minimum period foreseen.

	ETSAB		ETSAV		TOTAL ARCH UPC	
	15-16	16-17	15-16	16-17	15-16	16-17
Degree in Architecture Studies	680.16	918.11	330.33	367.60	1,010.49	1,285.71
Bachelor's degree in Architecture (being phased out)	872.46	691.89	224.25	180.35	1,096.71	872.24
Degree in Architecture (being phased out)	51.14	1.45	42.71	9.05	93.85	10.50
Master's degree in Architecture	44.17	52.53	16.23	72.45	60.40	124.98
Other master's degrees	220.04	237.77	25.17	29.10	245.21	266.87
Total EETC	1,867.97	1,901.75	638.70	658.55	2,506.66	2,560.30

(2) Equivalent number of full-time teaching and research staff (PDIETC)

Equivalent number of full-time teaching and research staff: the number of teachers obtained from the quotient of the potential teaching capacity of the school's teaching staff, expressed in hours, and the number of hours per year of a full-time professor.

	ETSAB		ETSAV		TOTAL ARCH UPC	
	2015	2016	2015	2016	2015	2016
PDIETC	139.96	143.79	53.53	54.69	193.49	198.48

Enrolled students

	ETSAB		ETSAV		TOTAL ARCH UPC	
	15-16	16-17	15-16	16-17	15-16	16-17
Degree in Architecture Studies	817	1,087	382	438	1,199	1,525
Bachelor's degree in Architecture (being phased out)	1,085	947	251	218	1,336	1,165
Degree in Architecture (being phased out)	537	356	219	86	756	442
Master's degree in Architecture	44	53	18	82	62	135
Other master's degrees	310	295	26	30	336	325
Total number of enrolled students	2,793	2,738	896	854	3,689	3,592

Students who have enrolled for the thesis

	ETSAB			ETSAV			TOTAL ARCH UPC		
	13-14	14-15	15-16	13-14	14-15	15-16	13-14	14-15	15-16
Degree in Architecture Studies	54	60	40		3	62	54	63	102
Bachelor's degree in Architecture (being phased out)		56	172			4		56	176
Degree in Architecture (being phased out)	339	370	381	313	334	330	652	704	711
Master's degree in Architecture		44	52			8		44	60
Other master's degrees	221	238	237		18	23	221	256	260
Students who have enrolled for the thesis	614	768	882	313	355	427	927	1,123	1,309

Graduates

	ETSAB			ETSAV			TOTAL ARCH UPC		
	13-14	14-15	15-16	13-14	14-15	15-16	13-14	14-15	15-16
Degree in Architecture Studies		50	57		3	55		53	112
Bachelor's degree in Architecture (being phased out)			46			4		0	50
Degree in Architecture (being phased out)	277	303	311	133	110	157	410	413	468
Master's degree in Architecture			44			5	0	0	49
Other master's degrees	178	174	206	0	18	23	178	192	229
Total number of graduates	455	527	664	133	131	244	588	658	908

Semester	SUBJECT AREA	ECTS credits	SUBJECT	Academic year	ECTS credits	Hours			Competencies art. 46																							
						Class hours	Independent study load	Total	I		II		III		IV		V		VI		VII		VIII		IX		X		XI			
									Art. 46(1)(a)		Art. 46(1)(b)		Art. 46(1)(c)		Art. 46(1)(d)		Art. 46(1)(e)		Art. 46(1)(f)		Art. 46(1)(g)		Art. 46(1)(h)		Art. 46(1)(i)		Art. 46(1)(j)		Art. 46(1)(k)			
									ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours
Master's degree in Architecture																																
S1	TECHNOLOGICAL AND STRUCTURAL SYSTEMS IN BUILDINGS	12	Technological and Structural Systems in Buildings	1	12	108	192	300	6,00	150,00	0,50	12,50	0,50	12,50	0,50	12,50	0,50	12,50	0,90	22,50	0,90	22,50	0,50	12,50	0,50	12,50	0,70	17,50	0,50	12,50		
S1	THEORY AND PROJECTS OF URBAN AND BUILDING DESIGN	8	Theory and Projects of Urban and Building Design	1	8	72	128	200	4,00	100,00	0,30	7,50	0,30	7,50	0,30	7,50	0,30	7,50	0,70	17,50	0,70	17,50	0,30	7,50	0,30	7,50	0,50	12,50	0,30	7,50		
S1-S2	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	10	Intensification and research in Architecture optional subjects	1	10	90	160	250	5,00	125,00	0,40	10,00	0,40	10,00	0,40	10,00	0,40	10,00	0,80	20,00	0,80	20,00	0,40	10,00	0,40	10,00	0,60	15,00	0,40	10,00		
S1-S2	FINAL THESIS	30	Final Thesis	1	30	180	720	900	15,00	450,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00	1,50	45,00		
	Total Master	60			60	450	1.200	1.650	30,00	825,00	2,70	75,00	2,70	75,00	2,70	75,00	2,70	75,00	3,90	105,00	3,90	105,00	2,70	75,00	2,70	75,00	3,30	90,00	2,70	75,00		
Bachelor + Master																																
	Total Bachelor+Master	360			360	3.720	5.460	9.180	156,00	3.985,00	22,90	581,25	20,65	526,25	13,15	337,50	27,65	701,25	18,60	473,75	15,35	396,25	15,15	387,50	27,15	688,75	20,50	521,25	22,90	581,25		
									43,3%		6,4%		5,7%		3,7%		7,7%		5,2%		4,3%		4,2%		7,5%		5,7%		6,4%			

Comments
Class hours: Class hours and ECTS credits are specified.
Independent study load: Students' independent study load and ECTS credits are specified.
Total: The sum of the two previous columns.

Table 2. Description of subject areas (Pathway 1 - ETSAB)

CODE	SUBJECT	SUBJECT AREA	BRIEF DESCRIPTION OF THE SUBJECT AREA
Bachelor's degree in Architecture Studies			
210102	Mathematics I	MATHEMATICS	Basic training in mathematics applied to architecture focused on the most creative aspects of plane and space geometry: Metric constructions, proportions, symmetry, shapes and linear algebra. Calculation, modeling and mathematical analysis techniques; Computer elements, numerical calculation and representation of curves and surfaces.
210107	Mathematics II		
210103	Physics I	PHYSICS	Principles of mechanics applied to solids: Statics of rigid solids, stress strain relationships, mass geometry, vector and tensor fields. Fluid mechanics: hydrostatic, hydraulic. Scientific basis of ecology and sustainability, principles of conservation of energy and environmental resources. Scientific basis of environmental physics and facilities.
210108	Physics II		
210101	Drawing I	DRAWING	Drawing and geometry for the analysis, description and conception of architectural elements. Freehand drawing: sketches, notes and sketches. Descriptive geometry: systems of representation, shadows, computer graphics. Generation of 3D virtual models and their representation.
210106	Drawing II		
210105	Basis for Theory	BASIS FOR THEORY	The theoretical language of architecture Analysis and theory of form and laws of visual perception. Basic elements of architectural speech, analysis of buildings and comments of texts. Emphasis on twentieth-century architecture and contemporary time.
210110	Basis for Technique	BASIS FOR TECHNIQUE	Principles and basic physical and environmental requirements of buildings. General basic lexicon and representation. Introduction to the science of materials and the quantification and parameterization of basic requirements.
210104	Basis for Design I	BASIS FOR DESIGN	The basic instruments of the conception, construction and representation of architecture. Methods of study of the processes of symbolization, practical functions, ergonomics and sustainability. The project as a synthesis between use, construction and comfort.
210109	Basis for Design II		
210116	Construction I	TECHNOLOGY	Techniques, materials and constructive elements of usual and special buildings. Construction techniques: thick, structural work and of the watertight, thermal and acoustic envelope. Description and analysis of historic construction techniques. Principles and methods for the diagnosis of buildings. Techniques for intervention in existing buildings and patrimonial interest. Physical, physiological and psychological principles of environmental conditioning. Design and dimensioning of service facilities and natural and artificial conditioning systems for buildings and urban space. Deontology. Legal regulation of professional practice, of the building and urbanism. Urban management, real estate management, project management and construction management.
210126	Construction II		
210134	Construction III		
210139	Construction IV		
210111	Conditioning and Services I		
210127	Conditioning and Services II		
210143	Law and Management in Architecture		
210117	Structures I		
210121	Structures II		
210140	Structures IV		
210112	Design I	DESIGN	The residential project and its urban insertion. Relation between infrastructures and public buildings or services with special emphasis on the project of public building or equipment and that respond in form and uses to diverse cultural and social needs. In relation to the thematic workshops, interdepartmental projects of thematic characterization are developed in one of the following three areas: THEORY AND PROJECT - ARCHITECTURE TECHNOLOGY - URBANISM, LANDSCAPE AND MANAGEMENT
210118	Design II		
210122	Design III		
210128	Design IV		
210131	Design V		
210136	Design VI		
210142	Thematic Studio I		
210144	Thematic Studio II		

