

## COVER PAGE

**Name of the institution:**

Universidad Politécnica de Madrid (UPM)

**Name of academic unit in which the degree program resides:**

Escuela Técnica Superior de Arquitectura de Madrid (ETSAM)

**Title of degree program being evaluated:**

Bachelor in Fundamentals in Architecture + Master in Architecture (5 years + 1 year).

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## PROGRAMME SELF-EVALUATION REPORT (PSER)

### PART ONE (I). INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS IMPROVEMENT

#### Part One (I), Section 1: Identity and Self-Assessment

##### I.1.1 History and Mission

###### A. History

The Technical University of Madrid (Universidad Politécnica de Madrid, UPM) will celebrate 50 years as an independent entity in 2021. Nonetheless, the roots of most of its centers go back to 18th and 19th century, much before they were grouped into the current structure.

It would not be an exaggeration to state that a great part of the history of Spanish technology has been written in Architecture and Engineering Schools of this university for more than a century and a half. Sometimes they were the only educational institutions – in practice they were the only ones – and all outstanding figures in the fields of teaching and research have been students or teachers there.

The teaching of the specific subjects currently covered by the ETSAM Degree Program started many years prior to its creation and even a few years before the Fine Arts Academy of which it formed part was launched. Architecture was the first specific “program” of all granted at UPM today which was offered in a generalized way, and the training has been given on a continuous basis up to the present. The tradition of engineering education is different, since this was provided by military institutions.

In ancient Greco-Roman times, architectural apprenticeships were carried out in workshop and on site. These were regulated by the construction guilds of the time, which awarded the various laborer, craftsman and master’s degrees. Such organization retained an exclusive status during the Middle Ages; the professional autonomy of the architect did not start its definition process up to the first half of 15th century, when Brunelleschi broke away from the Guild of Masons citing the inherent intellectual and artistic nature of his profession.

- **The Royal Academy of Fine Arts and the Origins of the School of Architecture (1744 – 1900).**

The recognition of architecture as an independent academic discipline and its consolidation in Spain were the result of a long process. The Preparatory Council for setting up the San Fernando Royal Academy of Fine Arts (Real Academia de Bellas Artes de San Fernando) was held on July 18th 1744, in the home and private academy of G. D. Olivieri, who had been first sculptor to the King since 1741. The studies he gave at that time formed the basis for those to be regulated by the Council later, when a faculty of twelve was appointed, four for each art. The classes in the new School of Architecture belonging to the aforementioned Academy started in the building so called Casa de la Panadería, in the Plaza Mayor of Madrid, and continued there until 1773, when the institution moved to the building which houses the Academy still today. The name of Juan de Villanueva – the author of the Prado Museum and many other works – could be mentioned among the several distinguished architects who received architectural training.

Later on, in 1845, the School of Special Fine Arts was set up as an independent entity. In 1848, Bravo Murillo created the Special School of Architecture which was no longer under the supervision of the Academy. The incipient center was settled at San Isidro College of Royal Studies (Estudios Reales de San Isidro), now the home of San Isidro Institute on Estudios Street in Madrid, where it remained until it moved to the current ETSAM building.

- **20th Century and New Mentality (1900 – 1935).**

Between 1905 and 1915, a group of architects having received academicist training must face Modern Architecture. They would be greatly influenced by the new issues and problems throughout their careers, and therefore they might be considered a transition generation. The following figures could be mentioned: Teodoro de Anasagasti, Leopoldo Torres Balbás – who was responsible for the restoration of the monumental complex of the Alhambra and Generalife –, Secundino Zuazo – who provided designs for the Casa de las Flores Housing and the new buildings for the Government Ministries (Nuevos Ministerios); he also worked as a town-planner on the new stretch of Castellana Avenue and Madrid Regional Planning Project (Plan Comarcal de Madrid) – and finally Modesto López Otero, who designed the University City (Ciudad Universitaria), Madrid's largest university campus still today, and was the Head of the ETSAM between 1923 and 1941.

Later on, the so-called Group of '25 (following the Paris Exhibition of 1925) would dissociate themselves from their predecessors. These architects had been entirely educated under the influence of Modern Movement. They held that Spanish Architecture was backwards compared to other European countries and they put special emphasis on definition of architectural language, on the value of social perspectives, and on the City and Urban Planning. Casto Fernández Shaw, Carlos Arniches, Luis Gutiérrez Soto and Pascual Bravo should be highlighted here, and specially Eduardo Torroja, and engineer who would exercise remarkable influence on the scope of architecture.

- **The New Building in Madrid's Ciudad Universitaria (University City) (1936).**

The present building in the University City was designed by Pascual Bravo, who was holding a Chair of Architectural Design in the ETSAM and would later be appointed as Dean of the School. The opening took place in 1936, some months before the Spanish Civil War broke out. The image and layout of the building were very different from today, since the original design was intended to give service to a number of students between 20 and 30 times lower than the current one.

- **The Spanish Civil War and Later Generations (1936 – 1970).**

The Spanish Civil War (1936-1939) was a milestone in the history of the ETSAM due to the strong ideological conditioning exerted by the government in all aspects of society.

Two generations were affected by this situation in diametrically opposite ways. Some architects, such as Fernando Chueca Goitia, Alejandro de la Sota and Miguel Fisac had completed their training in the rationalist atmosphere previous to the conflict. However, the group made up of Francisco Javier Sáenz de Oiza, Julio Cano Lasso, José Antonio Corrales, Ramón Vázquez Molezún and some others completed the degree program requirements in the first years of Franco's regime; the academicist curriculum would prove to be out of date to tackle the complex economic and social changes in the country.

However, this second generation of "Masters" and some other younger architects, such as Antonio Fernández Alba, Javier Carvajal and Antonio Vázquez de Castro assumed most of responsibility for teaching from the Sixties until the late Eighties. A new group of professionals including Luis Peña Ganchegui, Fernando Higueras, Rafael Moneo and Juan Navarro Baldeweg later developed an organic revision of rationalist architecture in Madrid.

- **The Plans of Study 1957 and 1964 (PS '57 and '64).**

The Technical Education Reform Act (Ley de Reforma de las Enseñanzas Técnicas) was enacted in 1957 with the main objective of increasing the number of qualified technicians in Spain. Therefore, competitive entrance exams to Higher Technical Schools were suppressed. Usually, the admission test periods to the architectural program were one month long and only 6% of the students sitting the exams achieved a passing grade; also, two obligatory years of Maths in the Faculty of Science were required. After the changes introduced by PS '57, the training was made up of a selective course, followed by an introductory course and the five-year degree program. Requirements were only successfully completed after the fulfillment and

submission of an extra Senior Design Project (SDP). The PS '57 premises were to be continued by the PS '64, although with two years less.

- **The Plans of Study 1975 and 1996 (PS '75 and '96).**

A new plan to reform higher education was introduced in 1970 under the General Education Act (Ley General de Educación). As a result, the UPM was established in Madrid (1971) and PS '75 was set up in the ETSAM. It would be followed by PS '96 and the ongoing Plan of Study 2010 (PS '10) which are both characterized by continuity of faculty, teaching methods and contents.

University autonomy was promoted after the enactment of the University Reform Act (Ley de Reforma Universitaria - LRU) that was decisive to give shape to modern higher education in Spain. The division into departments and areas of knowledge was established and LRU credit points (each equating to ten class hours) were introduced. The existing program was adapted to the new regulatory framework and consequently PS '96 was based on credit requirements.

- **The current ETSAM Degree Program leading to the Architect's degree: PS '10.**

The ongoing Plan of Study is the result of adapting the existing program to the European Higher Education Area (EHEA). The process was launched after the Bologna Declaration on the European Space for Higher Education was published in 1999, and it was followed by the approval and application of a great number of regulations leading to the enacting of the Royal Decree RD 55/2005, January 25<sup>th</sup>. The conditions set up by this rule of law led to the devaluation of the awarded degree and triggered a wave of protests in the field of architecture. After long negotiations, the Decree RD 1393/2007 was modified by RD 861/2010, July 2<sup>nd</sup>; some time later, the Architect's degree was regulated in accordance with that established in the Ministerial Order dated 07/23/2010.

## **B. Mission**

The ETSAM, School of Architecture at UPM, is an educational community promoting open exchange of ideas, respectful debate of controversial issues, constructive criticism and thorough research, in order to reassert the academic and social values inherent in University. The objectives of the institution are to provide teaching, to develop research and to disseminate scientific, technical and artistic knowledge on Architecture and Urbanism to the full extent, and to maintain the highest quality standards so that graduates meet the demands of a competitive and well-diversified market. The mission of the ETSAM may be summarized through the following goals:

- To keep its position of reference center in architectural training throughout the country. The education of Architects as primary mission, providing quality education at both undergraduate and graduate level that meets the needs of society and the building and urbanism sector, as well as the challenges of scientific, technological and innovative in them. All done not only through the transmission of knowledge but also demonstrating its commitment to social progress, always seeking to be an example and reference.
- To defend its high achievements in innovation and excellence standards, in the conviction that any university and especially one belonging to the public education system must lead the commitment to society by paying attention to changes, detecting new requirements and contributing to development.
- To be consolidated as the most important center in Spain in advanced research, innovation and technology transfer in the field of Architecture and Urbanism, and to increase its importance at international level. The institution covers both basic and applied research and requires training of experts in different research processes and in scientific and technical counseling to society, support for PhD programs and the transfer of knowledge to society in general, and to the professional sector in particular.

- Finally and closely related to the abovementioned goals, to become a cultural platform that nourishes the ETSAM – this being an education and research system itself – while taking advantage of its unique qualities.

The UPM and ETSAM goal commitment was clearly established after the Quality Institutional Program (Programa Institucional de Calidad, PIC) was launched in 2004 with the aim of defining the procedures to develop school quality plans.

We are currently witnessing a period of complex change but full of possibilities regarding both teaching and expectations for professional practice. After a long process of discussion, debate, and determination inside and outside the academic environment, the Plan of Study described in this report has been maintained. The ETSAM Degree requirements assure the high level of quality that has characterized training so far and for which the institution is considered the best architecture school in the country. Our aim is to continue to be a reference center and to raise recognition of its first-rate teaching and research activities, of its influence on economic and social development and of the excellence of its students, both in Europe and worldwide. Finally, we consider it interesting to mention two data that reveal the quality achieved, both in the ETSAM and in the UPM itself:

- ETSAM occupies now at the position nº 35 in the international ranking QS: <https://www.topuniversities.com/universities/universidad-politecnica-de-madrid#wurs>
- On July 17, 2019, Universidad Politécnica de Madrid (UPM) became part of the group of universities and research centers that have obtained the European Human Resources Strategy for Researchers (HRS4R) certification. This distinction, initiative, launched by the European Commission, accredits those institutions that work to guarantee open, transparent researcher hiring processes, based on merit and ability, following the principles set by the European Charter for Researchers and the Code of Conduct: <https://euraxess.ec.europa.eu/jobs/hrs4r>

### **I.1.2 Learning Culture**

#### **A. General overview**

This condition states that schools are required to demonstrate that the courses they teach favor a balanced learning environment that encourages values such as optimism, respect, sharing, engagement and innovation, and that they support these intentions with the effective implementation of the necessary policies. These policies should be familiar to the whole of the university community (management, faculty, administrative staff and students), who should be involved in their preparation and collaborate in their development and improvement.

Architecture teaching must be framed within problem-based learning and solutions, which is a common practice in almost all schools of architecture throughout the world, and hence also in the Escuela Técnica Superior de Arquitectura de Madrid [Higher Technical School of Architecture, Madrid] (ETSAM): groups of students work together, usually in multifunction spaces, guided by a faculty member who coordinates general corrections for all with one-on-one attention for each student. This practice encourages personal research, and students learn by studying situations, understanding, recycling ideas, resolving problems and through critical input from their classmates. The process usually concludes with an assessment at the end of the semester in an open session of criticism in the presence of a panel of judges.

Essential components of the learning process according to this model are:

- This model promotes open dialogue, with no single preestablished solution.
- The flexibility of classrooms encourages interaction between faculty and students, and the possibility for students to share ideas, learn from each other and contribute to each other's work.

- It helps to control predominant behavior and attitudes of a group working together within the context of a design.
- Also helps to use extensions like bookshop, library, calculus institution, work exhibitions, study trips.

The values usually associated to this model of architecture teaching are: optimism, mutual respect, pleasure in sharing, engagement and innovation. It is also assumed to lead to personal growth by means of creative and collaborative engagement with the subject. Within this framework, the understanding of the importance of time management is considered a guiding principle for the learning process and one that will be essential in the students' future professional practice. All these values are predominant in architecture teaching in the ETSAM. Other negative aspects of the model to be avoided include particularly the life/study imbalance suffered by architecture students. The emphasis should be on working more efficiently, not necessarily longer. A further practice to be discouraged is the submission of work after several sleepless nights, a clear sign of poor time management.

The ultimate goal of this education system in the ETSAM is to integrate and promote this teaching model in the academic context. This is done by maintaining a constant commitment to this approach, not because it is dictated by management, but as a tradition inherited and continued throughout its more than 150 years of history, and as such is accepted and cherished by everyone involved, students, faculty and research staff.

## **B. Educational model of the ETSAM**

The core values of the ETSAM's architecture teaching are:

- Capacity to tackle creatively the project problem on all its different levels: analytical, conceptual and developmental.
- Integration of scientific, technical and humanistic knowledge.
- Capacity to respond at all the different scales of the project: detail, building, relationship with the city, spatial planning.
- Other learning opportunities with limited credits like field trips, participation in professional societies and organizations, and other program-specific or campus-wide and community-wide activities.

These premises suggest that the teaching model is the most appropriate –not to say the only– model with which to effectively integrate this diverse range of knowledge. Architecture teaching in this case is undertaken while resolving project-based problems with no single solution, in the course of which students learn by doing, and in which personal research assumes equal importance with peer-to-peer debate and teacher critique.

This type of teaching –historically linked to the different project-based subjects taught in each year of the degree course and constituting its backbone– has now been extended to other disciplines in the ETSAM such as Structures, Installations, Construction and Urban design, which have adopted this model in a large part of the subjects in their curriculum.

In parallel, with the gradual incorporation of experimental subjects, the ETSAM is moving towards a greater degree of interdisciplinarity, but always under the umbrella of this teaching model.

Finally it should be noted that in the ETSAM the training concludes with the presentation of an individual final project. Under the general supervision of a project director, the students integrate aspects of other disciplines, counseled by various specialized teachers, until they attain the degree of maturity that qualifies them to practice professionally.

## **C. Learning Culture Policies**

We offer a summary that specifies and classifies a number of measures, many of which have been in place for a period of years, compiled in a document that adapts to the demands of this International Accreditation procedure.

### **C.1 Participants in the process**

This document is drafted at the behest of the Institution's management body, through the Department of Quality Strategy.

Other sectors of the university community participate as follows:

- Students, through their Student Representatives.
- Teaching and research staff (PDI), through agreements with their respective Departmental Boards.
- Administrative and service staff (PAS), represented by the elected union branch.

One representative from each of these sectors sits on the work committee responsible for incorporating all the parties' suggestions and drawing up the definitive text. The aim is ultimately to consolidate this work committee as the body responsible for future yearly revisions.

The approval of the text, in addition to its successive modifications, takes place at the School's Board Meeting.