CODE	SUBJECT	SUBJECT AREA	BRIEF DESCRIPTION OF THE SUBJECT AREA
Bachelor's degree in Architecture Studies			
210113	Urban Design I	URBANISM	The elements of the city and the forms of urban growth. The city structure and shape. Systems of urban structure. The urban road and residential fabric project. Urban reform and public space Urbanism and territory; City and territory
210119	Urban Design II		
210123	Urban Design III		
210129	Urban Design IV		
210132	Urban Design V		
210137	Urban Design VI		
210114	History I	COMPOSITION: THEORY AND HISTORY	History of architecture and ideas from the beginning of the Western tradition to the present day. Theory of architecture and the arts, related to the culture of a period.
210124	History II		
210133	Theory I		
210115	Architectural Representation I	ARCHITECTURAL REPRESENTATION	Plastic analysis. Conventional drawing techniques and compositional and conceptual resources of the modern movement. Computer assisted drawing and its application to the construction and representation of spaces and architectural forms. The representation of the urban environment. Interactive methods of simulation, elaboration of multimedia presentations.
210120	Architectural Representation II		
210125	Architectural Representation III		
210130	Structures III	COMPULSORY ITINERARY 1 SUBJECT AREA	Subject that includes topics related to technology and theoretical contents of the discipline: Predimensioning and calculation of metal structures. Typologies of stress and steel. Systems of air conditioning of public buildings. Lighting, electroacoustic and special installations. Urban facilities. Integration of architecture in the whole of contemporary culture. Representation of public space, landscape and terrain. Modeling of surfaces and objects and parametric design. Applications of BIM systems.
210135	Conditioning and Services III		
210141	Theory II		
210138	Architectural Representation IV		
	Optional subjects	OPTIONAL	Deepening in the subjects of the course in which they are realized. Complementarily, up to 12 ECTS of this subject can be obtained by carrying out external academic practices.
	Advanced optional subjects	ADVANCED OPTIONAL	Deepening of strategic themes of innovation and future specialization, related to thematic workshops, linked to by theme, area of knowledge and content.
210145	Bachelor's Thesis	Bachelor's Thesis	Individual and original academic work that allows the student to make a recapitulation of the knowledge acquired and verify their interrelationships. It can cover any of the subjects in the curriculum.
Master's degree in Architecture			
210501	Technological and Structural Systems in Buildings	TECHNOLOGICAL AND STRUCTURAL SYSTEMS IN BUILDINGS	Development of functional programs of buildings and spaces and urban contexts. The exercise of architectural criticism. Representation, communication, control and management of the information of the architectural and urban project.
210502	Theory and Projects of Urban and Building Design	THEORY AND PROJECTS OF URBAN AND BUILDING DESIGN	Systems of control and design of the technological model of the construction, with a special emphasis in the energetic efficiency; the structure; And construction systems and techniques.
	Intensification and research in Architecture optional subjects	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	Deepening in problems and questions that allow exploring and deepening in the three main areas of intensification of the masters (Theory and projects, Architecture Technology and Urbanism, landscaping and management) and that serve as reference of introduction to the investigation. Optionally, up to a maximum of 6 ECTS in external academic practices.
210503	Final Thesis	FINAL THESIS	Elaboration, presentation and defense before a court of an original and individual exercise. It must consist of a project of architecture, of a professional nature that integrates all the competences of the master degree.

Table 3. Description of the curriculum (Pathway 1 - ETSAB)

Academic year	Semester	Code	Type	Subject	Subject area	CREDITS PER SEMESTER			HOURS PER SEMESTER			HOURS OF INDEPENDENT STUDY
						ECTS credits	Theory / lectures	Workshop s / practicals	Total hours	Theory / lectures	Workshop s / practicals	
Bachelor's degree in Architecture Studies												
1	S1	210102	B	Mathematics I	MATHEMATICS	6	2,36	3,64	66	26	40	84
	S1	210103	B	Physics I	PHYSICS	6	2,36	3,64	66	26	40	84
	S1	210101	B	Drawing I	DRAWING	6	1,18	4,82	66	13	53	84
	S1	210105	B	Basis for Theory	BASIS FOR THEORY	6	3,64	2,36	66	40	26	84
	S1	210104	B	Basis for Design I	BASIS FOR DESIGN	6	1,18	4,82	66	13	53	84
	S2	210107	B	Mathematics II	MATHEMATICS	6	2,36	3,64	66	26	40	84
	S2	210108	B	Physics II	PHYSICS	6	2,36	3,64	66	26	40	84
	S2	210106	B	Drawing II	DRAWING	6	1,18	4,82	66	13	53	84
	S2	210110	B	Basis for Technique	BASIS FOR TECHNIQUE	6	3,64	2,36	66	40	26	84
S2	210109	B	Basis for Design II	BASIS FOR DESIGN	6	1,18	4,82	66	13	53	84	
First year						60						
2	S1	210111	OB	Conditioning and Services I	TECHNOLOGY	6	3,64	2,36	66	40	26	84
	S1	210112	OB	Design I	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S1	210113	OB	Urban Design I	URBANISM	5	1,27	3,73	55	14	41	70
	S1	210114	OB	History I	COMPOSITION: THEORY AND HISTORY	6	4,82	1,18	66	53	13	84
	S1	210115	OB	Architectural Representation I	ARCHITECTURAL REPRESENTATION	5	1,27	3,73	55	14	41	70
	S2	210116	OB	Construction I	TECHNOLOGY	6	2,36	3,64	66	26	40	84
	S2	210117	OB	Structures I	STRUCTURES	7	3,18	3,82	77	35	42	98
	S2	210118	OB	Design II	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S2	210119	OB	Urban Design II	URBANISM	5	1,27	3,73	55	14	41	70
	S2	210120	OB	Architectural Representation II	ARCHITECTURAL REPRESENTATION	5	1,27	3,73	55	14	41	70
Second year						60						

Academic year	Semester	Code	Type	Subject	Subject area	CREDITS PER SEMESTER			HOURS PER SEMESTER			HOURS OF INDEPENDENT STUDY
						ECTS credits	Theory / lectures	Workshops / practicals	Total hours	Theory / lectures	Workshops / practicals	
Bachelor's degree in Architecture Studies												
3	S1	210121	OB	Structures II	STRUCTURES	6	2,36	3,64	66	26	40	84
	S1	210122	OB	Design III	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S1	210123	OB	Urban Design III	URBANISM	5	1,27	3,73	55	14	41	70
	S1	210124	OB	History II	COMPOSITION: THEORY AND HISTORY	7	3,82	3,18	77	42	35	98
	S1	210125	OB	Architectural Representation III	ARCHITECTURAL REPRESENTATION	5	1,27	3,73	55	14	41	70
	S2	210126	OB	Construction II	TECHNOLOGY	6	3,64	2,36	66	40	26	84
	S2	210127	OB	Conditioning and Services II	TECHNOLOGY	6	3,64	2,36	66	40	26	84
	S2	210128	OB	Design IV	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S2	210129	OB	Urban Design IV	URBANISM	5	1,27	3,73	55	14	41	70
	S2		OP	Optional subjects	OPTIONAL	5	1,64	3,36	55	18	37	70
Third year						60						
4	S1	210131	OB	Design V	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S1	210132	OB	Urban Design V	URBANISM	5	1,27	3,73	55	14	41	70
	S1	210133	OB	Theory I	COMPOSITION: THEORY AND HISTORY	6	3,64	2,36	66	40	26	84
	S1	210130	OB	Structures III	COMPULSORY ITINERARY 1 SUBJECT AREA	6	3,64	2,36	66	40	26	84
	S1		OP	Optional subjects	OPTIONAL	5	1,64	3,36	55	18	37	70
	S2	210134	OB	Construction III	TECHNOLOGY	7	3,82	3,18	77	42	35	98
	S2	210136	OB	Design VI	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S2	210137	OB	Urban Design VI	URBANISM	5	1,27	3,73	55	14	41	70
	S2	210135	OB	Conditioning and Services III	COMPULSORY ITINERARY 1 SUBJECT AREA	6	3,64	2,36	66	40	26	84
	S2	210138	OB	Architectural Representation IV	COMPULSORY ITINERARY 1 SUBJECT AREA	5	1,27	3,73	55	14	41	70
Fourth year						60						

Academic year	Semester	Code	Type	Subject	Subject area	CREDITS PER SEMESTER			HOURS PER SEMESTER			HOURS OF INDEPENDENT STUDY
						ECTS credits	Theory / lectures	Workshops / practicals	Total hours	Theory / lectures	Workshops / practicals	
Bachelor's degree in Architecture Studies												
5	S1	210139	OB	Construction IV	TECHNOLOGY	7,5	3,73	3,77	82,5	41	41,5	105
	S1	210140	OB	Structures IV	STRUCTURES	5	2,55	2,45	55	28	27	70
	S1	210142	OB	Thematic Studio I	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S1	210141	OB	Theory II	COMPULSORY ITINERARY 1 SUBJECT AREA	5	2,55	2,45	55	28	27	70
	S1		OP	Optional subjects	OPTIONAL	5	1,64	3,36	55	18	37	70
	S2	210143	OB	Law and Management in Architecture	TECHNOLOGY	7,5	3,73	3,77	82,5	41	41,5	105
	S2	210144	OB	Thematic Studio II	DESIGN	7,5	1,27	6,23	82,5	14	68,5	105
	S2		OP	Advanced optional subjects	ADVANCED OPTIONAL	3,0	1,0	2,0	33	11	22	42
	S2		OP	Advanced optional subjects	ADVANCED OPTIONAL	3,0	1,0	2,0	33	11	22	42
	S2		OP	Advanced optional subjects	ADVANCED OPTIONAL	3,0	1,0	2,0	33	11	22	42
	S2	210145	OB	Bachelor's Thesis	BACHELOR'S THESIS	6,0	0,0	6,0	36	0	36	144
Fifth year						60						
Total Bachelor						300	106,98	193,02	3.270	1.177	2.093	4.260
Master's degree in Architecture												
1	S1	210501	OB	Technological and Structural Systems in Buildings	TECHNOLOGICAL AND STRUCTURAL SYSTEMS IN BUILDINGS	12,00	4,78	7,2	108,0	43,0	65,0	192,0
	S1/S2	210502	OB	Theory and Projects of Urban and Building Design	THEORY AND PROJECTS OF URBAN AND BUILDING DESIGN	8,00	4,00	4,0	72,0	36,0	36,0	128,0
	S1/S2		OP	Intensification and research in Architecture optional subjects	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	5,00	1,67	3,3	45,0	15,0	30,0	80,0
	S1/S2		OP	Intensification and research in Architecture optional subjects	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	5,00	1,67	3,3	45,0	15,0	30,0	80,0
	S1/S2	210503	OB	Final Thesis	FINAL THESIS	30,00	0,00	30,0	180,0	0,0	180,0	720,0
First year (Total master)						60	12,12	47,88	450	109	341	1.200
Total Bachelor + Master						360	119,10	240,90	3.720	1.286	2.434	5.460

Table 4. Description of subject (Pathway 1 - ETSAB)

Acaden	Semes	Code	Type	Subjects	Subject area	ECTS	Brief description of the subject
Bachelor's degree in Architecture Studies							
1	S1	210102	B	Mathematics I	MATHEMATICS	6	Basic training in mathematics applied to architecture will focus on the most creative aspects of plane and space geometry (metric constructions, proportions, symmetry, shapes, linear algebra).
	S1	210103	B	Physics I	PHYSICS	6	Principles of mechanics applied to solids: static rigid solids, stress-strain relationships, mass geometry, vector and tensorial fields.
	S1	210101	B	Drawing I	DRAWING	6	Freehand drawing (sketches, notes and drafts): Learning the sketch and drafting using manual techniques and with real architectural models. Knowledge and representation, through manual graphic procedures, of the perceived space.
	S1	210105	B	Basis for Theory	BASIS FOR THEORY	6	The proposed discourse aims to approach in the theoretical language of architecture, providing the first instruments of analysis and exploration proper and useful throughout the future experience of learning and reflection, especially the analysis and theory of form and laws of the visual perception. The program is structured in a series of fundamental concepts that have been developed over time as basic elements of architectural discourse, at the same time that some concrete buildings are analyzed and texts are discussed. In this way we want to establish a relationship between ideas and works that will help to weave a global conception of architecture. An approach that in this first moment of the learning will put a spatial emphasis on the architecture of the twentieth century and contemporary time.
	S1	210104	B	Basis for Design I	BASIS FOR DESIGN	6	Fundamental relations between objects and subjects: the basic instruments of conception, construction and representation of architecture; scientific and artistic bases applied to architecture. Appropriate knowledge of the methods of study of symbolization processes, practical functions and ergonomics. Knowledge of the principles of sustainability in architecture.
	S2	210107	B	Mathematics II	MATHEMATICS	6	The basic training in mathematics applied to architecture will focus on calculation techniques (modeling, problem solving, mathematical analysis) and on computer elements (numerical calculation, representation of curves and surfaces).
	S2	210108	B	Physics II	PHYSICS	6	Fluid mechanics: hydrostatic, hydraulic. Scientific basis of ecology, sustainability, principles of conservation of energy and environmental resources. Scientific bases of environmental physics and installations: heat transfer, principles of acoustic and optical thermodynamics, inertia and thermal insulation, sound and acoustics of rooms, light and lighting of spaces, electricity and alternating current.
	S2	210106	B	Drawing II	DRAWING	6	Descriptive geometry (representation systems, shadows, computer graphics). The geometry of the representation. The metric and positional control of space and objects. Its geometric and perceptive analysis from the forms that compose it. Generation of 3D virtual models and their representation. The influence of the environment on the architectural space. Representation of the terrain. The representation of the landscape. The control of the oil.
	S2	210110	B	Basis for Technique	BASIS FOR TECHNIQUE	6	The principles and basic physical and environmental requirements of the building. The building and the recognition of the parts: lexicon, representation and fundamental characteristics. Introduction to the science of materials and the quantification and parameterization of basic requirements.
	S2	210109	B	Basis for Design II	BASIS FOR DESIGN	6	Progressive complexity in space problems in order to test the mastery of the fundamental instruments of architecture: construction, representation, suitability to use and sustainability. Self-evaluation of the ability to project as a synthesis between use, construction and representation.
First year						60	

Academ	Semes	Code	Type	Subjects	Subject area	ECTS	Brief description of the subject
Bachelor's degree in Architecture Studies							
2	S1	210111	OB	Conditioning and Services I	TECHNOLOGY	6	Physical, physiological and psychological principles of environmental conditioning. Behavior of the building in relation to the lighting, thermal and acoustic environment: general aspects, systems and evaluation parameters.
	S1	210112	OB	Design I	DESIGN	7,5	Conception, construction and representation of the basic architectural structures from a consideration of the context in the broad sense and of the place. Progressive approach to the relationships between building and living from the proper forms of architecture.
	S1	210113	OB	Urban Design I	URBANISM	5	Title: The elements of the city. The city is constructed from basic elements that constitute the urban fabrics: buildings, streets, blocks and squares; As a result of their relationship, different fabrics or "forms of urban growth" are generated.
	S1	210114	OB	History I	COMPOSITION: THEORY AND HISTORY	6	To show the evolution of the architecture of the period under study and, at the same time, to be aware of the look of the twentieth century masters towards these architects, as a necessary element to understand the most important changes that architecture presents.
	S1	210115	OB	Architectural Representation I	ARCHITECTURAL REPRESENTATION	5	Plastic analysis. Learning the conventional techniques of drawing, as well as the compositional and conceptual resources of the Modern Movement applied to: 1) The practice of composition and color; 2) Analysis of architecture; 3) The study of the landscape.
	S2	210116	OB	Construction I	TECHNOLOGY	6	Description and application of the techniques, materials and basic building elements of the usual building. The building with walled structures, porticadas of steel and reinforced concrete. The building with vertical enclosures and wall work. The building with vertical enclosures of dry work. Typology of flat and sloped roofs.
	S2	210117	OB	Structures I	STRUCTURES	7	Course dedicated to acquiring a minimum knowledge of resistance of materials for later use in the pre-dimensioning and calculation of concrete and steel. The course is divided into two distinct parts: stress analysis and stress control and load states.
	S2	210118	OB	Design II	DESIGN	7,5	Analysis and synthesis of the relationships between building and living in public and private contexts, with emphasis on the best architectural forms that respond to these contexts. Skill in the selection of the best typologies in each case.
	S2	210119	OB	Urban Design II	URBANISM	5	Title: The city, structure and form. The growth of the city generates central spaces and peripheral places; Areas of diverse functionality and specialized areas. The big city specializes in server elements that increase its efficiency: urban structure systems. The urban form also has to do with the way of distributing the structural elements of the city.
	S2	210120	OB	Architectural Representation II	ARCHITECTURAL REPRESENTATION	5	The representation of the project. Computer assisted drawing (2D and 3D CAD). Application of digital technology to the representation and presentation of spaces and architectural forms. Use of expressive resources of the system for the intentional presentation of the work. Interpretation of the process of architectural representation through the analysis of an architecture constructed, but not visitable, to reach the understanding of the same and, from here, represent it. Study of the possibilities of presentation of architectural ideas.
Second year						60	

Academ	Semes	Code	Type	Subjects	Subject area	ECTS	Brief description of the subject
Bachelor's degree in Architecture Studies							
3	S1	210121	OB	Structures II	STRUCTURES	6	This course is dedicated to the analysis of the mechanical behavior of reinforced concrete. Special emphasis is placed on the calculation of "normal" buildings that can then be applied to other materials of the same module.
	S1	210122	OB	Design III	DESIGN	7,5	Relation between the basic architectural structures and the configuration of the urban or the city. The generation of the public and the private sphere and the networks of relations between objects and subjects with a special emphasis on the residential project and its urban insertion. Resolution of typological groupings in horizontal and vertical, including common services.
	S1	210123	OB	Urban Design III	URBANISM	5	Title: The urban road project. Introduction to the project of one of the basic elements of the city: the streets or urban roads. Understanding these elements, their main characteristics, their longitudinal profile, their section and their dimensions, as well as the most representative examples, allows to approach the project of the city by parts with relative solvency.
	S1	210124	OB	History II	COMPOSITION: THEORY AND HISTORY	7	It traverses the transit that goes of the Enlightenment to the artistic and architectonic vanguards of between the wars. It continues completing the trajectories of Mies Van de Rohe, Le Corbusier and Wright and incorporating the new figures arising from the diffusion of the modern movement by territories far from the epicenters of modern culture. It also explains the relationships with cultural, political or territorial processes that emerged in the Depression and postwar years, until the 1980s.
	S1	210125	OB	Architectural Representation III	ARCHITECTURAL REPRESENTATION	5	The representation of the urban environment. Digital image. Visual simulation. Introduction to interactive methods of simulation and elaboration of multimedia presentations. Extension and development of visual communication skills, acquired in previous courses, through digital techniques applied to the knowledge of architecture and the development of architectural projects. Visual simulation of materials and lighting. Introduction to advanced techniques of animation and presentation of projects with multimedia techniques.
	S2	210126	OB	Construction II	TECHNOLOGY	6	Typology, design and applications of the construction techniques of thick, structural and thermal and acoustic envelope applicable to the residential building.
	S2	210127	OB	Conditioning and Services II	TECHNOLOGY	6	Design and dimensioning of the elements of the installations and of the systems of protection applicable to the residential building.
	S2	210128	OB	Design IV	DESIGN	7,5	Articulations between private and public domains in residency issues, with special emphasis on the capacities of the projects to correctly synthesize the constructive and environmental aspects with the functional and social ones. Progressive complexity of programs.
	S2	210129	OB	Urban Design IV	URBANISM	5	Title: The residential fabric project. Within the private space, the residential space plays a decisive role in the formation of the city. The different relationship between housing, block, collective space and public space makes up a wide variety of residential neighborhoods. His knowledge and project practice is indispensable for intervention in the most elementary of the tissues: the residential.
	S2		OP	Optional subjects	OPTIONAL	5	They address issues not specifically developed in the compulsory subjects of the course and explore and explore fields that are closely related to the objectives and scope of the course or may even pose critical or alternative views. The fields in which they are grouped belong to the historical-cultural-design, environmental, design and representation and scientific-technological fields.
Third year						60	