The document is published on the Institution's website and, therefore, its availability to all of those interested is guaranteed.

### **C.2 List (non-exhaustive) of policies and instruments for its execution**

#### *C.2.1 Regarding the learning process*

This process is sustained by adding a descriptor of each one of the subjects of the initiatives proposed.

The basic tool used to achieve this is the Learning guide for each subject in the degree program. Submitted for annual review, this comprises the student-teacher contract and contains the details that identify the subject, the list of faculty members, the contextualization of the subject within the global framework of the degree program, the specific content (syllabus), the general and specific skills that are taught and assessed, the teaching methodology followed, the weekly schedule of activities carried out throughout the semester, and the bibliographic references required.

#### *C.2.2 Regarding the assessment process*

This is done using the Institution's own assessment guidelines, which are in turn based on the general University guidelines. An annual review is conducted to adapt the assessment process to the new requirements that arise from the implementation of the teaching initiatives.

#### *C.2.3 Regarding the coordination and monitoring of the degree course*

These policies are designed to guarantee a framework within which the students can organize their time and achieve a balance between their studies and their personal life. Particular attention will be paid to the timing of submissions. The Institution already has a monitoring procedure that schedules commissions for the academic year and for the semester. Comprised of five and ten members respectively, they include the coordinators of the different subjects taught, and are headed by a member of the Academic Department.

#### *C.2.4 Policy for improvement of the faculty*

The University already has in place initiatives that are part of its faculty improvement policy. The most significant initiatives include the following:

- *Educational innovation.* The UPM awards annual grants for Educational Innovation, whereby the most interesting teaching initiatives are endowed with financial support.



Although any faculty member, alone or in a group, is eligible for these grants, the UPM encourages this activity to take place through the constitution of regulated Education Innovation Groups.

- *Courses in the ICE.* Once every semester the Institute of Education Sciences (ICE) at the UPM offers a series of ongoing training activities which include courses on technologies applied to teaching, methodological strategies within the framework of the European Higher Education Area (EHEA), basic training for research work, and even personal and academic development.
- This consolidated structure is regarded as being an effective framework for incorporating initiatives to promote Studio Culture.

#### *C.2.5 Use of the facilities*

The policy is based on reviewing, modifying and –where necessary–, proposing measures for the optimization of physical resources with the aim of improving the learning environment. As a starting point (horizon zero) the following aspects will be considered as a minimum:

- *Opening for the maximum number of hours possible.* Here it would be desirable to have uninterrupted opening of particular spaces; however this is at odds with the University's austerity policies.
- *Progressive adaptation of the classrooms to allow "hybrid" teaching (online and face-to-face simultaneously).* So far, 25 classrooms have been adapted for this purpose.
- *Opening of the Institution to other activities* like field trips, participation in professional societies and organizations, and other program-specific or campus-wide and community-wide activities.

#### *C.2.6 Policies designed to help the students*

Initiatives geared to helping both present and future students –either in response to one of the Institution's own programs or to a global University policy– include particularly the following:

- *Open-door days.* This initiative by the Institution is aimed at all high-school students who have shown interest in this career. It is conceived as a design studio (for building and urban design) in which teachers from the different subjects in the course, led by one project teacher and another urban design teacher, simulate a debate before the students about a hypothetical building or urban development project. The students are invited to take part in the debate, and the session raises their awareness of the extent to which Architecture and Urban Design are cooperative endeavors.
- *Welcome days.* Once the students have formally enrolled, and before classes begin, some of the most distinguished faculty members for each subject taught during the career extend a personal welcome to all incoming students. The same session includes an exhibition of the first semester's experimental design studios.
- *Mentoring program.* The students' representatives have a mentoring program that is currently run in collaboration with the Institution's management. The aim of this program is to create an ever-changing body of student mentors to guide first-year students. The mentors are in turn grouped hierarchically, with a series of tutors at the top of the structure. Management collaborates by providing training for the tutors and mentors in specific subjects such as coaching, etc.
- *Point 0 and starting point.* Web-based resources are offered by the University to incoming students as a reinforcement for their first-year subjects. This practice is currently almost never applied in the case of introductory subjects in architecture education.

### **C.3 Evidences regarding learning culture**

#### *C.3.1 Evidence of plans for implementation*

The UPM annually promotes competitions for *educational innovation*. Members of ETSAM faculty systematically participate in these competitions and obtain the necessary scholarships

to carry out the corresponding educational innovation projects. In this sense, we can mention the projects, led by ETSAM faculty, that have been accepted in the last two academic years and the ETSAM faculty responsible for them:

In the 2017-18 academic year:

- *The Investment of the Classroom in Project Learning: The Communication Workshop Applied to The TFM in the Master of Architecture.*  
Prof. Atxu Amann Alcocer
- *Learning Project on Urban Sustainability Challenges (PARSU)*  
Esther Higuera García
- *The Model. Learning to Work as a Team with a Real External Collaborating Agent".*  
Federico Soriano Peláez
- *S.A.P.I.E.N.S. Spatial Augmented Project for the Innovation of Environments*  
Atxu Amann Alcocer
- *Energy and Security for Society*  
Cesar Bedoya Frutos
- *ReadArkrit 2.0*  
Fernando Casqueiro Barreiro
- *The City Game*  
Jesús Ulargui Agurruza
- *V-Grand Tour: Collective Resource Platform for Architectural Projects Learning Based on Virtual Reality Content*  
Jose Gonzalez Gallegos
- *TRAINCO. The Transversality Between Facilities and Construction in Architecture*  
M Pilar Oteiza Sanjosé
- *ArCoopera: A look at Development Cooperation from the Degree in Fundamentals of Architecture*  
Soledad García Morales

In the 2018-19 academic year:

- *Use of Connectivity Through Instagram as a Tool For The Internationalization In Real Time of The Teaching of Architectural Projects*  
Juan Carlos Coll Barreu
- *Energy Efficiency in "Pan Bendito"*  
Cesar Bedoya Frutos
- *Teaching Strategies of Mediation Between Design and Society: Learning by Project in "Producto Fresco 2019"*  
Pedro Feduchi Canosa
- *CASE DE CAMPO - Transversal Teaching Initiative Between the Subjects of Architectural Projects 1 and Drawing, Analysis and Ideation 2. PA-DAI. ETSAM*  
Jesús Ulargui Agurruza
- *Learning Project on Urban Sustainability Challenges: Health Challenges and Social Challenges (PARSU-SS)*  
Esther Higuera García
- *Experimental Evaluation of the Necessary Displacements for the Collapse of Masonry Arches*

Joaquín Francisco Antuña Bernardo

- *PROJECT*  
Antonio Álvaro Aznar López
- *Negotiation Practices In Collaborative Work Environments*  
Federico Soriano Peláez
- *The Investment of the Classroom in Project-Based Learning: The Communication Workshop Applied to the TFM in the Master's Degree In Architecture (II)*  
Atxu Amann Alcocer

#### *C.3.2 Evidence that faculty, staff, and students have been able to participate*

In this section we can mention two types of activities:

Existence of *educational innovation groups*, which work permanently, including teachers and students. The ETSAM EI groups are the following:

- *Professional Language Applications for Architects and Engineers*
- *Didactics of Mathematics at the UPM*
- *Project Agglutinating Devices*
- *Computer Graphics Geometry in Architecture*
- *Educational Innovation Group for the Exploration of Teaching in Building Structures. E4*
- *Hypermedia. Architectural Configuration Workshop*
- *Teaching Resources Lab - Resources for Teaching the Architecture Project*
- *Urban Networking Workshops (UNWW)*

Existence of a *mentoring program*, mentioned above, in which faculty members and students participate annually. The Mentoring process is an accompanying activity in which the students of higher courses collaborate in the reception of new students, both in the FIRST YEAR and in international exchange or transfer programs. The [ETSAM ARQMentor](#) project develops an orientation and aid program for new students, under the supervision of the ETSAM Subdirector for Students and University Extension and in collaboration with the ETSAM Student Association. There are currently 60 Mentors and 235 first-year students in the ARQMentor program.

#### *C.3.3 Evidence that the institution has established policies and procedures for grievances*

The Polytechnic University of Madrid has an [Equality Unit](#), whose main objective is to promote gender equality policies within our University. As indicated in article 177 of our Statutes (Decree 74/2010, BOCM of November 15, 2010) the powers assigned to the Equality Unit are:

- Prepare, implement, monitor and evaluate equality plans at the University.
- Inform and advise the governing bodies of the University on equality policies.
- Supporting studies in order to promote gender equality.
- Promote knowledge in the university community about the scope and meaning of the principle of equality through the formulation of *proposals for training actions*.

The University has a series of Documents to promote equality between men and women, such as:

- [Equality Plan](#)
- [Protocol of Sexual Harassment and Harassment on the grounds of sex](#)

- [Harassment Prevention Guide](#)

*The Equality Unit promotes activities to ensure gender equality and the empowerment of women, as well as policies to address diversity.*

**C.3.4 Evidence that the institution has established policies to foster academic integrity**

The University has a policy for the prevention of cheating and plagiarism. Student work submissions are made in Moodle or in another tool that the University considers official. Moodle submission has an option to pass the Turnitin program to all submissions to check for plagiarism. In the event that the delivery is not made in Moodle, Turnitin program can also be used, by agreement of the University.

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Excluir equivalencias menores

Exclusion Value

Nota: La opción de evaluación anónima ha sido eliminada. Turnitin usará la configuración de evaluación ciega de Moodle.

### I.1.3 Social Equity

Social equity in the ETSAM is enshrined in the general statutes of the UPM.

<http://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20de%20la%20Universidad/Estatutosupm031003.pdf>

We consider it relevant to transcribe certain paragraphs from the INTRODUCTION to these statutes, which include the most important points of this social equity policy.

*The Universidad Politécnica de Madrid subscribes to the democratic values of freedom, solidarity, peace and cooperation between peoples, pluralism and equality, and undertakes to*

*spread these values and promote human rights, and particularly the right of expression and the unrestricted dissemination of thought and of scientific, technical and artistic production and creation. In line with its status as an autonomous body, the University bases the application of these fundamental values and principles on the concept of academic freedoms, including freedom of teaching, research and study. Given its public nature, and in compliance with the Spanish Constitution, it will not express any private convictions that come into conflict with the aforementioned freedoms. Based on the particular characteristics of its dedication to learning, and as part of a model of interdisciplinary cooperation, the Universidad Politécnica de Madrid seeks to combine teaching and research, the promotion of the full dedication of its faculty and the academic collaboration with professionals of recognized prestige, training in sciences, technical subjects and arts, and education in values, with the adequate preparation of its students for the exercise of their profession.*

*The Universidad Politécnica de Madrid is a public university and enjoys the prerogatives corresponding to it as a public law body linked administratively to the Madrid Region, in which it carries out its competences under the terms of the state legislation regarding the legal regime governing public administrations and the common administrative procedure. In the exercise of its activities, its management will be guided by the criteria of responsibility, publicity, transparency and participation, and will respect, within the framework of the Spanish Constitution, all the rights, freedoms and legitimate interests of all those who give or receive its services. It will strive to provide maximum quality and optimum delivery, and will apply, in general, the principles of legality, efficiency, transparency and universal accessibility and design for all; and to its staff particularly, the principles of equality, merit and capability during their selection, assessment and professional promotion, and the principles of efficiency and economy in its actions.*

Furthermore, Article 1 indicates in relation to the character of the UPM:

*The Universidad Politécnica de Madrid is a public law body that enjoys its own full legal character and its own assets for the performance of its functions and the achievement of its objectives.*

- *According to the provisions of the present Statutes, the Universidad Politécnica de Madrid is organized under a system of autonomous government, as established in article 27.10 of the Constitution and in the framework defined by the current legislation.*
- *In the exercise of this autonomy, the activities of the Universidad Politécnica de Madrid are based on the principle of academic freedom as manifested in the freedom of teaching, research and study. These principles and liberties will inform the interpretation of the standards by which it is ruled. To this effect:*
  - *Freedom of teaching is manifested through the right of its teachers to express their ideas, opinions and scientific, technical, cultural and artistic convictions freely during their teaching activity, within the framework of the curriculum and the guidelines approved by the corresponding bodies of the Universidad Politécnica de Madrid.*
  - *Freedom of research is manifested through the right to the free use of methodological principles, the choice of pertinent objectives and the dissemination of the results obtained in the research activity.*
  - *Freedom of study, based on equal opportunity and nondiscrimination for students, includes the public knowledge of the regulations governing the testing of students' knowledge, counseling and assistance, the freedoms of expression, meeting, and association, and the guarantee of students' rights by means of the appropriate procedures, and when necessary, through the action of the University Ombuds Office.*
- *The management of the Universidad Politécnica de Madrid is based on the principles of:*
  - *Responsibility, as manifested by the fact that all actions or omissions are attributed to a responsible person, who answers to the University itself, which in turn is responsible before society through its organs of government.*

- *Public knowledge, as manifested in the obligation to make public all its executive acts through the established organs; these acts must be published in the Official Gazette of the Universidad Politécnica de Madrid, or will otherwise be deemed invalid.*
- *Transparency, as manifested in the public access to all the University's documents and internal records, save those declared confidential or secret through a ruling from the Principal.*
- *Participation, as manifested through the implication of all the sectors of the University in its government and administration, according to the functions corresponding to them and for the purposes and procedures indicated in these Statutes.*
- *Equality, as manifested through policies of equal treatment and opportunities in working conditions, in the models of organization and in the services offered.*

Article 2 describes the following objectives of the UPM:

*The objectives of the Universidad Politécnica de Madrid are to provide an essential public service for higher education through teaching, study and research:*

- *Creation, development, transmission and critique of science, technology, and culture.*
- *Contribution to people's education in terms of their intellectual and work capacity, ethical judgment, responsibility and integration in their environment within a framework of freedom and support for creativity and effort.*
- *Preparation for the exercise of professional activities which require the application of knowledge, scientific and technical methods and artistic creation.*
- *Scientific and technical support for the cultural, social and economic advancement of society.*
- *Dissemination of education and culture.*
- *Dissemination of scientific and technical knowledge, and artistic and creative activities.*
- *Stimulation and participation in the development and improvement of the educational system.*
- *Support and stimulation of public and private enterprise for the process of technological upgrading and innovation.*
- *Cooperation for human development through strategies that impact on the generation and dissemination of knowledge designed to promote the advancement of disadvantaged sectors of society and to further equality.*

With regard to the students, Article 119 refers to equality of opportunities, and specifies:

- *In order to ensure that no student who has passed the admissions process should be excluded from studying in the Universidad Politécnica de Madrid for economic reasons, and without prejudice to the general policy enacted in this regard by the State and the Madrid Region, the University may award grants to its students. If so specified in the grant application conditions, the acceptance of these grants may require the rendering of certain services.*
- *In addition, the Universidad Politécnica de Madrid shall establish, according to the current legislation, modes of partial or total exemption from payment of prices to the public.*

Finally, it should be noted that the University has an “**Ombuds Office**”, the nature of which is described in Article 172:

- *The University Ombud is the figure charged with safeguarding the respect for the rights and freedoms of the faculty members, research staff, students and administrative and service staff at the Universidad Politécnica de Madrid, in response to the actions of the different university bodies and services.*

- *Its actions shall always directed towards the improvement of the quality of university teaching in all its spheres, and shall not be subject to the imperative mandate of any university authority, and shall be ruled by the principles of independence and autonomy.*

As an evidence of the participation of faculty, staff and students in the establishment and possible modification of these social equity policies, suffice it to say that all of them participate, by election among their peers, in the "University Cloister", which is the Governing body that establishes the policy and general operation of the University.

All this in accordance with the provisions of articles 40 and 41 of the UPM statutes.

#### **I.1.4 Defining Perspectives**

Programs for the teaching of architecture in Spain must comply with a series of requirements imposed by the central government, and are oriented to training students with a minimum set of skills and competencies that qualify them to exercise the profession immediately after completing the qualifying master's degree. In fact, students who successfully complete the enabling master's degree in architecture, from any of the architecture faculties in the country, either private or public, are automatically entitled to their professional licenses and to join the professional association in their place of residence, enabling them to work anywhere in Spain. For this reason, the twelve semesters teaching program currently carried out at the Higher Technical School of Architecture at the Universidad Politécnica de Madrid (ETSA-UPM), including bachelor's and master's degrees, complies with the minimum requirements for the exercise of the profession which –as we shall see– addresses the five perspectives proposed by the NAAB

#### **A. Collaboration and Leadership**

Due to the national legislation and the attributions assigned to architects in their professional work, the architecture teaching syllabus followed in the ETSA-UPM is based on threefold training: in the sphere of creative design, in building technology, and in urban planning and spatial planning.

In fact, the teaching program places great importance on knowledge of the arts –not only architecture but also painting and sculpture–, their history and evolution, and current trends. Thus, the more creative subjects of composition and projects stimulate the conjunction of the compositional arts in the students' designs, without overlooking their necessary functionality. The architects' training takes place on different scales:

- Urban, requiring knowledge of spatial planning.
- Building projects, knowledge of the design and construction of buildings for all types of uses.
- Technology and construction, knowledge of structures, installations and constructive development.

In short, the architecture teaching in the ETSA-UPM is broad and comprehensive and features the participation of teachers from different disciplines in order to equip students to be able to embark on their profession with a global and responsible approach, and on many occasions the teacher takes the role of the client in order to reinforce the lessons learned. This teaching culture allows ETSA-UPM graduates to have the knowledge that makes it easier for them to become leaders of the professional teams in which they work.

For this future leadership in the profession, the student must already learn in the School the tasks of coordination of the different aforementioned knowledge, which will grant him sufficient authority to be accepted as the leader of the group in which he has to work.

For this, it is common that during their studies they carry out the work of the different subjects in groups of several students (between 2 and 4). This type of teamwork allows them to develop their skills of coordination and leadership, even competing among group members.

On the other hand, it is also very common for students to participate in competitions proposed by different companies in the building world, either producers of materials, or developers and constructors of buildings.

Finally, it is also common for students in the last semesters to eventually collaborate with professors or architects outside the university in the development of projects, either to present themselves to public tenders, to design and construct buildings of various types, or to study different solutions. urban planning.

All these activities collaborate effectively in the architectural training of students and help them develop their coordination and leadership skills.

It is also worth noting that the programs endow the students with a series of transversal skills such as:

- Teamwork
- Use of English
- Organization and planning
- Creativity
- Respect for the environment
- Use of information and communication technologies (ICTs)
- Oral and written communication
- Leadership
- Capacity to assume responsibilities
- Capacity for analysis and synthesis
- Decision-making

The experience of graduates of the ETSA-UPM architecture program has revealed that they graduate with a preparation that enables them to live and work in a global world, where diversity, uniqueness, self-esteem and dignity are respected and supported. Evidence of this is that a significant number of graduates from our School have chosen to make their professional life in a range of different countries and cultures: from Europe to Asia, and including the Americas, where they have found considerable success (Rafael Moneo, Alberto Campo Baeza, José Ignacio Linazasoro, Juan Herreros, Iñaki Ábalos, Alejandro Zaera Polo, Anton Garcia-Abril, Ginés Garrido...).

The experience of the students who follow the various architecture teaching programs taught by the ETSA-UPM throughout its history is a clear example of leadership ability. In fact, for many years the graduates of our School have been leaders in their respective fields, both in planning, directing and building structures.

This is a sign of the added value that graduates of our program receive in terms of their broad cultural knowledge and capacity for organization, in addition to their facets as planners and directors of works.

## **B. Design**

Design at ETSAM is supported by a series of subjects managed by the different departments:

**Graphic Ideation of Architecture**, which supports the creation of the Project from the graphic representation in the Bachelor Degree, with the subjects of Drawing, Analysis and Creation 1



and 2, Geometry and Architecture Drawing 1 and 2 and some Experimental workshop 1 in the first year, Experimental Workshop 2, in the fourth year, and Intensified Study Subject of Graphic Design in the fifth and in the Diploma Project. In the Master Degree, the Communication Workshop subject, which helps to organize the final graphic delivery and the oral presentation of the Final Master Project.

**Architectural Composition**, that supports the creation of the project from Analysis and Composition in the Bachelor Degree, with the subjects of: Introduction to architecture, Experimental Workshop 1 and History of Art and Architecture, in the first year, Architectural Analysis, in the second, History of Architecture and Town Planning and Landscape and Garden Design, in the third, Architectural Composition and Experimental Workshop 2, in the fourth, Intensified Study Subject of Architectural Composition in the forth and in the Diploma Project. In the Master Degree, the Composition Workshop subject, to help the initial fit of the project.

**Urban and Regional Planning**, supports de design from the composition of the city, with subjects such as The City and the Built Environment, in the third year, Urban Project and Experimental Workshop 2, in the fourth, Intensified Study Subject of Urbanism and Town Planning, Urban and Land Planning in the fifth and in the Diploma Project.

**Applied Mathematics**, in the Bachelor Degree with the subjects of Experimental workshop 1 in the first year, Experimental Workshop 2, in the fourth, Intensified Study Subject of Architectural Modelling, in the fifth and in the Diploma Project. In the Master Degree, the elective subjects of Computer Aided Geometric Design: Free forms and forms in equilibrium, Computer methods in architecture and Modelling and numerical analysis, to help define the Final Master Project.

**Construction and Technology in Architecture**, which collaborates in the materiality of the Project in the Bachelor Degree, with the subjects of Building Materials and Construction and Building Technology 1 in the second year, Construction and Building Technology 2 and Environmental Conditioning and Habitability in the third, Construction and Building Technology 3, Technical Equipment and Services, Electric, Lighting and Media Technologies and Experimental Workshop in the fourth, Intensified Study Subject of Construction and Architectural Technologies, Building and Technology Systems Design, Technical Equipment Design, Architectural Regulation and Intensified Study Subject of New Construction Systems in the fifth, as well as in the Diploma Project. In the Master Degree, the Construction Workshop Subject supervises the students in the material definition of the Construction and Installations of their Final Master Degree.

**Building Structures and Physics** also collaborates in the material realization of the structures and Installations of the project in the Bachelor Degree, with the subjects: Experimental Workshop 1 in the first year, Physical Mechanics, Structures Design 1 and Building Physics in the second, Structural Design 2 in the third, Structural Design 3 and Experimental Workshop 2, in the fourth, Soil Mechanics, Structural Design and Intensified Study Subject of Structural Design in the fifth. In the Master Degree, the Structural Workshop Subject supervises students in the material definition of the Structure of their Final Master Degree.

Finally, the **Department of Architectural Projects**, which participates in every year at different levels and is the main responsible for teaching design at ETSAM-UPM. It proposes an organizational structure that is based on Teaching Units of five professors, in total there are 23 Teaching Units. With 8 levels of Architectural Project in Bachelor Degree and 3 levels in addition in the Master Degree.

Within an academic organization that defines specific objectives for the eight levels of projects and the Master Degree offered, the Units have academic freedom to reach those objectives; the students can choose within the levels those Teaching Units that are according to your interests. In this sense, an open system of choice is proposed that maintains objectives but that

oscillates between different learning methods. That is precisely the strength of this Department: its appreciation for diversity.

Each of the project levels sets common objectives for all the Teaching Units. The first levels focus on abstract approaches, on understanding the reality of bodies in space and in the material conditions of these relationships. All through the construction of prototypes and models that also introduce students to a manual and direct learning with the materials and their mechanics. Likewise, the relationship of architecture with the environment is introduced. The intermediate courses are characterized by understanding the strategic conditions of architecture, which are therefore the great themes of our time and how the rest of the creative disciplines assume them.

This issue is crucial as it places the student at the middle of creative procedures, distinguishes what is main from what is not and therefore helps to prioritize and structure. All this is achieved with a knowledge of the project techniques, which should not be specific to architecture but rather multidisciplinary.

The upper courses are characterized by their learning and fusion of all the disciplines that make up the project, studies of sociology, economics, territorial structure, mechanics, fluids ... digital manufacturing, all of which are understood as ways of approaching reality and not so much as support crutches. The contemporary project is built from the disciplinary topology and not from the architectural typology.

It is important to note that in the Bachelor Degree, this Department teaches how to project, but it is not a project in the professional sense; that is, concepts are learned that are materially elaborated to turn them into structures that influence the environment. Contexts are built and related to other contexts.

It is the mission of the Master Degree to approach the project from the reality of the time in which we live, from a professional practice that the University must always put into question, because if the University does not assume its commitment to thinking and criticism, it becomes a place pointless, simply in a certificate vending machine. In this sense, the Master Degree, in relation to the project, assumes the commitment of the critical reading of reality, puts it into question through the materiality of architecture and approaches the project from its connection with society. That is to say, it reflects and builds to improve the ways of life from the material conditions and also from the offer of the daily change. Teaching rejects, in a way, the custom to go into what "should be", knowing the mechanisms and technologies of our time. In summary, the Master Degree trains critical professionals.

### **C. Professional Opportunity**

As mentioned earlier, under Spanish legislation a University degree in architecture directly qualifies graduates to acquire their professional licenses entitling them –without any other requirement– to begin work as architects and to assume all the rights and responsibilities conferred by the law of attributions.

In consequence, the program is designed so the student who completes it will be equipped with the adequate skills and capabilities to practice the profession, in both its theoretical and practical aspects, covering everything from formal composition through to technical solutions, and including the specific functional design involved in architecture and urban design.

Here it should be mentioned that most of the subjects taught in the program have a direct bearing on the profession, even when viewed as a set. Thus the subjects "Architectural Design" and "Composition" prepare students to tackle a program of functional requirements and a composition within a setting –a common starting point when planning professional projects.

Throughout their degree course, students learn to create designs that conform to this program, and are sustainable and respectful of the environment, and with a balanced formal and compositional design. All this is combined with a broad knowledge of the history of art and architecture, the necessary composition criteria, as well as urban design and spatial planning.

The subjects “Construction and Technologies” train students to technically resolve the materialization of the building’s design, and to decide the most appropriate materials and building systems for the design in general and for its setting and surroundings. All this is approached not as an after-the-fact solution, but as an underlying premise that informs the design process from the outset. In other words, the design must not only take into account the final form, but also the materials and systems that will enable this form to be materialized. It is worth recalling that the professional architect will be responsible for the final quality of the building.

In the program, students learn to calculate the structures needed to support the building from its initial design at the start of the design process, all supported by the basic education subjects of mathematics and physics. Thus the graduates of this program are able to resolve this part of the process themselves, or supervise the calculations of other professionals, as ultimately they will be the ones responsible for arriving at structural solutions in their professional life.

Similarly, students in the program learn to design and calculate electrical installations, fittings, and systems for water intake and disposal and fire detection and extinction. This equips them to assume the professional responsibilities conferred on them by law, either by carrying out the design and calculation of these installations themselves, or by supervising the work done by other professionals with whom they are collaborating.

The program also prepares students for urban planning on different scales, from planning a territory through to urban design.

In addition to this training in architectural design and its complementary technical solutions, the program contains a series of subjects in which students learn about the specific legislation that will affect them in the exercise of their profession as architects, and which establish and delimit their responsibility as such. They also study the methods and criteria for managing building sites, as this is one of the specific attributions of a professional architect.

All this goes towards shaping the mindset of the students enrolled in the program to encourage their engagement with society, as well as fostering leadership in the industrial and professional processes in which they will take part in the future.

As the conclusion to all these teachings, students have to undertake the task of planning a building from its conceptual design through to its technical solution in Master’s final project, which offers a definitive taste of what their professional practice will entail and establishes the following priority objectives:

- To allow students to complete one more year of their education in architecture in order to attain the necessary maturity for the exercise of their profession at the highest level possible for recent graduates.
- To give the education received by students of the Madrid School of Architecture its unique character, as has traditionally been the case since 1844; the School’s teaching clearly focuses on working as a profession of architect, and on the professional activity.
- To enable students to develop the knowledge they acquire in their degree program through specialized training itineraries in specific areas of architecture.
- To offer all students who so request a basis for architectural research by means of a specific itinerary. This itinerary is intended for Masters’ students who wish to continue their training into the third cycle, corresponding to a PhD degree.
- At the same time, the curriculum ensures that as they embark on their professional lives, the new architects will be equipped with at least the attributions currently conferred by the profession of architect, and will also be in a position to opt for the attributions currently corresponding to the different branches of the profession.

Finally, and in addition to this ongoing innovation in education, it is worth highlighting the broad offer of postgraduate training provided by the ETSA-UPM to graduate architects. These courses include a significant part dedicated to professional specialization, and is followed by numerous architects (over 300 a year), revealing the close links that have grown up between the School and the architectural profession. In fact, this activity has increased over the last ten years, and the number of postgraduate students taking these courses has multiplied by three. This postgraduate activity is not aimed exclusively at professional specialization. One part is dedicated to research in the field of architecture, and represents a major contribution to the academic world –not only in the UPM itself, but also in Spanish society in general. There has been a notable and sustained increase in the doctoral theses defended in the School over the last ten years, and now over 45 doctoral theses are currently read every year. The PhD graduates trained at the ETSA-UPM go on to cover the teaching needs of the School itself, in addition to teaching positions in other schools at the national and international level, in view of the high number of foreign postgraduate students.

Generally speaking, Spanish architecture in the last decade has achieved a number of outstanding successes, and this was made possible thanks to their training in Spanish schools, and particularly the Universidad Politécnica de Madrid as the flagship institution for the training of architects in Spain. Some of these architects have become leaders in both the academic and the professional sphere, and have gone on to achieve renown on the national and international scale (Alejandro Zaera Polo, Diego Cano-Lasso, Juan Navarro Baldeweg, Iñaki Ábalos, Juan Herreros, Rafael Moneo, Antón García-Abril, Ginés Garrido...), in artistic activities such as the organization of exhibitions, and in technical activities relating to quality or maintenance, including businesses more loosely associated with architecture and its general scope.

In addition to the above considerations, the students who follow the architecture program are guaranteed to be sufficiently prepared to conduct their professional activity within the global economy, and are capable of working in any country in Europe, North and South America, and in Asia and Africa. In fact, there are ETSA-UPM graduates working in countries in all those areas, including some as aid workers in developing countries.

#### **D. Stewardship of the Environment**

Most of the subjects in the program clearly demonstrate the importance of the impact of building projects on the environment, and students are taught to strive for a positive impact, both from the point of view of sustainability –by using materials and systems which cause a minimum impact and favor easier maintenance– and from the point of view of visual impact – with an optimum placement of the new building in its setting, taking into account its effects on nearby architectural heritage buildings, and seeking to improve its energy efficiency and accessibility.