Acaden	Semes	Code	Type	Subjects	Subject area	ECTS	Brief description of the subject
Bachelor's degree in Architecture Studies							
4	S1	210131	OB	Design V	DESIGN	7,5	Conception, construction and representation of complex, multifunctional and multi-scale architectural forms. Relationship between infrastructures and service buildings with a special emphasis on the public building project or equipment and their urban and territorial insertion. Form and use of public spaces that respond to diverse cultural and social needs.
	S1	210132	OB	Urban Design V	URBANISM	5	Title: Urban reform and public space. Of the characteristic growth of the cities between 1850 and 1975 we have passed to a situation of reform in the majority of the cities. The renovation of old districts or hulls, of residential polygons or the replacement of obsolete enclosures, replaces the traditional model of growth and also raises the need for new public or collective spaces linked to the new architecture and new urban uses.
	S1	210133	OB	Theory I	COMPOSITION: THEORY AND HISTORY	6	It focuses on the knowledge of the theory of architecture and the arts and seeks to relate them to the culture of a period. From the beginnings of the Western tradition to the most significant currents of contemporary architecture, while noting its genesis throughout the twentieth century. The structure will not necessarily be based on chronological criteria and may adopt conceptual criteria.
	S1	210130	OB	Structures III	COMPULSORY ITINERARY 1 SUBJECT AREA	6	This course is dedicated to the pre-dimensioning and calculation of metal structures. The course is divided into two distinct parts: typologies of efforts and steel.
	S1		OP	Optional subjects	OPTIONAL	5	They deal with issues not specifically developed in the compulsory subjects of the course and investigate and explore fields that are closely related to the objectives and scope of the course or could even pose critical or alternative views. The fields in which they are grouped belong to the historical-cultural-project, environmental, design and representation and scientific-technological fields.
	S2	210134	OB	Construction III	TECHNOLOGY	7	Typology, design and application of the structural techniques of the structural systems and of the watertight, thermal and acoustic envelope applicable to the singular building. The technical prescription and the constructive detail. The interior of the building.
	S2	210136	OB	Design VI	DESIGN	7,5	Test the executive project to the essential building details of each building. To correctly synthesize the programs of equipment progressively complex with the mastery of the technologies of the building. Particular attention should be paid to the synthesis of respect for the rural or urban context in terms of physical and social impact.
	S2	210137	OB	Urban Design VI	URBANISM	5	Title: The urbanism of the enclaves: the scale of the territory The traditional growth of the city has moved to the territory occupying very unique places with a very high functional specialization, which contrasts with a wide dispersion and diffusion of residential and productive activities. It is necessary to deepen in this recent model of enclaves and to reflect on its consequences as well as to propose alternative or improvement models, where social cohesion and the logic of collective transport replace the current situation.
	S2	210135	OB	Conditioning and Services III	COMPULSORY ITINERARY 1 SUBJECT AREA	6	Systems of air conditioning of public buildings: typology, criteria of choice and principles of dimensioning and forecast of spaces. Lighting, electroacoustic and special installations. Urban facilities.
	S2	210138	OB	Architectural Representation IV	COMPULSORY ITINERARY 1 SUBJECT AREA	5	The representation of the public space and the landscape. Representation of the terrain. Surface modeling. Parametric design. Analysis and generation of complex surfaces. Generation of objects with surfaces of geometric definition and free surfaces. Applications to the modeling and representation of the terrain with free surfaces. Modeling of objects based on parameters and relationships. Adaptation of the parametric modeling methodologies to the formal and constructive definition of the building. Applications of BIM systems.
Fourth year						60	

Academ	Semes	Code	Type	Subjects	Subject area	ECTS	Brief description of the subject
Bachelor's degree in Architecture Studies							
5	S1	210139	OB	Construction IV	TECHNOLOGY	7,5	Description and analysis of historical construction techniques. Principles and methods for the diagnosis of buildings. General principles for intervention in heritage buildings. Intervention techniques in existing buildings.
	S1	210140	OB	Structures IV	STRUCTURES	5	Analysis of the terrain and mechanics of the soil in general. It also aims to study the behavior of walls and foundations taking advantage of the knowledge acquired previously. The course is divided into two parts: soil mechanics, proper and executive project.
	S1	210141	OB	Theory II	COMPULSORY ITINERARY 1 SUBJECT AREA	5	Architecture and Culture aims to offer a synthesis of the courses of history and theory imparted throughout the career, which are reviewed from the perspectives that come from other knowledge instruments, both theoretical and material, in a program that integrates architecture in the Set of contemporary culture.
	S1		OP	Optional subjects	OPTIONAL	5	They address issues not specifically developed in the compulsory subjects of the course and explore and explore fields that are closely related to the objectives and scope of the course or may even pose critical or alternative views. The fields in which they are grouped belong to the historical-cultural-design, environmental, design and representation and scientific-technological fields.
	S1	210142	OB	Thematic Studio I	DESIGN	7,5	Its thematic character derives from the fact that they pose in their configuration or teaching project a certain
	S2	210144	OB	Thematic Studio II	DESIGN	7,5	characterization or thematic diversity, as much for giving rise to Projects End of Degree of a certain specificity as for
	S2	210143	OB	Law and Management in Architecture	TECHNOLOGY	7,5	Deontology. Legal regulation of professional practice, of the building and urbanism. Economic evaluation of the architectural and urban project. Principles and methods of valuation, measurement and expertise. Urban management. Real estate management. Project management and construction management in architecture. Basic and execution project: objectives, contents, budget and costs. Specific projects and documents.
	S2		OP	Advanced optional subjects	ADVANCED OPTIONAL	3,0	They correspond to subjects that are part of the Thematic Workshops of the 5th course, to which they will be linked by their thematic, scope of knowledge and objectives, and will correspond also with the objectives and competences of the degree.
	S2		OP	Advanced optional subjects	ADVANCED OPTIONAL	3,0	
	S2	210145	OB	Bachelor's Thesis	BACHELOR'S THESIS	6,0	Individual and original academic work that allows the student to make a recapitulation of the knowledge acquired and verify their interrelationships. It can cover any of the subjects in the curriculum.
Fifth year						60	
Total Bachelor						300	
Master's degree in Architecture							
1	S1	210501	OB	Technological and Structural Systems in Buildings	TECHNOLOGICAL AND STRUCTURAL SYSTEMS IN BUILDINGS	12,00	Development of functional programs of buildings and spaces and urban contexts. The exercise of architectural criticism. Representation, communication, control and management of the information of the architectural and urban project.
	S1/S2	210502	OB	Theory and Projects of Urban and Building Design	THEORY AND PROJECTS OF URBAN AND BUILDING DESIGN	8,00	Systems of control and design of the technological model of the construction, with a special emphasis in the energetic efficiency; the structure; And construction systems and techniques.
	S1/S2		OP	Intensification and research in Architecture optional subjects	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	5,00	Deepening in problems and questions that allow exploring and deepening the three main areas of intensification of the masters (Theory and projects, Architecture Technology and Urbanism, landscaping and management) and serve as reference for introducing research.
	S1/S2		OP	Intensification and research in Architecture optional subjects	INTENSIFICATION AND RESEARCH IN ARCHITECTURE	5,00	Optionally, up to a maximum of 6 ECTS in external academic practices
	S1/S2	210503	OB	Final Thesis	FINAL THESIS	30,00	Elaboration, presentation and defense before a court of an original and individual exercise. It should consist of a project of architecture, of a professional nature that integrates all the competences of the Master degree.
First year (Total master)						60,00	
Total Bachelor + Master						360	

Table 1. Accordance of the curriculum with the directive 2005/36/EC (Pathway 2 - ETSAV)

Subject area Bachelor	ECTS	Subject	Semester	ECTS	Hours			Competencies art. 46																							
					Class hours	Student's work	Total	Art. 46(1)(a)		Art. 46(1)(b)		Art. 46(1)(c)		Art. 46(1)(d)		Art. 46(1)(e)		Art. 46(1)(f)		Art. 46(1)(g)		Art. 46(1)(h)		Art. 46(1)(i)		Art. 46(1)(j)		Art. 46(1)(k)			
								ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours	ECTS	Hours
Mathematics	12	Mathematics I	1	6	66	84	150																								
		Mathematics II	2	6	66	84	150																								
Physics	12	Physics I	1	6	66	84	150																								
		Physics II	2	6	66	84	150																								
Drawing	12	Drawing I	1	6	66	84	150																								
		Drawing II	2	6	66	84	150	1,0	25,0																						
Basis for Theory	6	Basics for theory	2	6	66	84	150																								
Basis for Technique	6	Basics for technique	1	6	66	84	150																								
Basis for Design	12	Basics for the projects I	1	6	66	84	150	3,0	75,0																						
		Basics for the projects II	2	6	66	84	150	6,0	150,0																						
Technology	46	Environmental building design	3	4	44	56	100																								
		Construction systems	4	6	66	84	150																								
		Technology I	5	7	77	98	175																								
		Technology II	6	7	77	98	175																								
		Light building envelopes	7	4	44	56	100																								
		Construction and conditioning of urban space	8	4	44	56	100																								
		Intervention in the building stock	9	4	44	56	100	2,0	50,0																						
		Building as designed	10	6	66	84	150																								
		Architecture and design workshop V	5	2	22	28	50	1,0	25,0																						
		Architecture and design workshop IX	7-10	2	22	28	50	2,0	50,0																						
Structures	18	Structures I	3	4	44	56	100																								
		Structures III	5	3	33	42	75																								
		Structures IV	6	3	33	42	75	1,0	25,0																						
		Prominent structures	7	3	33	42	75	1,0	25,0																						
		Architecture and design workshop IX	7-10	2	22	28	50	2,0	50,0																						
		Soil mechanics and foundations	8	3	33	42	75	1,0	25,0																						
		Architecture and design workshop X	7-10	2	22	28	50	2,0	50,0																						
Design	60	Architecture and design workshop III	3	8	88	112	200	8,0	200,0																						
		Architecture and design workshop IV	4	8	88	112	200	4,0	100,0																						
		Architecture and design workshop V	5	7	77	98	175	7,0	175,0																						
		Architecture and design workshop VI	6	8	88	112	200	8,0	200,0																						
		Architecture and design workshop VII	7-10	8	88	112	200	5,0	125,0																						
		Architecture and design workshop VIII	7-10	5	55	70	125	5,0	125,0																						
		Architecture and design workshop IX	7-10	8	88	112	200	6,0	150,0																						
		Architecture and design workshop X	7-10	8	88	112	200	7,0	175,0																						
Urbanism	30	Architecture and City*	3	2	22	28	50																								
		Town planning I	3	5	55	70	125																								
		Architecture and design workshop IV	4	4	44	56	100	4,0	100,0																						
		Town planning II	5	5	55	70	125																								
		Architecture and design workshop VI	6	4	44	56	100	4,0	100,0																						
		Town planning III	7	5	55	70	125																								
		Town planning IV	9	5	55	70	125	3,0	75,0																						
Composition: Theory and History	19	Architecture and City*	3	4	44	56	100																								
		Composition I	4	3	33	42	75																								
		Composition II	5	3	33	42	75																								
		Composition III	6	3	33	42	75																								
		Composition V	10	4	44	56	100	3,0	75,0																						
		Architecture and design workshop X	7-10	2	22	28	50	2,0	50,0																						

Table 2. Description of subject areas (Pathway 2 - ETSAV)

Semester	Subject area Bachelor	Code	Subjects	ECTS	Brief description of the subject area
1	Mathematics	290601	Mathematics I	6	Geometric models. Dynamic models and information technologies.
2		290605	Mathematics II	6	
1	Physics	290602	Physics I	6	Applied thermodynamics. Introduction to structures.
2		290606	Physics II	6	
1	Drawing	290603	Drawing I	6	Drawing of ideation, notes, dihedral, axonometry. Sketch. Drawing composition. Technical, expressive and communicative drawing of architecture. Dimensioned system. Control of the plane and representation of the terrain. Shades.
2		290608	Drawing II	6	
2	Basis for Theory	290607	Basics for theory	6	Introduction to the masters of the architecture of the s. XX. Introduction to Architecture Critics and Historians
1	Basis for Technique	290600	Basics for technique	6	Materials and their physical qualities. Requirements of the building. Parts of the building. Architecture as a refuge and filter. Vocabulary of construction. Construction drawing.
1	Basis for Design	290604	Basics for the projects I	6	Context, references and representation.
2		290609	Basics for the projects II	6	
3	Technology	290610	Environmental building design	4	Environmental design of the building. Bases of building systems and services in the building. Construction and interior design. Construction of conventional high-rise buildings and their service systems. Furs. Principles for lightweight envelopes. Construction and refurbishment of urban space. Pathology and intervention in the park. Build the projected. Program, use and organization. Design of comfortable and energy efficient spaces. Structural design.
4		290616	Construction systems	6	
5		290621	Technology I	7	
6		290626	Technology II	7	
7		290631	Light building envelopes	4	
8		290638	Construction and conditioning of urban space	4	
9		290641	Intervention in the building stock	4	
10		290643	Building as designed	6	
5		290623	Architecture and design workshop V	2	
7-10		290636	Architecture and design workshop IX	2	
3	Structures	290611	Structures I	4	Resistance of material analysis. Resistant structures. Construction and calculation of concrete structures. Analysis of the structural type. Design and calculation in steel, reinforced concrete and prestressed. Soil mechanics and foundation structures. Program, use and organization. Incidence of structural factors in the design of the project. Structural and technological solution strategies.
5		290622	Structures III	3	
6		290627	Structures IV	3	
7		290633	Prominent structures	3	
7-10		290636	Architecture and design workshop IX	2	
8		290639	Soil mechanics and foundations	3	
3	Design	290614	Architecture and design workshop III	8	System and construction. Program, use and organization. Design of buildings and architectural sets from habitable, organizational, aesthetic, constructive, technical and normative requirements. Environmental and urban requirements in architectural projects. Social requirements.
4		290619	Architecture and design workshop IV	8	
5		290623	Architecture and design workshop V	7	
6		290629	Architecture and design workshop VI	8	
7-10		290634	Architecture and design workshop VII	8	
7-10		290635	Architecture and design workshop VIII	5	
7-10		290636	Architecture and design workshop IX	8	
7-10		290637	Architecture and design workshop X	8	

3		290612	Architecture and City*	2	
3		290615	Town planing I	5	
4	Urbanism	290619	Architecture and design workshop IV	4	Architecture and city. The landscape project. City and residential project. Examples of residential projects of the twentieth century. Program, use and organization. Urban planning tools. The territorial project.
5		290624	Town planing II	5	
6		290629	Architecture and design workshop VI	4	
7		290632	Town planing III	5	
9		290642	Town planing IV	5	
3	Composition: Theory and History	290612	Architecture and City*	4	Architecture and city. History of public architecture. Architecture of the equipment. Architectural heritage. History of the intervention in the architectural heritage. Aesthetics, heritage and intervention. Critical capacity of the referents of architecture. Incidence of cultural factors in the configuration of living spaces and their material formalization.
4		290620	Composition I	3	
5		290625	Composition II	3	
6		290630	Composition III	3	
10		290644	Composition V	4	
7-10		290637	Architecture and design workshop X	2	
3	Architectural Representation	290613	Architectural representation I	3	Conical perspective. Image processing. Color. Landscape. Geometry of the three-dimensional shape. Communication of the project. Strategies in different project themes. Analysis of exemplary references appropriate to the phases of the project.
4		290618	Architectural representation II	5	
6		290628	Architectural representation III	5	
7-10		290637	Architecture and design workshop X	2	
4	Compulsory itinerary 2 subject area	290617	Structures II	4	Project intervention on existing assets. The language of structures that explain injuries.
8		290640	Composition IV	4	
5		290623	Architecture and design workshop V	3	
7-10		290634	Architecture and design workshop VII	4	
7-10		290635	Architecture and design workshop VIII	7	
7-10	Optional subjects			24	Intensification and deepening of curricular subjects. Aspects of avant-garde in the architectural field. Activities of the professional exercise through the practices. Development of aspects related to solidarity, social awareness, cooperation and equality.
10	Bachelor's thesis (FT)	290645	Bachelor's thesis	6	Synthesis work, definition, application of procedures for collecting, analyzing and interpreting data and information. Transmission of knowledge in written and / or oral form.

Semester	Subject area Master	ECTS	Subject	ECTS	Brief description of the subject area
1	Technological and structural systems in buildings	8	Technology of the architecture	8	Conceiving, calculating, designing and integrating into buildings and urban complexes and executing: building structures, interior division systems, carpentry, ladders and other finished work, enclosure systems, roofing and other coarse work; Water supply and evacuation installations, heating, air conditioning.
1	Theory and projects of urban and building design	12	Designing the architecture	12	Conception, practice and development of: basic and execution projects, sketches and preliminary projects; work direction. Intervention in, conservation, restoration and rehabilitation of built heritage.
1	Intensification and research in Architecture	10	Optional subjects	10	Characterization of the profile of the students through the choice of the module that intensifies and deepens the knowledge acquired. Deepening the corpus of knowledge and research methods acquired and proposing a research autonomously. Analysis and critical thinking. Acquisition of new knowledge from the vanguard in the field of Architecture. Development, through professional practice, of aspects related to solidarity, social awareness, cooperation and equal opportunities.
2	Final thesis	30	Final thesis	30	Elaboration, presentation and defense of an original exercise carried out individually, before a court. It will consist of a project of architecture of professional nature that synthesizes all the competences acquired in the Degree and in the Master.