As has been commented, the program places particular emphasis on the importance of multidisciplinary actions involving collaboration with a variety of specialists in the different knowledges and techniques required for the building. This gives students an awareness of the importance of the specialists' comprehensive knowledge, and may steer their professional activity towards one or another of these specialized knowledges and techniques in order to collaborate in facilitating the process, as it requires a team of architects with multiple skills, among which the knowledge of the environment and the respect for its potential are important, trying to maintain all natural processes.

In any case, most of the work in the different subjects of the program is done in teams of three or four students to prepare them for their professional work in a multidisciplinary team of collaborators specializing in a range of subjects.

All this takes account of the fact that the building design process starts as a consequence of a series of needs established by –or in common agreement with– the client. This dialogue with the client should thus be maintained at all times, as the final objective is to satisfy the client's

needs. But this does not eliminate the responsibility of the architect with the environment, so he has to demonstrate sufficient knowledge to the client to ensure respect for this environment. The students are therefore instilled with the need to achieve this satisfaction. All of this definitely allows the ETSAM-UPM graduate take responsibility for stewardship of the environment and natural resources.

## **E. Community and Social Responsibility**

In addition to the achievements of the program mentioned in the previous points with regard to students' learning, the program's teachings are also geared to preparing students to become active citizens committed to the common good. In fact, even though the clients are the indicators of the project's objectives and requirements, teaching in all the different aspects of the program continually highlights the principle that the common good must come before private needs.

The requirements for energy efficiency, sustainability and accessibility are taken into account in all the buildings planned, and students are given the legal, functional and technical tools to ensure the scope of this sustainability, thereby allowing them to contribute to enhancing the positive impact of the planned and completed building on the environment and on society. This is a prerequisite both for new construction buildings and for work done on historic buildings for the purposes of recovering or improving their functionality and for enhancing their efficiency and sustainability. Efficiency refers to the economic and functional response of the building throughout its useful life, by improving its durability and reducing its maintenance costs. Sustainability concerns the reduction of the building's impact on the environment, and the improvement in its energy response in order to decrease fuel consumption and indirectly improve the inhabitable space and the environment in general.

At the municipal, regional and state levels of Spanish government, there are architects working as urban planning managers and projects and works supervisors, as well as in ministries and building departments where public architects are engaged in the same work. All this contributes an important dimension of public service to architects graduating from the program. Our graduates even include some current politicians.

The response of the program outlined in the previous paragraphs demonstrates that students who follow this program receive sufficient opportunities for learning to enable them able to act mindfully as professional architects and display an understanding of the importance of their activity. This importance is due to the client for whom they are going to work, the society they are going to serve, and the environment of which the buildings they design will form part.

### **1.1.5 Long-Range Planning**

The objectives are defined in the Degree Program Validation Report for the Bachelor of Architecture. These objectives are outlined in the White Book of Architecture and have been obtained from the analysis of the architect's profession and the status of studies in Europe, the United States and Spain, the demand for the architecture degree, and graduates' general professional profiles and specific competences.

The plan was compiled taking into account the European Directive 2005/36/EC which regulates the system for recognizing degrees at the European level, and Resolution 22013 of 17 December 2007 on the new Architecture Curricula which regulates the conditions of the degrees for professional qualifications among other documents.

The procedure used to implement the plan is described in the Architecture Degree Program Document, of 27 September 2010.

Section 2.3 of this document indicates the conditions for the plan's self-assessment and review, including the following:

The review is conducted annually by means of an internal self-assessment procedure regulated under the Internal Quality Guarantee System (SIGC), described in chapter 9 of the Degree Program Validation Report.

It involves the following processes:

- The SIGC follows the AUDIT program run by ANECA (National Spanish Agency for Quality and Accreditation).  
The Internal Quality Assurance System (SGIC) is constantly evolving. The main changes have been to adapt and simplify the system to make it more efficient and expand for Doctoral studies, since ANECA has incorporated these studies and their corresponding Renewal of Accreditation into the Accreditation System. The last adaptation corresponds to the Update of the "Standards and guidelines for quality assurance in the European Higher Education Area (ESG)". We went from using the term SGIC to SAIC, UPM Model Internal Quality Assurance System (SAIC-UPM 2.1). The SAIC current version is 2.1.
- Within the procedures defined in the SIGC, the following refer to self-assessment:
  - PR/ES/001 Preparation and Review of the Annual Quality Plan: Describes the process for establishing and monitoring the Annual Quality Plan (PAC).
  - PR/ES/002 Title Management (Design, Modification, Verification and Extinction): Describes the process to address the design, modification, verification and termination of Official Titles. This procedure includes the following threads:
    - Sub-process of Design of Official Titles (SBPR/ES/002-01) [pdf]
    - Sub-process of Verification of New Titles (SBPR/ES/002-02) [pdf]
    - Sub-process of Modification of Official Titles (SBPR/ES/002-03) [pdf]
    - Sub-process of Extinction of Official Titles (SBPR/ES/002-04) [pdf]
  - PR/SO/008 UPM Survey System (Surveys to Staff, Faculty and Students, Graduates and Employers): It describes the system for conducting studies and analyzes on different key aspects under the criteria of transparency, effectiveness and efficiency, with the ultimate objective of: Be accountable to society, providing information on the degree of fulfillment of the purposes entrusted to it, the quality of the services it offers and its continuous improvement. Provide information necessary for decision-making, to all agents involved in the management and deployment of the processes of university activity.
- The following procedures refer to improvements in the students' academic performance:
  - PR/ES/001 Preparation and Review of the Annual Quality Plan: Describes the process for establishing and monitoring the Annual Quality Plan (PAC).
  - PR/ES/002 Title Management (Design, Modification, Verification and Extinction): Describes the process to address the design, modification, verification and termination of Official Titles. This procedure includes the following threads:
    - Sub-process of Design of Official Titles (SBPR/ES/002-01) [pdf]
    - Sub-process of Verification of New Titles (SBPR/ES/002-02) [pdf]
    - Sub-process of Modification of Official Titles (SBPR/ES/ 002-03) [pdf]
    - Sub-process of Extinction of Official Titles (SBPR/ES/002-04) [pdf]
  - PR/ES/003 Follow-up of Official Titles: It establishes the necessary bases to ensure adequate monitoring of the different official titles, in order to facilitate continuous improvement, the quality of the results obtained (internal responsibility) and to have the necessary mechanisms for adequate accountability, guaranteeing the publication of the information (external responsibility).
  - PR/CL/001 Coordination of Teaching: Describes the teaching coordination process of the ETS of Architecture (ETSAM) degrees, focusing on teaching planning and evaluation systems
  - PR/CL/002 Student Orientation and Support Actions: Describes the mechanisms for carrying out orientation and support actions for new students, both undergraduate and graduate. As well as the actions of the Mentor Project, the Guardianship Program. And also the welcome actions carried out by the Institution to integrate incoming students.
  - PR/CL/003 External Internships: Describes the process for preparing the offer of external, curricular or extracurricular internships.

- PR/CL/004 Mobility OUT: Describes the process that makes it easier for students enrolled in the Center to study in centers of other national or foreign universities.
- PR/CL/005 Mobility IN: Describes the process that makes it easier for students from universities other than the UPM to study at ETSAM.
- PR/CL/006 Orientation and Labor Insertion: Describes the process by which the ETSAM supports its graduates in their incorporation into the labor market and carries out their follow-up.
- The procedures for evaluating student satisfaction are as follows:
  - PR/SO/005 Measurement of Satisfaction and Identification of Needs: Describes the process of measurement and analysis of the level of satisfaction of the different interest groups or identification of needs, as well as others arising from the Annual Quality Plan, to contribute to the continuous improvement of the services and the ETSAM management system.
  - PR/SO/008 UPM Survey System (Surveys to Staff, Faculty and Students, Graduates and Employers): It describes the system for conducting studies and analyzes on different key aspects under the criteria of transparency, effectiveness and efficiency, with the ultimate objective of: Be accountable to society, providing information on the degree of fulfillment of the purposes entrusted to it, the quality of the services it offers and its continuous improvement. Provide information necessary for decision-making, to all agents involved in the management and deployment of the processes of university activity.
  - PR/SO/007 DOCENTIA-UPM: Describes how the UPM evaluates the teaching activity of its faculty, in accordance with the guidelines established by national and European quality and accreditation agencies.

All these procedures designed by the UPM provide the indicators necessary for the review and efficiency of the self-assessment and quality improvement processes, and also cover degree accreditation and financing for degree programs. The main indicators for the Bachelor Degree and the Master Degree are:

- GRADUATION RATE: Percentage of students that complete their studies in the time established in the curriculum (d) or in one more year (d+1) in relation to their entrance cohort. This is a measurement of academic success. In order to assess this information, and in addition to the points mentioned in the introduction to this section, it is necessary to take into account that the graduation rate will be affected by dropout numbers. The graduation rate in the 1996 Syllabus was 3%, therefore:
  - For the Bachelor Degree, the Memory for the Verification of the 2010 Syllabus proposed a graduation rate of 20%, considering a conservative value. Currently the graduation rate has oscillated between 52.8% and 58.8%, for cohorts that began between 2010 and 2015 and ended between 2015 and 2020, for a number of years  $d + 1$ . Since the average number of years to complete the degree is 6.13 years, the % of students finishing in  $d$  years is 13.1% for the 2019-20 academic year. Next year it is expected to complete up to an approximate value of the previous courses.
  - For the Master Degree, the Memory for the Verification of the Master Syllabus proposed a 20% graduation rate, considering a conservative value. Currently the graduation rate has ranged between 88.5 % and 94 %.
- DROP-OUT RATE: Defined as the percentage ratio between the total number of incoming students in a cohort that were due to complete their degree course the previous year and who are neither enrolled in that course nor in the previous course. As a consequence of the high social demand for the studies currently leading to the UPM's architecture degree, the students entering this School have excellent academic records. This therefore indicates that the dropouts that occur do not so much derive from a difficulty in completing the academic course but from its specificity, which creates the perception of a lack of vocation or of the course failing to live up to students' expectations. The dropout rate in the 1996 Syllabus was 21.32%, therefore:
  - For the Bachelor Degree, the Report for the Verification of the 2010 Syllabus proposed an 18% dropout rate, considering a conservative value. Currently the dropout rate has

ranged between 12.9% and 16.1% among cohorts that began between 2010 and 2015 and ended between 2015 and 2020. Only in the 2011-12 academic year the index exceeded 18%, reaching 19.3%.

- For the Master degree, The Report for the Verification of the Syllabus proposed a 60% dropout rate, considering a conservative value. Currently the dropout rate has ranged between 0.7% and 3.7 %.
- **EFFICIENCY RATE:** Percentage ratio between the total number of credits established in the curriculum and the total number of credits in which all the students graduating in a particular academic year have had to enroll throughout their studies. This indicator is assessed by considering the data available from our experience in the architecture degree, and the expected data from the new teaching framework of the EHEA. Based on the available historical records, we estimate a current efficiency rate of 78.01% for this indicator. The statistically anomalous divergence between this rate and the graduation rate points to a phenomenon that is clearly detected but difficult to quantify: a very high proportion of our students tend to combine their studies with other activities such as working in companies and architectural studios. This is confirmed by the delay in submitting the final project. As this situation is unlikely to change significantly with the adaptation to the EHEA, the rate is not expected to change either, and can therefore be assumed to rise to 80% in future. Proposed efficiency rate: 80%, therefore,
  - For the Bachelor Degree, the Report for the Verification of the 2010 Syllabus proposed an 80% efficiency rate, considering a conservative value. The efficiency rate has oscillated between the academic year 2014-15 and 2018-19 between 98.4% and 90%..
  - For the Master Degree, the Report for the Verification of the master Syllabus proposed an 80% efficiency rate, considering a conservative value. The efficiency rate between the academic year 2015-2016 and 2018-19, latest data available, ranges between 95.9 and 93.5%

The following Table indicates the Graduation and Dropout Rates for the Bachelor's Degree and the Master's Degree:



Table of Graduation Rate and Dropout Rate

**Considerations:**

- **Graduation rate:** Percentage ratio between the students of an entry cohort who exceed the credits leading to a degree and the total number of new students in the same cohort, within the expected time plus one year, at most. The graduation rate is calculated with the count of graduates in the theoretical year of graduation in the plan or one more.

- **Dropout rate:** Percentage ratio between the students of an entry cohort C who start studies in the title T in the academic year x, who have not graduated and who have not enrolled in said title in the courses  $x + N - 1$  and  $x + N$ , where N is the expected duration of the studies. For Undergraduate and First and Second Cycle plans, only promotion students (from pre-enrollment and not previously enrolled at the UPM) are considered as the entry cohort. The dropout rate is calculated with the count of not enrolled in the theoretical year of graduation or in the following. For an Official Master of one year, the dropout rate is calculated with the count of not enrolled in the second year or the third.

**03AQ - BACHELOR DEGREE IN GRADO EN FUNDAMENTALS OF ARCHITECTURE**

Academic Year	Duration in Years	Degree Plan Credits	No. Students starting studies	Graduates	Graduation Rate	Abandonment	Dropout Rate
2010-11	5	300	393	231	58,78%	62	15,78%
2011-12	5	300	404	229	56,68%	78	19,31%
2012-13	5	300	424	235	55,42%	56	13,21%
2013-14	5	300	421	245	58,19%	64	15,20%
2014-15	5	300	441	240	54,42%	71	16,10%
2015-16	5	300	457	61	13,35%	59	12,91%
2016-17	5	300	404	0	0,00%		
2017-18	5	300	402	0	0,00%		
2018-19	5	300	379	0	0,00%		
2019-20	5	300	372	0	0,00%		

**03AM - UNIVERSITY MASTER DEGREE IN ARCHITECTURE**

Academic Year	Duration in Years	Degree Plan Credits	No. Students starting studies	Graduates	Graduation Rate	Abandonment	Dropout Rate
2015-16	1	60	151	142	94,04%	0	0,00%
2016-17	1	60	328	294	89,63%	12	3,66%
2017-18	1	60	312	278	89,10%	10	3,21%
2018-19	1	60	378	319	84,39%	25	6,61%
2019-20	1	60	346	142	41,04%	0	0,00%

- **PERFORMANCE RATE:** With the aim of improving the students' performance –not as a result of the teaching processes themselves but based on the planning of each student's curriculum– we propose to analyze the students' performance with the following enrolment requirement: Using the definition of the European credit (ECTS), the 60 European credits for each academic year correspond to the full-time work of the average student who passes all the subjects in that academic year. It therefore does not appear advisable to propose student enrolment in many more credits than the 30 contemplated in each semester (or 60 credits per year). Notwithstanding the above, this aspect should be established based on each student's individual performance, and not only on the consideration of a hypothetical "average student". The wisest approach would be to consider a range of +20% when establishing the criteria for the maximum number of credits in which each student could enroll in view of his/her personal academic performance. The result rate forecasts are based on the following context:
  - After completing the second semester of his/her studies in the UPM, the Performance Rate (IR) is calculated for each student as the average of the number of European

credits passed in the two previous semesters and the number of European credits in which he/she was enrolled in those last two semesters:

$$IR = \frac{\text{No of ECTS passed by the student in the last two semesters}}{\text{No of ECTS in which the student was enrolled in the last two semesters}}$$

- Students with an academic performance rate of over 75% ( $IR > 0.75$ ) will be allowed to enroll in a maximum of 36 European credits a semester, provided these credits include all those not passed by the student in previous years, and which are taught that semester.
- If  $0.5 < IR < 0.75$  the student will be permitted to enroll in a maximum of 30 ECTS (credits) per semester, and these must include all credits not passed in previous years, and which are taught that semester.
- If  $IR < 0.5$  the student will be assigned a curriculum tutor, whom he/she will be obliged to consult before formalizing his/her enrolment to ensure that he/she receives counseling in which subjects to enroll. Students may even be included in a limited enrolment model where they are enrolled in only 18-21 European credits a semester; these must include all credits not passed by the student in previous years, and which are taught that semester.

The following Table indicates the Performance, Success and Absenteeism Rates for the Bachelor's Degree and the Master's Degree:

Table of Performance Rate, Success Rate and Absenteeism Rate

<b>Definitions of fees:</b> The definitions that we have used to calculate these rates are those of the Madrid Foundation; Except for the success rate, whose definition is that of the SIU (Integrated University Information System). The data used for the calculation have been those of the UPM Institutional Intelligence System. These are rates related to the degree as a whole, so they do not coincide with those used in the subject reports, which refer to each subject, as its name indicates. - Performance rate: Percentage relationship between the number of credits passed (not from minutes) + approved and the total number of credits enrolled in each academic year by degree. - Success rate: Percentage ratio between the number of credits approved by students enrolled in a course and the total number of credits presented for examination in said academic year (the recognized and transferred credits are not included within the approved credits or in the enrolled credits). - Absenteeism rate: Percentage relationship between the number of credits not presented and the total number of credits enrolled in each academic year by degree (the recognized and transferred credits are not included in the credits not presented or in the enrolled credits). - Graduation rate: Percentage ratio between the students of an entry cohort who exceed the credits leading to a degree and the total number of new students in the same cohort, within the expected time plus one year, at most. - Dropout rate: Percentage ratio between the students of an entry cohort C who start studies in the title T in the academic year x, who have not graduated and who have not enrolled in said title in the courses x + N - 1 and x + N, where N is the expected duration of the studies. For Undergraduate and First and Second Cycle plans, only promotion students (from pre-enrollment and not previously enrolled at the UPM) are considered as the entry cohort.									
<b>Clarifications:</b> The column No. of enrolled subjects shows the total number of enrollments of all students in all subjects.									
<b>03AQ - BACHELOR DEGREE IN GRADO EN FUNDAMENTALS OF ARCHITECTURE</b>									
Academic Year	No. Subjects Enrolled	No. Approved Subjects	No. ECTS Credits Enrolled	No. ECTS Credits Approved	No. ECTS Credits Passed	Nº ECTS Credits Presented	Performance Rate	Success Rate	Absenteeism Rate
1999-00	1	1	0	0	0	0			
2010-11	4.089	3.417	24.519	20.022	465	22.464	83,56%	89,13%	6,48%
2011-12	8.201	6.939	47.673	38.598	1.500	42.792	84,11%	90,20%	7,09%
2012-13	12.072	10.617	72.737	60.732	3.227	65.916	87,93%	92,14%	4,94%
2013-14	17.242	15.210	104.749	83.106	9.274	90.507	88,19%	91,82%	4,74%
2014-15	22.017	19.431	135.432	106.377	13.179	114.951	88,28%	92,54%	5,39%
2015-16	23.843	20.895	149.140	119.436	11.371	128.832	87,71%	92,71%	5,99%
2016-17	24.930	21.554	155.157	121.353	12.618	131.658	86,35%	92,17%	7,01%
2017-18	29.920	26.631	186.399	122.601	43.422	131.871	89,07%	92,97%	5,96%
2018-19	25.093	21.750	156.461	119.367	16.166	128.748	86,62%	92,71%	7,38%
2019-20	23.409	20.799	146.040	117.804	11.712	125.505	88,69%	93,86%	6,04%
<b>03AM - UNIVERSITY MASTER DEGREE IN ARCHITECTURE</b>									
Academic Year	No. Subjects Enrolled	No. Approved Subjects	No. ECTS Credits Enrolled	No. ECTS Credits Approved	No. ECTS Credits Passed	Nº ECTS Credits Presented	Performance Rate	Success Rate	Absenteeism Rate
2015-16	1.249	1.217	6.592	6.384	0	6.498	96,84%	98,25%	1,43%
2016-17	3.087	2.984	16.549	15.879	0	16.191	95,95%	98,07%	2,16%
2017-18	3.433	3.276	18.716	17.719	0	18.137	94,67%	97,70%	3,09%
2018-19	3.923	3.724	21.246	19.849	140	20.359	94,08%	97,49%	3,52%
2019-20	3.965	3.730	21.784	20.162	122	20.462	93,11%	98,53%	5,51%

- Within this enrolment framework, after designing the contents of each subject in the curriculum and establishing the teaching and assessment methods associated to each subject, the departments will then be requested to provide the academic performance forecasts for each one of their subjects.

- In compliance with the framework agreement for the Universidad Politécnica de Madrid's program for Quality Improvement in University Institutions, the following data will be used as indexes for the assessment of the progress and results of student learning:
  - Ratio of credits passed/enrolled:
    - Bachelor Degree: Between the 2014-15 and 2018-19 academic years, the latest updated data give us values between 85.4% and 88.4%.
    - Master Degree: Between the 2015-16 and 2018-19 academic years, the values are between 95.9% and 93.8%.
  - Ratio of students sent and received in mobility programs and number of students in the institution:
    - Bachelor Degree: The percentage of students taking exchange courses each year, with respect to the total number of students is 8%.
    - Master Degree: There is not a mobility program because it is only one year.
  - Ordered flow of students between the various academic years:
    - Bachelor Degree: The maximum variation between the different courses is between 401 and 550 enrolled students.
    - Master Degree: Not applicable because the master lasts only one academic year
  - Balanced distribution of students among the obligatory subjects in the same academic year:
    - Bachelor Degree: The number of students ordered between 1st and 5th years is: In the 1<sup>st</sup> year the number of enrolled students ranges between 412 (Drawing, Analysis and Ideation 1) and 550 (Calculation), in the 2nd between 439 (Projects 2) and 539 (Structures 1), in the 3rd, between 401 (The City and the Middle ) and 496 (Landscape and Garden) in the 4th between 365 (Construction 3 or Urban Project) and 482 (Projects 7) and in the 5th year, 422 (Structures Project) and 522 (Projects 8)
    - Master Degree: The number of students enrolled in a year ranges from 336 (Urban Planning Workshop) to 371 (Projects Workshop II).
  - Average duration of the university course:
    - Bachelor Degree: The average student takes 6.13 years to complete the 10 semesters.
    - Master Degree: The average student takes 1,62 years to complete the 2 semesters.
  - Annual number of graduates:
    - Bachelor Degree: The number of graduates has been increasing from the 2014-15 academic year to the present, going from 81 in the first year of 2010 Syllabus to 422 in the 2019-20 academic year.
    - Master Degree: The number of graduates has been increasing from the 2015-16 with the also increasing number of students. It goes from 69 in the first year of implementation of the Master (2015-16) to 338 in the last year.
  - Number of final projects presented and defended:
    - Bachelor Degree: The number of final projects presented and defended is the same of the number of graduates, it is going from 81 to 422.
    - Master Degree: The number of final projects presented and defended is the same of the number of students, it is going from 69 in the first year of implementation of the title (2015-16) to 338 in the last year.
  - Mean average grade of students completing their studies:
    - Bachelor Degree: The promotion efficiency rate has gone from 98.4% to 90.1% between 2014-15 and 2018-19.
    - Master Degree: The promotion efficiency rate has gone from 98.2% to 94.4% between 2015-16 and 2018-19.

The following Tables indicate the courses results grouped by academic years, of Bachelor and Master Degree in 2019-2020 academic Year:

Table 2. Results of the subjects that make up the study plan - 2019-20

03AQ -BACHELOR DEGREE IN FUNDAMENTALS OF ARCHITECTURE

ETSAM - TECHNICAL SCHOOL OF ARCHITECTURE

SUBJECT	Character	Total students enrolled	Total students in first enrollment	Percentage of students in first registration	Total second or subsequent registration students	No. of approved / No. of enrolled	No. of approved / No. of submitted	No. of no presented / No. of enrolled	Number of approved in 1st registration / Number of enrolled in 1st registration	Distribution of grades within the subject			
										< 5	5-6	7-8	9-10
35001101 GEOMETRY AND ARCHITECTURE DRAWING 1	CORE	460	400	86,96%	60	80,43%	89,81%	10,43%	81,75%	42	247	97	26
35001102 DRAWING, ANALYSIS AND CREATION 1	CORE	412	401	97,33%	11	91,02%	95,91%	5,10%	92,02%	16	236	104	35
35001103 RELATED AND PROJECTIVE GEOMETRY	CORE	543	416	76,61%	127	69,06%	71,70%	3,68%	74,28%	148	283	76	16
35001104 INTRODUCTION TO ARCHITECTURE	CORE	513	436	84,99%	77	83,82%	88,30%	5,07%	86,24%	57	298	116	16
35001105 EXPERIMENTAL WORKSHOP 1	OBLIGATORY	415	413	99,52%	2	93,98%	99,74%	5,78%	94,43%	1	98	208	84
35001201 DRAWING, ANALYSIS AND CREATION 2	CORE	430	414	96,28%	16	88,14%	94,99%	7,21%	88,41%	20	181	129	69
35001202 GEOMETRY AND ARCHITECTURE DRAWING 2	CORE	457	399	87,31%	58	80,74%	89,35%	9,63%	83,71%	44	197	128	44
35001203 INTRODUCTION TO ARCHITECTURAL PROJECTS	OBLIGATORY	427	409	95,78%	18	85,71%	92,89%	7,73%	88,26%	28	127	172	67
35001204 CALCULUS	CORE	550	411	74,73%	139	81,45%	89,78%	9,27%	86,13%	51	257	151	40
35001205 HISTORY OF ART AND ARCHITECTURE	CORE	465	410	88,17%	55	91,83%	97,71%	6,02%	93,90%	10	184	209	34
AVERAGE 1ST		467	411	89%	56	85%	91%	7%	87%	42	211	139	43
35001301 ARCHITECTURAL PROJECTS 2	OBLIGATORY	425	400	94,12%	25	89,88%	96,22%	6,59%	92,50%	15	149	151	82
35001302 PHYSICAL MECHANICS	CORE	548	395	72,08%	153	81,93%	89,44%	8,39%	85,82%	53	293	138	18
35001303 BUILDING MATERIALS	OBLIGATORY	492	395	80,28%	97	86,21%	94,97%	7,11%	90,13%	23	344	81	9
35001304 THE CITY AND URBAN PLANNING	OBLIGATORY	439	402	91,57%	37	87,47%	91,87%	4,78%	89,30%	34	196	163	25
35001305 CURVES AND SURFACES	OBLIGATORY	490	405	82,65%	85	73,47%	77,92%	5,71%	79,01%	102	253	80	27
35001401 ARCHITECTURAL PROJECTS 3	OBLIGATORY	466	391	83,91%	75	84,12%	92,89%	9,44%	88,49%	30	170	151	71
35001402 STRUCTURAL DESIGN 1	OBLIGATORY	539	395	73,28%	144	81,26%	87,78%	7,42%	81,77%	61	262	136	40
35001403 BUILDING PHYSICS	CORE	515	393	76,31%	122	83,30%	88,82%	6,21%	87,28%	54	187	201	41
35001404 HISTORY OF ARCHITECTURE AND URBAN PLANNING	OBLIGATORY	444	413	93,02%	31	85,81%	96,21%	10,81%	87,89%	15	151	184	46
35001405 CONSTRUCTION AND BUILDING TECHNOLOGY	OBLIGATORY	439	378	86,10%	61	88,61%	94,19%	5,92%	90,48%	24	208	154	27
AVERAGE 2ND		480	397	83%	83	84%	91%	7%	87%	41	221	144	38
35001501 ARCHITECTURAL PROJECTS 4	OBLIGATORY	412	380	92,23%	32	88,35%	94,06%	6,07%	90,79%	23	168	138	58
35001502 CONSTRUCTION AND BUILDING TECHNOLOGY 2	OBLIGATORY	453	366	80,79%	87	83,44%	91,97%	9,27%	85,52%	33	270	92	16
35001503 STRUCTURAL DESIGN 2	OBLIGATORY	482	391	81,12%	91	84,23%	90,42%	6,85%	88,24%	43	224	135	47
35001504 HISTORY OF ARCHITECTURE AND URBAN PLANNING	OBLIGATORY	481	387	80,46%	94	87,53%	96,12%	8,94%	91,47%	17	249	146	26
35001601 ARCHITECTURAL PROJECTS 5	OBLIGATORY	467	390	83,51%	77	88,22%	95,37%	7,49%	91,28%	20	176	159	77
35001602 THE CITY AND THE BUILT ENVIRONMENT	OBLIGATORY	399	376	94,24%	23	94,99%	99,48%	4,51%	94,95%	2	144	214	21
35001603 LANDSCAPE AND GARDEN DESIGN	OBLIGATORY	494	403	81,58%	91	92,91%	96,84%	4,05%	95,53%	12	262	163	34
35001604 ENVIRONMENTAL CONDITIONING AND HABITABILITY	OBLIGATORY	457	382	83,59%	75	86,87%	92,54%	6,13%	91,36%	32	90	183	124
35001605 ENGLISH ORAL AND WRITTEN COMMUNICATION	OBLIGATORY	450	445	98,89%	5	98,89%	99,78%	0,89%	99,10%	1	57	345	43
AVERAGE 3RD		455	391	86%	64	89%	95%	6%	92%	21	182	175	50
35001701 ARCHITECTURAL PROJECTS 6	OBLIGATORY	386	329	85,23%	57	86,27%	94,07%	8,29%	88,75%	21	110	132	91
35001702 CONSTRUCTION AND BUILDING TECHNOLOGY 3	OBLIGATORY	344	322	93,60%	22	92,44%	96,36%	4,07%	95,03%	12	128	138	58
35001703 STRUCTURAL DESIGN 3	OBLIGATORY	447	361	80,76%	86	84,12%	87,65%	4,03%	85,60%	53	246	101	29
35001704 ARCHITECTURAL COMPOSITION	OBLIGATORY	366	333	90,98%	33	92,62%	96,03%	3,55%	93,09%	14	187	109	43
35001801 ARCHITECTURAL PROJECTS 7	OBLIGATORY	454	370	81,50%	84	86,12%	93,76%	8,15%	88,38%	26	138	158	95
35001802 URBAN PROJECT	OBLIGATORY	327	318	97,25%	9	97,25%	99,69%	2,45%	97,48%	1	96	154	68
35001803 TECHNICAL EQUIPMENT AND SERVICES	OBLIGATORY	400	336	84,00%	64	90,00%	96,77%	7,00%	92,86%	12	204	115	41
35001804 ELECTRIC, LIGHTING AND MEDIA TECH.	OBLIGATORY	427	342	80,09%	85	91,57%	97,75%	6,32%	93,57%	9	205	155	31
35001805 EXPERIMENTAL WORKSHOP 2	OPTIONAL	366	350	95,63%	16	96,72%	99,72%	3,01%	96,86%	1	41	184	129
AVERAGE 4TH		391	340	88%	51	91%	96%	5%	92%	17	151	139	64
35001901 ARCHITECTURAL PROJECTS 8	OBLIGATORY	512	468	91,41%	44	91,80%	97,51%	5,86%	92,31%	12	157	223	90
35001902 SOIL MECHANICS	OBLIGATORY	436	377	86,47%	59	90,60%	93,82%	3,44%	91,78%	26	200	164	31
35001903 ARCHITECTURAL REGULATION	OBLIGATORY	460	415	90,22%	45	95,65%	98,00%	2,39%	96,63%	9	194	216	30
35001904 URBAN AND LAND PLANNING	OBLIGATORY	476	454	95,38%	22	96,43%	98,50%	2,10%	96,70%	7	293	152	14
1905/1911 AVERAGE OPTIONAL	OPTIONAL	359	354	98%	5	96%	100%	4%	96%	1	83	157	103
35002001 BUILDING AND TECHNOLOGY SYSTEMS DESIGN	OBLIGATORY	475	408	85,89%	67	76,84%	92,41%	16,84%	79,17%	30	174	132	59
35002002 STRUCTURAL PROJECT	OBLIGATORY	388	370	95,36%	18	95,62%	99,73%	4,12%	95,95%	1	181	120	70
35002003 TECHNICAL EQUIPMENT DESIGN	OBLIGATORY	416	375	90,14%	41	89,90%	98,16%	8,41%	91,20%	7	125	171	78
35002005 FINAL PROJECT	END OF DEGREE PROJECT	462	428	92,64%	34	93,07%	100,00%	6,93%	93,69%	0	13	331	86
AVERAGE 5TH		443	405	92%	37	92%	98%	6%	93%	10	158	185	62
35001905 INTENSIFICATION IN ARCHITECTONICAL COMPOSITION	OPTIONAL	68	67	98,53%	1	86,76%	98,33%	11,76%	86,57%	1	12	28	19
35001906 INTENSIFICATION IN CONSTRUCTION AND TECHNOLOGY OF ARCHITECTURE	OPTIONAL	101	101	100,00%		99,01%	100,00%	0,99%	99,01%	0	46	51	3
35001907 INTENSIFICATION IN BUILDING STRUCTURES	OPTIONAL	23	23	100,00%		100,00%	100,00%	0,00%	100,00%	0	8	12	3
35001908 INTENSIFICATION IN GRAPHIC IDEATION OF ARCHITECTURE	OPTIONAL	63	62	98,41%	1	95,24%	100,00%	4,76%	95,16%	0	9	19	32
35001909 INTENSIFICATION IN ARCHITECTURAL PROJECTS	OPTIONAL	33	31	93,94%	2	100,00%	100,00%	0,00%	100,00%	0	3	17	13
35001910 INTENSIFICATION IN URBAN AND REGIONAL PLANNING	OPTIONAL	28	28	100,00%		89,29%	100,00%	10,71%	89,29%	0	1	6	18