Table 3. Description of the curriculum (Pathway 2 - ETSAV)

				Degree in Architecture Studies	Description of the curriculum	CREDITS SM				HOURS CLASS SM				H. STUDENT
Academic Semester	Semester	Code	Type	Subjects	Subject area	Credits ECTS	Theoretical	Workshop / Internship	Tutorials	Horas totales	Theoretical	Workshop / Internship	Tutorials	
1	S1-S2	290600	B	Basics for technique	Basis for Technique	6	3	3		66	33	33		84
	S1-S2	290601	B	Mathematics I	Mathematics	6	3	3		66	33	33		84
	S1-S2	290602	B	Physics I	Physics	6	3	3		66	33	33		84
	S1-S2	290603	B	Drawing I	Drawing	6	0,9	5,1		66	9,9	56,1		84
	S1-S2	290604	B	Basics for the projects I	Basic Design	6	0,9	3,9	1,2	66	9,9	42,9	13,2	84
2	S1-S2	290605	B	Mathematics II	Mathematics	6	3	3		66	33	33		84
	S1-S2	290606	B	Physics II	Physics	6	3	3		66	33	33		84
	S1-S2	290607	B	Basics for theory	Basis for Theory	6	3	3		66	33	33		84
	S1-S2	290608	B	Drawing II	Drawing	6	0,9	5,1		66	9,9	56,1		84
	S1-S2	290609	B	Basics for the projects II	Basis for Design	6	0,9	3,9	1,2	66	9,9	42,9	13,2	84
1st year						60								
3	S1-S2	290610	Comp	Environmental building design	Technology	4	2	2		44	22	22		56
	S1-S2	290611	Comp	Structures I	Structures	4	2	2		44	22	22		56
	S1-S2	290612	Comp	Architecture and City	Composition, Urbanism	6	3	3		66	33	33		84
	S1-S2	290613	Comp	Architectural representation I	Architectural Representation	3	0,45	2,55		33	4,95	28,05		42
	S1-S2	290614	Comp	Architecture and design workshop III	Design	8	1,2	6,8		88	13,2	74,8		112
4	S1-S2	290615	Comp	Town planning I	Urbanism	5	2,5	2,5		55	27,5	27,5		70
	S1-S2	290616	Comp	Construction systems	Technology	6	3	3		66	33	33		84
	S1-S2	290617	Comp	Structures II	Compulsory/itinerary 2 subject area	4	2	2		44	22	22		56
	S1-S2	290618	Comp	Architectural representation II	Architectural Representation	5	0,75	4,25		55	8,25	46,75		70
	S1-S2	290619	Comp	Architecture and design workshop IV	Design, Urbanism	12	1,8	10,2		132	19,8	112,2		168
S1-S2	290620	Comp	Composition I	Composition	3	1,5	1,5		33	16,5	16,5		42	
2nd year						60								
5	S1-S2	290621	Comp	Technology I	Technology	7	3,5	3,5		77	38,5	38,5		98
	S1-S2	290622	Comp	Structures III	Structures	3	1,5	1,5		33	16,5	16,5		42
	S1-S2	290623	Comp	Architecture and design workshop V	Design, Compulsory/itinerary 2 subject area, Technology	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290624	Comp	Town planning II	Urbanism	5	2,5	2,5		55	27,5	27,5		70
	S1-S2	290625	Comp	Composition II	Composition	3	1,5	1,5		33	16,5	16,5		42
6	S1-S2	290626	Comp	Technology II	Technology	7	3,5	3,5		77	38,5	38,5		98
	S1-S2	290627	Comp	Structures IV	Structures	3	1,5	1,5		33	16,5	16,5		42
	S1-S2	290628	Comp	Architectural representation III	Architectural Representation	5	0,75	4,25		55	8,25	46,75		70
	S1-S2	290629	Comp	Architecture and design workshop VI	Design, Urbanism	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290630	Comp	Composition III	Composition	3	1,5	1,5		33	16,5	16,5		42
3rd year						60								
7, 8, 9 and 10	S1-S2	290631	Comp	Light building envelopes	Technology	4	2	2		44	22	22		56
	S1-S2	290632	Comp	Town planning III	Urbanism	5	2,5	2,5		55	27,5	27,5		70
	S1-S2	290633	Comp	Prominent structures	Structures	3	1,5	1,5		33	16,5	16,5		42
	S1-S2	290634	Comp	Architecture and design workshop VII	Design, Compulsory/itinerary 2 subject area	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290635	Comp	Architecture and design workshop VIII	Design, Compulsory/itinerary 2 subject area	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290636	Comp	Architecture and design workshop IX	Design, Technology, Structures	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290637	Comp	Architecture and design workshop X	Design, Composition, Architectural Representation	12	1,8	10,2		132	19,8	112,2		168
	S1-S2	290638	Comp	Construction and conditioning of urban space	Technology	4	2	2		44	22	22		56
	S1-S2	290639	Comp	Soil mechanics and foundations	Structures	3	1,5	1,5		33	16,5	16,5		42
	S1-S2	290640	Comp	Composition IV	Compulsory/itinerary 2 subject area	4	2	2		44	22	22		56
	S1-S2	290641	Comp	Intervención en el parque edificado	Technology	4	2	2		44	22	22		56
	S1-S2	290642	Comp	Town planning IV	Urbanism	5	2,5	2,5		55	27,5	27,5		70
	S1-S2	290643	Comp	Building as designed	Technology	6	3	3		66	33	33		84
	S1-S2	290644	Comp	Composition V	Composition	4	2	2		44	22	22		56
	S1-S2		OP	Optional subjects*	Optional subjects	24	12	12		264	132	132		336
10	S1-S2	290645	Comp	Bachelor's thesis	Bachelor's thesis (FT)	6			6	36		36		144
4th and 5th years						120	101,9	189,8	8,4	3270	1120,4	2087,3	62,4	4260

Master's degree in Architecture																
11	S1-S2	290700	Comp	Technology of the architecture	Technological and structural systems in buildings	8		8		72		72		128		
	S1-S2	290701	Comp	Designing the architecture	Theory and projects of urban and building design	12		12		108		108		192		
	S1-S2		Comp	Optional subjects	Intensification and research in Architecture	10	5	5		90	45	45		160		
12	S1-S2	290702	Comp	Final thesis (TFM)	Final thesis	30			30	180			180	720		
6th year						60	5	25	30	450	45	225	180	1200		
Degree in Architecture Studies + Master's degree in Architecture									106,9	214,8	38	3720	1165,4	2312,3	242	5460
*Optional subjects to choose between the School's offer																
CLARIFICATIONS																
Guide to abbreviations																
Temporal character	S1	First semestre														
	S2	Second semestre														
Type of subjects	B	Basic														
	Comp	Compulsory														
	OP	Optional subjects														

Table 4. Description of subject (Pathway 2 - ETSAV)

				Degree in Architecture Studies		Description of the curriculum	
Academic semester	Semester	Code	Type	Subject	Subject area	ECTS	Short description
1	S1-S2	290600	B	BASICS FOR TECHNIQUE	Basis for Technique	6	Apply graphic knowledge to the representation of spaces and objects. To know adequately, and to apply to architecture and urbanism, the principles of thermodynamics, acoustics and optics. Know adequately, and apply to architecture and urban planning, the principles of fluid mechanics, hydraulics, electricity and electromagnetism.
	S1-S2	290601	B	MATHEMATICS I	Mathematics	6	Represent by coordinates and equations, planes, lines, enclosures, curves, surfaces and other geometric entities. Formulate vectorial models for problems of geometric, physical and other applied nature. Solve these problems with the help of matrix calculation. Identify processes and situations mathematically modelable as transformations. Answer questions and solve written exercises in a synthetic, structured and understandable way. Apply graphic design to the design and architecture. 2D and 3D reference systems.
	S1-S2	290602	B	PHYSICS I	Physics	6	Thermal comfort. Condensations. Electricity, light and sound. Environmental impact of architecture. Learning outcomes: Know the scientific fundamentals of environmental conditioning in the field of architecture. Get their impact on the environment.
	S1-S2	290603	B	DRAWING I	Drawing	6	Make handwritten notes of volumes and architectural spaces. Sketching and data collection for the construction of buildings and rudiments of perspective. To Know the drawing of ideation, dihedral and axonometry to know the space and make it understood. To know the reading of form, distance, hierarchy. Line values and graphical conventions. Know the compositional concepts of architectural drawing. Balance, figure and text. Represent to scale. Dihedral and axonometric representation of spaces and volumes. Use the appropriate technical vocabulary. Proper use of the drawing, formed lettering, dimensions. Basic tools for portfolio construction. Use the appropriate technical vocabulary. Respond appropriately when asked questions in an oral or written presentation. Know how to organize to do the work in a time set by the teacher.
	S1-S2	290604	B	BASICS FOR THE PROJECTS I	Basis for Design	6	Know and be able to put into practice the specific contents of the subject, as well as the generic competences of the same. Develop methodological bases of design aimed at giving formal response, both in the plane as in space, concrete problems. Learn to link formal decisions to problems raised. Acquire skill in the representation and manipulation of forms. Know how to organize to do the work in a time set by the teacher. Collaborate on teams led by a teacher.
2	S1-S2	290605	B	MATHEMATICS II	Mathematics	6	To pose and solve problems of areas, volumes, masses, balances and moments using integrals and differential equations. Model aspects of form and tangency through the derivative of graphic design problems. Summarize numerically and graphically data populations and interpret the results qualitatively. Answer questions and solve written exercises in a synthetic, structured and understandable way.
	S1-S2	290606	B	PHYSICS II	Physics	6	Introduction to the quantification of efforts. Functioning of structures. Recognize the environmental implications of structures. Use of the appropriate technical vocabulary. Recognize innovation in architecture linked to the field of structures.
	S1-S2	290607	B	BASICS FOR THEORY	Basis for Theory	6	To know the referents of architecture: history and teachers. Recognize the social and environmental implications of architectural referents. Use the appropriate technical vocabulary. Respond appropriately when asked questions in an oral or written presentation. Work with the sources of information given. Recognize innovation in architecture linked to the field of thought.
	S1-S2	290608	B	DRAWING II	Drawing	6	Introduction to computer tools for drawing. Technical drawing of architecture with expressive and communicative values, with manual and computer techniques: graphic narrative. Geometric shading and expressive treatment of shading. Contours and fillers, hierarchy, line values, hatched. Depth in the dihedral. Control of the plan, bounded system and terrain representation. Geometric knowledge of construction surfaces. Use the appropriate technical vocabulary. Use the conventions of the most usual graphics: format, titles, feet, legends. Know how to compile a graphic material in an organized document.
	S1-S2	290609	B	BASICS FOR THE PROJECTS II	Basis for Design	6	To know and be able to put into practice the specific contents of the subject, listed in section 'Contents'. Use the appropriate technical vocabulary. To Know how to plan a communication or a representation of a project. Oral communication skills. To Know how to organize to do the work in a time set by the teacher. Participate in team work supervised by a teacher.
						1st year	60