33000711	ARCHITECTURAL COMPOSITION WORKSHOP	OBLIGATORY	343	341	99,42%	2	96,21%	98,80%	2,62%	96,48%	4	174	133	23
33000712	PROJECTS DESIGN WORKSHOP I	OBLIGATORY	350	332	94,86%	18	95,14%	96,24%	1,14%	95,78%	13	274	59	0
33000713	PROJECTS DESIGN WORKSHOP II	OBLIGATORY	371	333	89,76%	38	89,22%	95,39%	6,47%	90,69%	16	205	118	8
33000714	URBAN AND REGIONAL PLANNING WORKSHOP	OBLIGATORY	336	335	99,70%	1	98,81%	100,00%	1,19%	98,81%	0	129	181	22
33000715	ARCHITECTURAL COMMUNICATION WORKSHOP	OBLIGATORY	368	351	95,38%	17	91,30%	100,00%	8,70%	92,31%	0	2	281	53
33000716	CONSTRUCTION AND TECHNOLOGY WORKSHOP	OBLIGATORY	361	349	96,68%	12	93,91%	99,41%	5,54%	94,56%	2	177	125	37
33000717	BUILDING STRUCTURES WORKSHOP	OBLIGATORY	360	347	96,39%	13	93,89%	98,83%	5,00%	94,24%	4	157	156	25
33000718	PROJECTS DESIGN WORKSHOP III	OBLIGATORY	359	349	97,21%	10	95,54%	99,42%	3,90%	95,99%	2	105	169	69
33000719	FINAL MASTER PROJECT	END OF DEGREE PROJECT	382	356	93,19%	26	87,43%	99,40%	12,04%	88,20%	2	144	136	54
AVERAGE			359	344	96%	15	93%	99%	5%	94%	5	152	151	32
33000026	CLIMATE CHANGE, LANDSCAPE DYNAMICS AND LAND MANAGEMENT	OPTIONAL	2	2	100,00%		100,00%	100,00%	0,00%	100,00%	0	0	2	0
33000721	DOCUMENTARY AND ARCHEOLOGICAL STUDIES OF HISTORICAL CONSTRUCTIONS	OPTIONAL	9	9	100,00%		88,89%	100,00%	11,11%	88,89%	0	0	7	1
33000722	ARCHITECTURE NOW	OPTIONAL	101	101	100,00%		99,01%	100,00%	0,99%	99,01%	0	13	85	2
33000724	ARCHITECTURAL MANAGEMENT	OPTIONAL	56	56	100,00%		96,43%	100,00%	3,57%	96,43%	0	8	45	1
33000725	RELIGIOUS AND SYMBOLIC ARCHITECTURE	OPTIONAL	14	14	100,00%		100,00%	100,00%	0,00%	100,00%	0	0	6	8
33000726	CONSTRUCTIVE BASIS OF THE ARCHITECTURAL PROJECT	OPTIONAL	14	14	100,00%		100,00%	100,00%	0,00%	100,00%	0	4	10	0
33000728	INTEGRATE DESIGN. STRUCTURE IN BUILDING	OPTIONAL	19	19	100,00%		94,74%	100,00%	5,26%	94,74%	0	15	3	0
33000731	PHOTOVOLTAIC INSTALLATIONS INTEGRATED IN BUILDINGS AND URBAN ENVIRONMENTS	OPTIONAL	9	9	100,00%		100,00%	100,00%	0,00%	100,00%	0	0	9	0
33000734	NEW MATERIALS APPLIED TO ARCHITECTURAL PROJECT	OPTIONAL	30	30	100,00%		96,67%	100,00%	3,33%	96,67%	0	6	14	9
33000737	SEMINAR ON TEXTILE ARCHITECTURE	OPTIONAL	24	24	100,00%		100,00%	100,00%	0,00%	100,00%	0	5	10	9
33000744	EPHEMERAL ARCHITECTURE	OPTIONAL	20	20	100,00%		100,00%	100,00%	0,00%	100,00%	0	8	8	4

The perspectives in section I.1.4 play a key role in the long-term planning of the program. This is confirmed by observing the procedures established for monitoring and reviewing the quality of the program.

With regard to the academic community, procedure PR-SO-008 UPM Survey System (Surveys to Staff, Faculty and Students, Graduates and Employers) outlines the surveys that allow improvements in performance of the faculty in general, and of the administrative staff and the School and University management. Procedures PR-ES-001 (Preparation and Review of the Annual Quality Plan) and PR-ES-002 Title Management (Design, Modification, Verification and Extinction) promote improvements in the program's results, including the academic community itself. Finally, procedures PR-SO-001 (Faculty Management) and PR-SO-002 (Staff Management) specifically analyze the organization of the academic staff, for both faculty and administrative personnel.

A number of procedures are concerned with the improvement of the students' education –a priority objective of the program–, particularly procedures PR/ES/003 Follow-up of Official Titles, PR/CL/001 Coordination of Teaching; PR/CL/002 Student Orientation and Support Actions; PR/CL/007 Selection and Admission of Students (profiles); PR/CL/008 Registration. These review students' academic and personal performance, and seek to reduce the dropout rate and improve performance rates.

Procedures PR/CL/003 External Internships, PR/CL/004 Mobility OUT and PR/CL/005 Mobility IN deal with improvements in students' mobility during their studies, both in terms of work experience in companies in the sector and in exchanges with other universities and schools. Since current legislation automatically entitles graduates of the program to practice the profession of architect, the subjects included in the program must evidently be up to date with all the technical and administrative standards that will affect the exercise of the profession. For this reason the long-term plan includes an ongoing review of these standards, and covers the interrelationships between the program, the standards regulating it, and the profession. Procedure PR-CL-006 Orientation and Labor Insertion, analyzes the assimilation in the workplace of the graduates of the program, and seeks to improve it.

In conclusion, all the processes involved in monitoring the program are designed to offer students an education that allows them to take their place as architects in society. This implies an understanding of architecture as a service to society –not merely as an art, but also as a social function in which the well-being of the citizens is paramount, and as the goal towards which the actions of the architect's profession should be directed.

The ETSAM tackles social, economic and environmental challenges by linking theory and practice with the human group for which the institution works. Particular emphasis is given to the close relationship between the integral training of the architects and their transforming role. There is currently a global trend towards the ecological, environmental and economic decay of large urban and metropolitan areas. This fact, in combination with various other factors such as urban sprawl and the reckless consumption of natural resources, has provoked a situation of worldwide crisis, which Spain is playing a prominent role in tackling. A new vision is needed on the part of all members of the academic community, as well as a shift in future approaches to addressing today's problems. Our task is to go to the heart of this issue and pinpoint the structural shortcomings.

To meet these challenges, the **ETSAM** offers an innovative Degree Program that allows tomorrow's professionals to manage the current situation in their most immediate environment.

### I.1.6 Assessment

#### A. Program Self-Assessment

The Self-Assessment Procedure is carried out using the Procedure PR-ES-001: Preparation and Review of the Annual Quality Plan, drawn up by the UPM and adapted to the characteristics of the School of Architecture (ETSAM). This regulates the Self-Assessment of the Internal Quality Assurance System and the review of the Improvement Plan.

The data used for the Self-Assessment are taken from:

- Assessment Model, which for the ETSAM is based on the Report presented for approval and validation of the curriculum leading to the official degree of Bachelor of Architecture: *Grado en Fundamentos de la Arquitectura*, in its 2010 Syllabus, and to the official degree of Master of Architecture: *Máster Universitario en Arquitectura*, following the criteria used in the ANECA Curriculum Validation Model. Ch. 9 section II.2.2 of the Validation Report, included in this APR at II.2.3, describes the Internal Quality Assurance process, presented to the ANECA AUDIT program and the positive feedback report from this Agency.
- Improvement Plan from the previous Assessment.

The Accreditation Renewals have not specified an Improvement Plan.

The NOT MET questions on the NAAB Visit Team VTR (14-19 November 2014) were:

#### B.2. Accessibility:

Currently the Accessibility conditions are taught in the subjects:

- At the Bachelor Degree: 2001 Construction and Technological Systems Project. In addition, the conditions of sectorization and evacuation are taught in the subject 1604 Environmental conditioning and habitability, and 1803 Installations and Technical Services.
- At the Master Degree: 723 Accessibility in Architecture and 716 Construction Workshop.

The implementation of regulatory knowledge is put into practice in the Projects subjects, as well as in the Workshops of the Construction and Technological Systems, Project subjects and the Construction Workshop, which supports the construction and installation of the Master Thesis project.

#### C.5. Practice Management

At the Bachelor Degree is met the subject 1903 Architectural Regulation and at the Master Degree two subjects of internships in companies and architectural offices are included. The University-Company internships, at the UPM, are managed through the COIE, the Employment Guidance and Information Center, whose basic objective is to inform and guide graduates about their job placement, in order to do this two lines of action are developed:

<https://www.coie.upm.es/>

- Bachelor Degree students have internships in Business as an extracurricular activity and the credits obtained with them can be compensated for the subjects Experimental Workshop II (4<sup>th</sup> year) and Intensification (5<sup>th</sup> year). They can also obtain credits for courses outside the University, volunteer activities, sports, student representation.
- Every year there is an informative seminar of the COIE for the job search of students and the management of practices. [Internships in companies for students - COIE presentation: Employment Guidance and Information Center](#), Nuria Martín Piris (Deputy Vice-Chancellor for Students, External Internships and Employability), Prof. Carlos García Fernández (ETSAM Professional Internship Office Coordinator) Informative Day, Oct, 29

All these activities, both those included in the 1903 "Architectural Regulation" course and the possible internships in companies and offices, help the student to know practical aspects of professional work, such as the steps to take to obtain commissions or the important aspects to have into account to win contests, including recommendations for presentations to clients and juries, and the most appropriate requirements to organize work teams to carry out projects and work directions.

#### *II.2.2 Professional Degrees and Curriculum:*

As has been commented on previous occasions, Spanish legislation on university education and, specifically, on education in Architecture Schools, does not consider this option of including 30% of topics not related to Architecture. In this sense, in Spain the teaching of topics of general interest is carried out in high school courses, prior to access to university

- Previous Self-Assessment Report.
  - The Bachelor Degree in Fundamentals of Architecture carried out a self-report of Follow-up of the degree in 2013, with FAVORABLE results. Subsequently, in 2017, it was submitted to the Renewal of the Accreditation of the title, with a FAVORABLE result, issued on December 22, 2017, without observations, or specifying an Improvement Plan. The review was carried out by a Panel of experts from the Madrid + d Foundation, (in the Community of Madrid) by delegation of ANECA (National Agency for Quality Assessment and Accreditation).  
[http://etsamadrid.aq.upm.es/sites/default/files/web\\_calidad/pdf/IF\\_GR-Fundamentos-Arquitectura\\_RA-22-12-17.pdf](http://etsamadrid.aq.upm.es/sites/default/files/web_calidad/pdf/IF_GR-Fundamentos-Arquitectura_RA-22-12-17.pdf)
  - The Master Degree in Architecture was presented for the Renewal of the Accreditation of the degree, with a FAVORABLE result, issued on December 21, 2016, without observations, or specifying an Improvement Plan. The review was carried out by a Panel of experts from the Madrid + d Foundation, (in the Community of Madrid) by delegation of ANECA. On February 26, 2021, the documentation for the new Accreditation Renewal must be submitted again.  
[http://etsamadrid.aq.upm.es/sites/default/files/web\\_calidad/pdf/IF-03AM-MU-Arquitectura\\_RA-21-12-16.pdf](http://etsamadrid.aq.upm.es/sites/default/files/web_calidad/pdf/IF-03AM-MU-Arquitectura_RA-21-12-16.pdf)
- External Assessment Report. The External Assessment Report for the Madrid Universities is carried out by the Fundación Madri+d Quality and accreditation Agency, which depends on the Madrid Regional Education Department (*Consejería de Educación, Juventud y Deportes de la Comunidad de Madrid*) by delegation of ANECA (*National Agency for Quality Assessment and Accreditation*). References and Assessment criteria have to be presented at regular intervals using the SICAM software to assess the implementation of the official University Degrees follow-up process. This evaluates the information the University makes available in the public domain and the Self-Reporting procedure, corresponding to reflections on the follow-up process for the academic achievements of the degree, and a Committee of Experts monitors and evaluates both blocks of information.
- The assessment scale used is as follows:
  - Best practice: highlighting actions which contribute to quality improvement in the degree implementation process.
  - Recommendations: highlighting features which are considered adequate, but which in the opinion of the assessors may invite suggestions for improvement.

- Concerns: features which in the opinion of the experts are not adequate and which the university should rectify.
- Aspects of the publicly available information evaluated are as follows:
  - Publication of the minimum information required on degrees
  - Easily accessible information
  - Coherent information on the Validation Report
  - Updated information

Concerns indicate that information is not available, is not easily accessible or does not coincide; Recommendations consider that the information should be more easily accessible or should coincide more closely with the Validation Report or its later modifications.

## **B. Curricular Assessment and Development**

For the Self-Report, the qualitative analysis of results of the effective development of implementation and quality levels attained are considered. To do this, the Report should contain a review of the development of the degree qualification based on analysis of a series of quantitative indicators, focused on the achievement of academic aims and objectives set out in the Validation Report and evaluation of the effectiveness of the mechanisms put in place for the follow-up and improvement of the degree. To this end, the Self-Report will present the meeting schedule for the SIGC, its composition and effective decision-taking on proposals for improvement, evaluation of attainment of the academic aims and objectives set out in the Validation Report using the indicators referred to in section I.1.5, and an evaluation of the review of these indicators, where this is considered appropriate, and the implemented proposals for improvement can be evaluated. The Expert Committee will evaluate the review carried out and the efficiency of the SIGC, the contribution of the minimum indicators established in the Validation Report and others which have been included in the degree program, teaching center or university. In addition, an assessment will be made of teaching coordination and effectiveness of the SIGC, and of the implementation of the recommendations made in the Validation Report, the changes approved and their coherence and effectiveness. Finally a global analysis will be made of the degree implementation process, to detect its strengths and weaknesses.

- The assessment uses the following scale:
  - Concerns will be voiced if: the SIGC is not set up, all interest groups are not represented, there is no evidence of the proposed improvement actions, there is no appropriate follow-up of the degree program development, the minimum established indicators are not available or there are significant or non-justified deviations.
  - Recommendations will be made if: the composition of the SIGC should be strengthened with greater participation by one of the groups or where the working norms should be improved, where there is no information available on complementary indicators or where there are deviations which are not adequately justified.
- The elements considered in the Validation Report are as follows:
  - Quality of teaching.
  - Quality of external placements.
  - Quality of mobility programs.
  - Satisfaction of stakeholders (students, faculty members, support and administrative staff and other external agents).
  - Analysis of graduates entering the labor market and their level of satisfaction with the educational training received.
  - Grievance and complaint procedures.

Concerns: non-implementation of features contained in the SIGC with no reasons given, systems implemented but the information obtained is not used in the improvement plan, or the frequency of data collection is inadequate.



Recommendations: implementation is incomplete and reasons are not sufficiently justified, the information obtained is not always taken into account in the analysis of achievement of academic objectives or improvement plans.

- Finally, in the follow-up to the recommendations in the Validation Report, Follow-up or Modification, it will be a matter for concern if the actions required to meet the recommendations have not been implemented and no reason is given for this, or for recommendation if the implementation still leaves room for improvement.
- If the curriculum needs to be substantially modified, it would be a matter for concern if these substantial modifications are not carried out or if those carried out are not justified. A recommendation would suggest that the actions carried out could be improved.
- Data on the assessments of faculty, students and graduates were obtained from the following satisfaction surveys:
  - Satisfaction survey UPM students (educational training process, facilities and services for training process, company placements, employment advice and mobility, general services, university extension and continuing education programs and participation).
  - Satisfaction survey UPM faculty members.
  - Annual report on alumni and employers produced by the Chancellor's Office and published by the ETSAM.
  - Employment results:
    - Final report on results: satisfaction of recent graduates
    - Final report on alumni satisfaction after 4 years
    - Final result of employer satisfaction
  - Incidents, grievances and suggestions (PR/SO/5-001)
  - Teaching results:
    - Training program follow-up report (PR-ES-2-003)

The guaranteed capability and competence of the faculty is also controlled by the government evaluation agencies to ensure that basic quality levels are met, to access contractual processes or public service through PEP programs (for employment contracts), ACADEMIA (to access the public service), and the VERIFICA program for Higher Education implementation. To facilitate the assessment of the teaching of faculty members, ANECA has also set up the DOCENTIA program to help universities to manage teaching activity quality and facilitate development and recognition within the AUDIT program framework. The DOCENTIA program uses the references for quality guarantees in Higher Education institutions drawn up by the European Association for Quality Assurance in Higher Education (ENQA), highlighting section 1.4 which states that institutions must provide the means to guarantee that their faculty members are qualified and competent to teach.

For the Madrid Universities, the program is undertaken with the Fundación Madri+d, the regional assessment agency. Currently, the UPM has revised the DOCENTIA regulations for the evaluation of Faculty and is certified by the Madri+d Foundation. Teachers apply to be assessed and complete a self-assessment report, describing the planning and development process of their teaching activity, results obtained, innovations, conditions and improvements put into practice. This report is combined with those of the department and teaching centre Heads. The assessment commission convened by the University analyses the reports along with the student surveys in the assessment period and then issues a global evaluation for the period assessed as: VERY SATISFACTORY, SATISFACTORY, UNSATISFACTORY or NO EVIDENCE AVAILABLE.

Every year around 40 teachers are evaluated in the DOCENTIA Program. The new regulations of the UPM oblige all faculty to be evaluated, at least every five years. The DOCENTIA program is in the first year of implementation.

All of the above allows an exhaustive quality control of activities carried out in the ETSAM, and also an evaluation of the progress achieved in the defining perspectives mentioned in section I.1.4 above.

The DOCENTIA program is in the first year of implementation and the previous call was still made with the previous UPM Regulation. The next call will be put into operation. There are a series of Commissions to evaluate the faculty of the different areas of Engineering and Architecture and, in addition to the self-evaluation of the faculty, the teaching surveys and the reports on the teaching of the faculty of the department, center and students are reviewed. The Improvement Plan of the DOCENTIA Program in use has served to draft the new Regulation, which has been presented to the Madrid Foundation for certification.

Finally we consider it important to indicate that the Process PR-SO-08 - UPM Survey System (Surveys to PAS, PDI and Students, Graduates and Employers) describes the system for conducting studies and analysis on different key aspects under the criteria of transparency, effectiveness and efficiency, with the ultimate goal of:

- Be accountable to society, providing information on the degree of fulfillment of the purposes entrusted to it, the quality of the services it offers and its continuous improvement.
- Provide necessary information for decision-making, to all the agents involved in the management and deployment of the processes of university activity.

However the groups affected by the surveys are reluctant to fill them out, therefore it is easy for the number of responses to be insufficient to consider the results valid. For this reason, the Vice-Rectorate for Quality and Strategy is working on improving the procedures for conducting the surveys, so that the application, now via computer or mobile, is simpler and allows more data to be collected.

On the other hand, an advertising campaign is being promoted to attract attention and remember the need to fill in the surveys, their function and achievements obtained through them.

## Part One (I), Section 2: Resources

### I.2.1 Human Resources & Human Resources Development

#### A. Faculty

##### A.1 Faculty Member – Course Matrix

A single Faculty Member/Course matrix as shown in Appendix 3 is attached for each department, as there have been no changes in this context during the last two academic years. The courses indicated in these matrixs belong to both syllabus and are grouped according to the equivalence mentioned in Part Two (II) Section I. Student Performance Criteria of this PSER.

##### A.2 Faculty Members

The ETSAM faculty members / teaching staff during the last two academic years are attached in Part IV of this PSER according to **Appendix 2**, grouped in departments, along with their corresponding resumes. These include Professors (*Catedráticos*) Associate Professors (*Titulares*) and Assistant Professors (*Colaboradores, Contratados Doctores and Ayudantes Doctores*) with 206 faculty members out of the total 383 faculty staff of the ETSAM. The number of professors has gone from 2014 to 2020 from 428 to 383, due to the crisis of recent years, however young professors are beginning to grow and stabilize, PhD students who enter as Assistants, are being accredited in other figures of teaching staff and the number of Assistant Professor is growing. This last year positions are being called for Associate Professors and Professors, who have not been called for years. The rejuvenation of the teaching staff is beginning to be noticed. The following is a list of these members.

- **Applied Mathematica Department**

- *Associate Professor*  
Dr. Astiz Blanco, M. Del Mar  
Dr. Barbero Liñan, Maria  
Dr. Padial Molina, Juan Francisco  
Dr. Patiño Rodriguez, M. Esther  
Dr. Rodriguez Santa Maria, Ana  
Dr. Rosado Maria, Maria Eugenia  
Dr. Rueda Perez, Sonia Luisa  
Dr. Tello Del Castillo, Maria Lourdes
- *Assistant Professor*  
Ms. Cerezo Ortega, M. Del Carmen  
Mr. Garcia Viana, Antonio  
Ms. Horna Almazan, Pilar  
Mr. Iglesias Gutierrez Del Alamo, Manuel  
Dr. Latorre Larrode, Adela  
Ms. Moratalla De La Hoz, Ascension Paz  
Dr. Meroño Moreno, Ana Soledad  
Dr. Navarro Garmendia, Alberto

- **Architectural Composition Department**

- *Professor*  
Dr. Barbeito Diez, Jose Manuel  
Dr. Blanco Lage, Manuel  
Dr. Vela Cossio, Fernando Julio
- *Associate Professor*  
Dr. Callejo Delgado, M.Jesus  
Dr. Casado Alcalde, Esteban  
Dr. Esteban Maluenda, Ana Maria

Dr. Flores Pazos, Carlos  
Dr. Garcia Garcia, Rafael  
Dr. Hernandez Pezzi, M. Emilia  
Dr. Madera Sanchez, Fco.Javier  
Dr. Osuna Redondo, Roberto  
Dr. Prada Perez De Azpeitia, Manuel  
Dr. Roman Pastor, Carmen  
Dr. Sainz Avia, Jorge  
Dr. Valcarce Labrador, Maria Teresa

- *Assistant Professor,*  
Dr. Cobeta Gutierrez, Iñigo  
Dr. Cordero Ampuero, Angel  
Dr. De La O Cabrera, Manuel Rodrigo  
Dr. Diez Martinez, Daniel  
Dr. Encabo Segui, Enrique  
Dr. Flores Soto, Jose Antonio  
Dr. Garcia Carbonero, Marta  
Dr. Guerrero Lopez, Salvador  
Dr. Martin Dominguez, Guiomar Elena  
Dr. Prieto Gonzalez, Eduardo Antonio  
Dr. Rivera Gamez, David  
Dr. Soler Montellano, Agatangelo  
Dr. Toribio Marin, Carmen  
Dr. Trovato, Graziella

- *Lecturers*  
Mr. Dominguez Romero, Manuel  
Mr. Magistrali, Danilo

- **Architectural Projects Department**

- *Professor*  
Dr. Abalos Vazquez, Jose Ignacio  
Dr. Aparicio Guisado, Jesus Maria  
Dr. Aranguren Lopez, Maria Jose  
Dr. Arnuncio Pastor, Juan Carlos  
Dr. Espejel Alonso, Carmen  
Dr. Gonzalez Gallegos, Jose  
Dr. Herreros Guerra, Juan  
Dr. Lapuerta Montoya, Jose Maria De  
Dr. Lleo Fernandez, Blanca  
Dr. Maroto Ramos, Francisco Javier  
Dr. Martinez Santa-Maria, Luis  
Dr. Sancho Osinaga, Juan Carlos  
Dr. Soriano Pelaez, Federico  
Dr. Tuñon Alvarez, Emilio
- *Associate Professor*  
Dr. Burgos Ruiz, Francisco Jesus  
Dr. Coll Barreu, Juan Carlos  
Dr. Fernandez Rodriguez, M. Aurora  
Dr. Garcia De Paredes De Falla, Angela  
Dr. Garrido Colmenero, Gines Ignacio  
Dr. Juarez Chicote, Antonio  
Dr. Martinez Arroyo, M. Del Carmen  
Dr. Morell Sixto, Alberto  
Dr. Muñoz Cosme, Ildefonso  
Dr. Pemjean Muñoz, Rodrigo Francisco  
Dr. Ramos Abengozar, Jose Antonio  
Dr. Ribot Manzano, Almudena

Dr. Rojo De Castro, Luis  
Dr. Ruiz Barbarin, Antonio Manuel  
Dr. Sanchez Garcia, Jose Maria  
Dr. Ulargui Agurruza, Jesus

▪ *Assistant Professor*

Dr. Arques Soler, Francisco  
Dr. Canovas Alcaraz, Andres  
Dr. Casino Rubio, David  
Dr. Casqueiro Barreiro, Fernando  
Dr. Colmenares Vilata, Silvia  
Dr. Colomes Montañes, Enrique  
Dr. Donaire Garcia De Mora, Jesus  
Dr. Elvira Peña, Juan  
Dr. Feduchi Canosa, Pedro  
Dr. Fernandez Elorza, Hector Daniel  
Dr. Franco Díaz, Arturo  
Dr. Garcia-German Trujeda, Javier  
Dr. Garcia-German Vazquez, Jacobo  
Dr. Garcia-Setien Terol, Diego  
Dr. Lapayese Luque, Concepcion  
Dr. Martin Blas, Sergio  
Dr. Maruri Glez. De Mendoza, Nicolas  
Dr. Mestre Martinez, Maria De Las Nieves  
Dr. Pieltain Alvarez-Arenas, Alberto  
Dr. Pizarro Juanas, Maria Jose  
Dr. Rodriguez Ramirez, Fernando  
Dr. Rueda Jimenez, Oscar  
Dr. Ruiz Esquiroz, Jose Antonio  
Dr. Soto Aguirre, Alvaro  
Dr. Teresa Trilla, Enrique De  
Dr. Urzaiz Gonzalez, Pedro  
Dr. Valle Gonzalez, Raul Del

▪ *Lecturers*

Ms. Acebo Garcia, Maria Victoria  
Ms. Alberola Peiro, Monica  
Mr. Alonso Ortiz, Angel  
Mr. Basabe Montalvo, Luis  
Mr. Blanco Herrero, Arturo  
Mr. Borrego Cubero, Angel  
Ms. Canet Rossello, Juana  
Mr. Cano Pintos. Alfonso  
Ms. Canosa Benitez, Silvia  
Ms. Collado Baillo, Maria Isabel  
Mr. Delgado Camara, Enrique  
Mr. Diaz Mauriño Garrido Lestache, Luis  
Ms. Diaz-Urgorri Emparanza, Begoña  
Mr. Espinosa Perez, Enrique  
Mr. Garcia Barona, Camilo  
Mr. Garcia Fernandez, Carlos  
Mr. Garcia Pedrosa, Juan Ignacio  
Mr. Garcia Pino, Fernando  
Mr. Gelabert Amengual, Antoni  
Mr. Guridi Garcia, Rafael  
Mr. Jaraiz Perez, Jose  
Mr. Jimenez De Tejada Benavides, Cesar Maria  
Ms. Juanes Juanes, Blanca  
Mr. Kreisler Moreno, Miguel Wenceslao

Ms. Langarita Sanchez, Maria  
Mr. Martin Fidalgo, Alvaro  
Mr. Martinez Castillo, Alberto V.  
Mr. Miguel Garcia, Sergio De  
Mr. Montenegro Mateos, Nestor  
Mr. Montoro Coso, Ricardo  
Ms. Montoya Saiz, Paula  
Mr. Moreira Magalhaes, Adelino Manuel  
Mr. Moreno Hernandez, Alvaro  
Mr. Mosquera Gonzalez, Javier  
Mr. Moure Lorenzo, Gonzalo  
Mr. Nanclares Da Veiga, Alberto  
Mr. Nicolau Corbacho, Alberto  
Mr. Oriol Salgado, Pablo Luis  
Ms. Ozaeta Cortazar, Arantza  
Mr. Palacios Labrador, Luis  
Mr. Palacios Rodriguez, Carlos  
Mr. Pardo Diaz, Gonzalo  
Mr. Pascual Garcia, Manuel  
Mr. Pemjean Muñoz, Emilio  
Mr. Pereda Iglesias, Jose Carlos  
Mr. Perez Gomez, Eduardo  
Mr. Pesquera Gonzalez, Eduardo  
Mr. Peydro Duclos, Ignacio  
Mr. Pitarch Alonso, Pedro  
Mr. Royo Marquez, Moises  
Mr. Ruiz Pardo, Marcelo  
Mr. Saenz Guerra, Vicente  
Mr. San Juan Calle, Angel Javier  
Mr. San Vicente Domingo, Jesus Maria  
Mr. Sanchez Garcia, Miguel Angel  
Mr. Sanchez Gonzalez, Ricardo  
Mr. Senra Fernandez Miranda, Ignacio  
Ms. Sentkiewicz, Renata  
Mr. Sevillano Bengoechea, Guillermo Ignacio  
Ms. Toro Ocampo, Lina Paola  
Mr. Tur Mc Glone, Juan Jose  
Mr. Virseda Aizpun, Alejandro Claudio

▪ *Assistants*

Mr. Delso Gutierrez, Rodrigo  
Ms. Feliz Ricoy, Salvora  
Ms. Gil Lopesino, Eva

• **Buiding Structures and Physics Department**

▪ *Professor*

Dr. Cervera Bravo, Jaime  
Dr. Sancho Aznal, Jose M.