(Continuation) Table 4. Description of subject (Pathway 2 - ETSAV)

3	S1-S2	290610	COMP	ENVIRONMENTAL BUILDING DESIGN	Technology	4	To know the basic concepts of sustainability related to architecture. To know how to relate the impact that the way of projecting and building has on the energy and comfort behavior of the building. Know how to quantify the phenomena of sun, light, hygrothermal and acoustic in the building. To know how to incorporate in a basic way the concepts developed in the subject to the project process. Recognize the environmental implications of architecture. To know tools and processes to apply sustainability criteria in the design of the building.
	S1-S2	290611	COMP	STRUCTURES I	Structures	4	Recognize links, stresses and tensions in isostatic steel and wood structures.
	S1-S2	290612	COMP	ARCHITECTURE AND CITY	Composition, Urbanism	6	The subject is interdepartmental and avoids the examination of the forms of architecture as an autonomous and self-sufficient area. It addresses the changing relationships between city and architecture, and puts them in relation to their historical contexts. Outstanding episodes of urban and architectural culture have been chosen to allow a wide range of Western history to be traced back to offer a first system of references and to highlight the most relevant aspects and critical variables of each case. It is about being aware of the social and environmental implications of the city and the urban form. Through the practical works, it is to recognize the buildings of reference of the city, the architecture of the urban residence, its types and residential fabrics; As well as innovation in architecture linked to the field of urbanism. Work with the sources of information given, articulate the explanatory arguments, use the appropriate technical vocabulary, as well as adequately sponge when questions are asked in an oral or written presentation.
	S1-S2	290613	COMP	ARCHITECTURAL REPRESENTATION I	Architectural Representation	3	To know the elements of the conical perspective, to control the perceptible distortions and to realize photomontages, with geometric rigor and solvency of the line and tonal values. Evaluate the areas in landscape representation (foreground, middle and bottom), dealing with depth values. Possess basic notions of image processing, and begin with representing the materials of the natural and built environment.
	S1-S2	290614	COMP	ARCHITECTURE AND DESIGN WORKSHOP III	Design	8	The objective of the subject is to produce knowledge from the dislocation, this being, placing the student's gaze in the alienation of the change of instruments and categories to approach the project. Thus the student's ability to develop the project is promoted from abstract categories that will have to negotiate their conditions of possibility with a series of constraints related to the topic to be dealt with. Specific objectives: Foster interactive, autonomous and diversified learning, referring to the reasoned understanding of architectural complexity. Consolidate the role of the student as the main actor responsible for the learning process, making reflection and practice develop in an integrated way. To promote the critical reflection on the work itself and that of the other colleagues. Potentize the ability of communication and expression (graphic, oral and written) of students. Exercise the ability To conceptualize and express speech orally and graphically.
	S1-S2	290615	COMP	TOWN PLANNING I	Urbanism	5	The course is organized into two types of classes: theoretical and practical. Each theoretical class is assigned two readings, which will be presented by two groups of students. The exhibition of each group will not exceed fifteen minutes and will be supported with a maximum of five slides (Power Point, PDF, etc.). The practical classes will be devoted to the analysis and evaluation of Atlas works. To facilitate this work, there will be some support classes dedicated to cartography and reading and interpretation tools. Corrections for the exercise will be made collectively. The correction by groups will be done exclusively to prepare the presentation of the recommended readings. The last month will be made a consultation schedule for individualized correction, by work groups.
4	S1-S2	290616	COMP	CONSTRUCTION SYSTEMS	Technology	6	To know the constructive systems of iron and wood. To know the factory building systems. Use materials properly. Know the basic services of the building. To know tools and processes to apply sustainability criteria in the design of construction systems. Use the specific technical vocabulary. Understand the importance of work organization in meeting objectives.
	S1-S2	290617	COMP	STRUCTURES II	Compulsory itinerary 2 subject area	4	Combined voltages. Warp. Calculation of deformations. Interpretation of lesions. To know tools and processes to apply sustainability criteria in the structural design. To be able to project from the point of view of sustainability.
	S1-S2	290618	COMP	ARCHITECTURAL REPRESENTATION II	Architectural Representation	5	Control the geometry of three-dimensional space through the construction and manipulation of 3D computer models. To reach a level, not advanced but rigorous, in the construction of a graphic discourse. Have clear criteria regarding the layout and composition of projections on paper. To control the expository clarity and the expression of perceptible values in the representation. Use the appropriate technical vocabulary. Use the conventions of the most common graphics: format, titles, feet, legends, etc.
	S1-S2	290619	COMP	ARCHITECTURE AND DESIGN WORKSHOP IV	Design, Urbanism	12	Physical conditions of the architecture as defining the essential character of the project. Knowledge and interpretation of the characteristics of the place and shape of the city. Systems transforming the environment based on local conditions.
	S1-S2	290620	COMP	COMPOSITION I	Composition	3	Monumental architecture. History of architecture until the 18th century. Use the appropriate technical vocabulary. Write texts with basic level of spelling and grammar correction. Expand the sources of information that are given to others sought by the student.
						2n year	60

(Continuation) Table 4. Description of subject (Pathway 2 - ETSAV)

5	S1-S2	290621	COMP	TECHNOLOGY I	Technology	7	Analyze the technical requirements, formal and informal, that raises every project of construction and conditioning of an interior space. Understand the sensitive nature of the interior construction: it is the construction we feel and that makes the interior space livable. Use with solvency vocabulary of materials, products, elements of work proper to the interior construction. Know the regulations that condition the adequacy interventions in the interior of the buildings. Understand and organize the processes of execution of works proper to the interior construction. Integrate construction techniques and interior conditioning of buildings with the rest of subsystems. Understand and prevent the anomalous phenomena and aging of the building elements in the interior. Represent and specify the instructions and own orders of the project and interior work management. Adopt professional decisions with environmental, economic and social responsibility in their interventions to adapt the interior space.
	S1-S2	290622	COMP	STRUCTURES III	Structures	3	Resistant Structures: Structural analysis of hyperesthetic porticos. Pre-dimensioning of stresses.
	S1-S2	290623	COMP	ARCHITECTURE AND DESIGN WORKSHOP V	Design, Compulsory itinerary 2 subject area, Technology	12	Analyze, value and give architectural response to all the needs and sensibilities of future users. Control and articulate significantly all the qualities of the projected dwellings (dimensional, environmental, etc.). Manage with criteria the environmental conditions of the place (orientation, visuals, circulations, etc.). Constructively resolve the project both at the general (structural) and individual (facade, roof, etc.) level. Integrate in a significant way the technical decisions with the formal ones. To know, respect and integrate into the project the applicable regulations. Detect opportunities to provide innovative responses in the area of housing. To be able to project from the point of view of sustainability. Organize work appropriately to the time available and the objectives requested.
	S1-S2	290624	COMP	TOWN PLANNING II	Urbanism	5	City and residential project. Examples of residential projects of the twentieth century. The problem of housing and the residential project within the framework of the evolution of the city of the twentieth century. The theoretical formulation and the evolution of the projects (garden city, CIAM and open management, etc.). Analysis of residential projects of reference. Dimensioning, project instruments and basic parameters of residential projects. Recognize the environmental implications of urbanism. To know tools and processes to apply criteria of sustainability in urbanism. Use the appropriate technical vocabulary. Respond appropriately when questions are asked in an oral or written presentation.
	S1-S2	290625	COMP	COMPOSITION II	Composition	3	Use the appropriate technical vocabulary. Writing texts and documents: drafting and improving versions of the same text or document, with a coherent content and structure and style appropriate to the type of audience and the objectives of communication. Expand the sources of information that are given to others sought by the student.
6	S1-S2	290626	COMP	TECHNOLOGY II	Technology	7	Construction of conventional high-rise buildings and their service systems. Roof structures for multi-storey buildings. Usual facades and roofs. Service systems. Proper use of the corresponding materials. Valuation and legal aspects. To know tools and processes to apply sustainability criteria in conventional buildings.
	S1-S2	290627	COMP	STRUCTURES IV	Structures	3	The objective is for the student to understand and learn the general basic concepts for the overall design of building structures, the approach and suitability of the structural typology and material used (reinforced concrete). Likewise, the course aims to establish the fundamental concepts to deepen and expand later on more specific or complex subjects through optional subjects and official postgraduate programs that are taught from the same department
	S1-S2	290628	COMP	ARCHITECTURAL REPRESENTATION III	Architectural Representation	5	To know how to represent a project, persuasively and appropriate to your idea. Communicate clearly the relationship between the project and its context, be it an urban environment or a natural context. Customize the representations of landscape scopes and depth values. Differentiate the strategies of representation of the public and urban space from those of the constructed architecture. Interpret the place and treat it carefully.
	S1-S2	290629	COMP	ARCHITECTURE AND DESIGN WORKSHOP VI	Design, Urbanism	12	CRITICAL ATTITUDE: To achieve a critical operational vision of the current processes of architecture and city construction. TRANSESCALARIDAD: mapping situations and interpreting the complexity of the urban scale and its factors integrating them as a fundamental element of the architecture project. RELATIONALITY: Understanding the various relationships that architecture, and specifically housing, must establish between the intimate and the public as a fundamental element of definition of the urban form. PROFESSIONAL: To become familiar with the use of the specific technical vocabulary and the graphic resources necessary for the interpretation and representation of the architecture and the urban project. COMMUNICATION: Use strategies to prepare and carry out graphic and oral presentations, as well as planning the communication of the project.
	S1-S2	290630	COMP	COMPOSITION III	Composition	3	Recognize the social and environmental implications of the main architectural references. Use the appropriate technical vocabulary. Writing texts and documents: Drafts drafts and improvement versions of the same text or document, with a coherent content and with the appropriate structure and style according to the public and the objectives of the communication. Expand the sources of information that are given to others sought by the student.
						3rd year	60

(Continuation) Table 4. Description of subject (Pathway 2 - ETSAV)

7,8,9 and 10	S1-S2	290631	COMP	LIGHT BUILDING ENVELOPES	Technology	4	To know and to distinguish the basic characteristics of the main elements and systems used for the resolution of the light envelopes. Design basic constructive solutions of lightweight envelopes. Analyze the main features of the lightweight envelopes of existing buildings. Know the principles for the implementation of light envelope systems. To know reference buildings in the construction of light envelopes. Apply coherent criteria of architectural design for the resolution of projects of buildings with light envelopes. Use specialized technical vocabulary. Furs. Principles for lightweight envelopes. Techniques for the construction of complex envelopes based on the use and combination of specialized layers and solutions. Pre-industrialized. Proper use of materials. Regulatory Aspects. Assessment. To know tools and processes to apply criteria of sustainability in the light envelopes.
	S1-S2	290632	COMP	TOWN PLANNING III	Urbanism	5	Analyze the current processes of consolidated urban networks. To diagnose the needs of improvement of the urban fabrics. Understand and evaluate the various possible alternatives. Know the instruments of management and management of urban actions. Understand the central role of general municipal urban plans. Know the structure of the city and its regulation and planning. Project with criteria the elements of the public structure of the city. Tools of urban planning. Urban tools defined in the legislative framework. Structure of the city and its regulation. Planning. Guidelines and dynamics of transformation of the city.
	S1-S2	290633	COMP	PROMINENT STRUCTURES	Structures	3	Analysis of structural types. Design and calculation in steel, reinforced concrete and post-laying. To know tools and processes to apply sustainability criteria in the structural design.
	S1-S2	290634	COMP	ARCHITECTURE AND DESIGN WORKSHOP VII	Design, Compulsory itinerary 2 subject area	12	We believe that the form of a project is the result of a process involving many factors: historical, artistic, constructive, etc. What is certain is that the resulting object must meet specific requirements: program, budget, regulations, energy expenditure, many of them tabulated and standardized. We think that a good engine to devise a project is to meet all these characteristics that are objective. He Dealing with them before defining the final result will influence the project strategy.
	S1-S2	290635	COMP	ARCHITECTURE AND DESIGN WORKSHOP VIII	Design, Compulsory itinerary 2 subject area	12	Knowing tools and processes to apply sustainability criteria in the conditioning. Integrate the social, economic and environmental dimensions in the projects and in the works carried out. Integrate in the design of spaces and objects the conditions of adaptation to the conditions of all people. Know how to train or join existing teams. Assume coordination and evaluate results. Facilitate the organization of group work. Implement decision-making in international and multidisciplinary teams. Detect opportunities for innovative responses. Ability to make these responses viable and applicable. Ability to monetize an idea. Use the appropriate technical vocabulary. Use strategies for preparing and conducting oral presentations. Plan communication. Write and review documents with the appropriate format, content, structure, linguistic correction and registration according to the type of audience and the objectives of the communication. Present the work from the reference examples.
	S1-S2	290636	COMP	ARCHITECTURE AND DESIGN WORKSHOP IX	Design, Technology, Structures	12	We will work in the field of collective housing in environments without consolidation, with the following premises: ARCHITECTURAL INNOVATION_ understood as the attempts to solve specific functional requirements, social demands, environmental requirements, budget constraints and project aspirations to improve the existing situation: Smart homes: Changeability; Interactive object; Autofabrication. ELEMENTS_ Koolhaas, Venice Biennale 2014: A look at architecture as a combinatorial of elements that have evolved, functionally and culturally throughout history, i, which are unintentionally those that compose the urban landscape. FROM DYNAMICS TO THERMODYNAMICS - understood from the relation of the materiality of the projected architecture with pre-established environmental conditions and the interaction of the use of the individual. Of the measurable qualities of space: Otherwise looking at the architecture beyond the object: Of the genotype rather than the phenotype. Architecture of the dynamics of the interior space-air in relation to the external conditions and altered by the shape and composition of the envelopes. ADAPTING THE PROJECTUAL METHODOLOGY TO THE INFORMATION SOCIETY_ understood the project process, without a priori beyond the basic information: Empirical process rather than rational linear process; Information management parameter selling_ information coding_ maps and measurable diagrams_ programming of design processes to obtain systems, project families_ visualization of type_ to be examined_ prototype. Try, as far as possible, an approach to the new tools-contemporary software.
	S1-S2	290637	COMP	ARCHITECTURE AND DESIGN WORKSHOP X	Design, Composition, Architectural Representation	12	Analysis and design on various empty spaces in a state of more or less advanced abandonment.
	S1-S2	290638	COMP	CONSTRUCTION AND REMODELLING OF URBAN SPACE	Technology	4	Construction and refurbishment of urban space. Constructive elements for outer space. Floors, restraints and furniture. Infrastructures of urban services. Drainage and supplies. Proper use of the corresponding materials. Regulatory Aspects. Assessment and management. To know tools and processes to apply sustainability criteria in the urban space.
	S1-S2	290639	COMP	SOIL MECHANICS AND FOUNDATIONS	Structures	3	To know tools and processes to apply sustainability criteria in the structural design.
	S1-S2	290640	COMP	COMPOSITION IV	Compulsory itinerary 2 subject area	4	Have a global view of architecture, theory and criticism after World War II. Have elements to interpret a text. Have the ability to perform a theoretical / practical work collectively. Know how to read a text slowly. Detect a specific terminology of each of the texts analyzed. Communicate written and oral content. Manage the allotted time to expose content. Have a critical attitude towards a text.
	S1-S2	290641	COMP	INTERVENTION IN THE BUILDING STOCK	Technology	4	To have knowledge of both the techniques and the typologies necessary to face the problems arising from the existence of pathologies or existing buildings, victims of their transformation not to fall into a debris.
	S1-S2	290642	COMP	TOWN PLANNING IV	Urbanism	5	Concepts of urban and territorial projection. Territorial strategies to address the relevant issues of contemporary spatial planning and city planning: Capacity for analysis at the urban and territorial scale. Ability to synthesize the problems and opportunities of urban systems and Territorial relations. Ability to present plans and projects in the context of work in the local world.
	S1-S2	290643	COMP	BUILDING AS DESIGNED	Technology	6	Critical reasoning: analysis and assessment of different alternatives. Solve problems: analysis of optimal solutions against complex projects. Understand the specifications of a project and do the design. Study standards and standards and apply them to projects. Make a written and oral communication: selection and use of the appropriate media. Document case studies. Preparation of technical reports. Use of generic software. Be able to present the work done. Be able to do a theoretical / practical work individually. Be able to work in a team: ability to work in an interdisciplinary environment. Manage material resources. Attend professional ethics and social sensitivity. Addressing the environmental aspects.
	S1-S2	290644	COMP	COMPOSITION V	Composition	4	The goal is to understand the formation of the contemporary notion of heritage in its historical and critical complexity, as well as in the dynamic debates around the problem of its intervention, preservation and conservation.
S1-S2		OP	OPTIONAL SUBJECTS*	Optativity	24		

(Continuation) Table 4. Description of subject (Pathway 2 - ETSAV)

10	S1-S2	290645	COMP	BACHELOR'S THESIS	Bachelor's thesis (FT)	6	The course aims to seek to the students learning path wherefrom the student must identify and expose its main expertizes and professional interests. The main task of the course consists of learning how to implement IT and design tools to be able to develop and communicate properly the following: - The portfolio as a process (digital): including all materials identifying main acquired learnings from the first term to the end of the degree. - The portfolio as a showcase (digital and printed): presenting main skills and strengths by showing a selection of the best results and high-level work developed throughout the degree. Both portfolios will be supplemented by a written contribution reflecting the students criteria and interests to be exposed to the assessment committee of the TFG.
4th and 5th years						120	
Master in Architecture							
1	S1-S2	290700	COMP	TECHNOLOGICAL WORKSHOP	Technological and structural systems in buildings	8	This workshop takes place parallel to Design Studio and provides the technological knowledge and its application in the executive project, thus anticipating its methodology of implementation and management.
	S1-S2	290701	COMP	DESIGN WORKSHOP	Theory and projects of urban and building design	12	It is the core course of the first semester of the program. The course blends contributions from different fields of knowledge as well as an special emphasis on technology provided by the parallel Design Studio. It closely coordinated by all involved instructors from several fields, and will be followed up during the next semester as a Final Master Thesis.
2	S1-S2		OP	OPTIONAL SUBJECTS	Intensification and Research in Architecture	10	Specific fields such as environmental studies or social participatory processes, as well as urbanism, theory & history and technolgy, are hereby coordinated and lead according to the research lines of the School.
	S1-S2	290702	COMP	FINAL THESIS	Final thesis	30	It enables to draft, present and defend an original exercise carried out individually, thus being an integral project of architecture of a professional nature in which all the competences of the curriculum are synthesized.
6th year						30	
*Optional subjects							
Abbreviation guide							
Temporal character		S1	First semester				
		S2	Second semester				
Type of subject		B	Basic				
		COMP	Compulsory				
		OP	Optional				