▪ *Associate Professor*

Dr. Abril Torralba, Oscar De  
Dr. Alvarez Rodriguez, Raquel  
Dr. Antuña Bernardo, Joaquin Francisco  
Dr. Davila Alvarez, Pedro  
Dr. Garcia Alonso, M. Dolores  
Dr. Garcia Gamallo, Ana Maria  
Dr. Garcia Tijero, Jose Manuel  
Dr. Gonzalez Redondo, Maria Mercedes  
Dr. Hernando Garcia, Jose Ignacio

Dr.D Huerta Fernandez, Santiago  
Dr. Martin Domingo, Agustin  
Dr. Navacerrada Saturio, M. De Los Angeles  
Dr. Rojas Pupo, Daniel  
Dr. Sopeña Mañas, Luis Miguel  
Dr. Vazquez Espi, Mariano Enrique

▪ *Assistant Professor*

Dr. Aznar Lopez, Antonio Alvaro  
Dr. Diaz Fernandez, Alvaro  
Dr. Majano Majano, Maria Almudena  
Dr. Martinez Sierra, Enrique  
Dr. Millan Muñoz, Miguel Angel  
Dr. Olmedo Rojas, Carlos Enrique  
Dr. Orta Rial, Maria Belen  
Dr. Pascual Gallego, Valero  
Dr. Rodriguez-Monteverde Cantarell, Maria del Pilar  
Dr.Santos Berbel, Cesar de  
Dr. Villanueva Llauro, Paula

▪ *Lecturers*

Mr. Arroyo Portero, Juan Carlos  
Ms. Benito Pradillo, Maria Angeles  
Mr. Bernabeu Larena, Alejandro  
Ms. Bravo Maria, Teresa  
Mr. Calle Garcia, Alejandro  
Mr. Castañon Cristobal, Fernando  
Ms. Lopez Aguado, Celia  
Mr. Mencias Carrizosa, David  
Mr. Rey Rey, Juan Ignacio  
Mr. Rodriguez De Rivas Aguirre, Juan  
Mr. Ruiz Carmona, Jacinto  
Mr. Torre Calvo, Juan Francisco De La  
Mr. Vega Catalan, Luis

▪ *Assistants*

Mr. Conde Conde, Jorge  
Mr. Gomez Royuela, Jose Luis  
Mr. Lara Bocanegra, Antonio Jose  
Ms. Navas Sanchez, Laura Araceli  
Mr. Roig Vena, Antonio Luis

• **Construction and Technology in Architecture Department**

▪ *Professor*

Dr. Adell Argiles, Josep Maria  
Dr. Bedoya Frutos, Cesar  
Dr. Garcia Santos, Alfonso  
Dr. Hernández Olivares, Francisco (until July 2019)  
Dr. Neila Gonzalez, Fco. Javier

▪ *Associate Professor*

Dr. Acha Roman, Consolacion Ana  
Dr. Anaya Diaz, Jesus  
Dr. Araujo Armero, Ramon  
Dr. Azpilicueta Astarloa, Enrique  
Dr. Ballarin Iribarren, Juan Alberto  
Dr. Barahona Rodriguez, Maria Celia  
Dr. Bustamante Montoro, Rosa Alejandrina  
Dr. Cabo Fernandez, Miguel Carlos  
Dr. Cassinello Plaza, Maria Josefa

Dr. Gamez Guardiola, Jose Ramon  
Dr. Garcia Morales, Soledad  
Dr. Humero Martin, Antonio Eduardo  
Dr. Lasheras Merino, Felix  
Dr. Lauret Aguirregabiria, Benito  
Dr. Oteiza Sanjose, M. Pilar  
Dr. Vega Sanchez, Sergio

▪ *Assistant Professor*

Dr. Aira Zunzunegui, Jose Ramon  
Dr. Arranz Arranz, Beatriz  
Dr. Barbero Barrera, Maria Del Mar  
Dr. Moreno Fernandez, Maria Esther  
Dr. Nuñez Judez, Ruben  
Dr. Olivieri, Francesca  
Dr. Olivieri, Lorenzo  
Dr. Palma Crespo, Milagros  
Dr. Pinilla Melo, Javier  
Dr. Ramirez Pacheco, Gema Maria  
Dr. Sanchez Aparicio, Luis Javier  
Dr. Sanchez-Guevara Sanchez, Maria Del Carmen  
Dr. Sanz Arauz, Fco David

▪ *Lecturers*

Mr. Armengot Paradinas, Jaime  
Mr. Atares Del Cura, Fernando  
Ms. Calvo Andres, Maria Begoña  
Ms. Carrascal Garcia, Maria Teresa  
Mr. Castejon Navas, Juan Pedro  
Mr. Dios Lopez, Santiago Rafael De  
Mr. Dominguez Gonzalez-Seco, Esteban Patricio  
Mr. Garcia Alvarez, Santos  
Mr. Garcia Fernandez, Gonzalo Felipe  
Mr. Garcia Herrero, Jesus  
Mr. Gonzalez Bravo, Raul  
Ms. Hernandez Martinez, Maria Carolina  
Mr. Herranz Aguilar, Juan Carlos  
Mr. Ingles Musoles, Fernando Maria  
Mr. Lahoz Ruiz, Eduardo  
Mr. Larrumbide Gomez-Rubiera. Enrique Alberto  
Ms. Llorente Zurdo, Maria Paz  
Ms. Lucia Mulas, Maria Ana  
Mr. Perez-Somarriba Ramirez De Esparza, Felipe Javier  
Mr. Rodriguez Perez, Manuel  
Mr. Rodriguez Sanchez, Ernesto Abdon  
Mr. Sanchez Sanchez, Agustin  
Mr. Sardiza Asensio, Javier  
Mr. Soler Severino, Manuel Jose  
Mr. Tejera Parra, Javier  
Mr. Valverde Lorenzo, Luis Ramon  
Mr. Vela Cossio, Antonio

• **Graphic Ideation of Architecture Department**

▪ *Professor*

Dr. Garcia-Gutierrez Mosteiro, Fco. Javier  
Dr. Rabasa Diaz, Enrique

▪ *Associate Professor*

Dr. Alonso Rodriguez, Miguel Angel  
Dr. Amann Alcocer, Atxu



Dr. Blasco Rodriguez, Carmen  
Dr. Garcia Rios, Ismael  
Dr. Giron Sierra, Francisco Javier  
Dr. Gomez Pioz, Eduardo Javier  
Dr. Lopez Mozo, Ana  
Dr. Martinez Díaz, Angel  
Dr. Moran Ortega, Adolfo  
Dr. Muñoz Pardo, Maria Jesus  
Dr. Raposo Grau, Javier Fco.

▪ *Assistant Professor*

Dr. Coca Leicher, Jose De  
Dr. Galan Hergueta, Aurora  
Dr. Garcia Sanchez, Maria Teresa  
Dr. Gonzalez Uriel, Ana  
Dr. Martin Talaverano, Rafael  
Dr. Muñoz De Pablo, Maria Jose  
Mr. Rodrigo Sanz, Francisco  
Dr. Salgado De La Rosa, Maria Asuncion  
Dr. Sanchez Llorens, Maria Del Mar  
Dr. Trachana, Angelique

▪ *Lecturers*

Ms. Aliberti, Licia  
Mr. Amezcua Pajares, Victor Juan  
Mr. Araujo Fuster, Fernando  
Mr. Arias Horas, Manuel Alberto  
Ms. Blas Gomez, Felisa De  
Mr. Bordes Cabrera, Enrique  
Mr. Del Blanco Garcia, Federico Luis  
Mr. Del Corral Del Campo, Francisco Jose  
Mr. Fontcuberta Rueda, Luis Andres De  
Mr. Garate Fernandez-Cossio, Pablo  
Mr. Garcia Gil, Luis  
Mr. Garcia-Rosales Gonzalez-Fierro, Gonzalo  
Ms. Gomez Sanchez, M Isabel  
Ms. Guillem Gonzalez-Blanch, Maria Del Puig  
Mr. Hermoso Lera, Enrique Jesus  
Mr. Lancho Alvarado, Fernando  
Mr. Landinez Gonzalez Valcarcel, David  
Ms. Lomoschitz Mora-Figueroa, Emma  
Ms. Mallo Zurdo, Maria  
Mr. Martin San Cristobal, Francisco  
Mr. Martinez Aguado, Antonio  
Mr. Moreno Marquina, Alvaro  
Mr. Pajares Sanchez, Ivan  
Mr. Roig Segovia, Eduardo  
Ms. Ruiz Plaza, Angela  
Mr. Santonja Jimenez, Ricardo  
Mr. Sobron Martinez, Luis De  
Mr. Sotelo Calvillo, Gonzalo  
Ms. Velasco Sanchez, Susana  
Mr. Villarreal Colunga, Carlos

• **Linguistic Applied To Science and Technology Department**

▪ *Associate Professor*

Dr. Martin Castillejos, Ana Maria  
Dr. Ubeda Mansilla, Paloma

▪ *Assistant Professor,*

Dr. Soto Almela, Jorge

- *Lecturer*  
Ms. Heimannsfeld, Karin Ruth

• **Urban and Regional Planning Department**

- *Professor*  
Dr. Fariña Tojo, José  
Dr. Hernandez Aja, Agustin
- *Associate Professor*  
Dr. Ezquiaga Dominguez, Jose Maria  
Dr. Fernandez Guell, Jose Miguel  
Dr. Higuera Garcia, Esther  
Dr. Leboreiro Amaro, Maria Asuncion  
Dr. Ruiz Sanchez, Javier  
Dr. Sanchez De Madariaga, Ines
- *Assistant Professor*  
Dr. Alonso Ramos, Andrea  
Dr. Alvarez De Andres, Eva  
Dr. Garcia Gonzalez, Maria Cristina  
Dr. Gesto Barroso, Belen  
Dr. Gonzalez Garcia, Isabel  
Dr. Gregorio Hurtado, Maria Sonia De  
Dr. Lamiquiz Dauden, Fco Jose  
Dr. Mohino Sanz, Maria Inmaculada  
Dr. Roman Lopez, Maria Emilia  
Dr. Sevilla Buitrago, Alvaro
- *Lecturers*  
Ms. Andres Mateo, Carmen  
Ms. Carrillo Guajardo-Fajardo, Francisco Javier  
Mr. Castejon Leon, Rafael  
Mr. Cordoba Hernandez, Rafael  
Mr. Diaz Sotelo, Antonio Maria  
Ms. Fernandez Ramirez, Cristina  
Ms. Gallego Gamazo, Cristina  
Ms. Masia Gonzalez, Maria Llanos  
Ms. Matesanz Parellada, Angela  
Mr. Morcillo Alvarez, Daniel  
Ms. Moreno Balboa, Maria Carmen  
Mr. Prieto Miñano, Miguel Angel  
Mr. Rivera Blasco, Dario  
Ms. Rodriguez Alonso, Raquel  
Ms. Rodriguez Suarez, Ivan  
Ms. Simon Rojo, Marian  
Mr. Tamayo Palacios, Alejandro  
Ms. Urda Peña, Lucila  
Mr. Verdaguer Viana-Cardenas, Carlos
- *Assistants*  
Mr. Ardura Urquiaga, Alvaro

**A.3 Social Equity Policy**

As indicated in I.1.3 of this PSER, the general statutes of the UPM reflect the social equity policy referring to all agents, including faculty. Relevant here are some of the most significant points in Article 1 of the Statutes:

*Exercising its autonomy, the activity of the UPM is based on the principle of academic freedom, demonstrated in academic freedom in teaching, research and study. This principle and freedom inspire the interpretation of its governing rules so that:*

- *Academic freedom is shown in the right exercised by teaching staff to express freely their scientific, technical, cultural and artistic ideas, opinions and convictions in their teaching activities within the curriculum framework and the directives approved by the corresponding bodies of the UPM.*
- *Freedom of research is shown in the exercise of the right to use methodological principles, the choice of pertinent objectives and the publication of results of research activity.*
- *Freedom of study, based on equal opportunities and non-discrimination, implies the publication of the regulations controlling the validation of students' knowledge, the advice and assistance offered to them, their representation on the University governing bodies, freedom of speech, reunion and association and the guarantee of their rights, through appropriate procedures and, where applicable, through the action of the University Ombudsman.*

#### **A.4 Policies related to human resource development opportunities.**

All faculty members who are architects are registered members of the corresponding Professional Association.

As envisaged in Art.11 of the Law for University Reform (Ley Orgánica11/1983) full-time members of Faculty who are architects can engage in scientific, technical or artistic work, contracted with public or private organizations through their university departments, which is considered part of their research activity.

The administration of this activity is managed by the UPM infrastructure, normally through the Office for Technological Transfer (OTT) which provides teachers with the appropriate management facility, and retains a special quota of up to 20% as compensation for the use of university resources and infrastructure.

Architects who are part-time faculty members, on the other hand, tend to spend the rest of their time in professional activity, requesting approval of the appropriate compatibility.

The Lecturers, (42.57% of the total Faculty) are well-known professionals, with more than 3 years experience, who bring their direct professional experience to their teaching activities as their professional work as architects is their main activity and their teaching is complementary to this.

This means that all faculty members, engaged in academic or other activity, depending on their contracts, are engaged in architectural work which ensures they are updated on the real demands of the profession.

Apart from the percentage retained by the University of scientific, technical or artistic work carried out by teachers, the UPM has its own series of grants for the closely related professional activities of faculty members.

Apart from this, the ETSAM maintains an ongoing relationship with relevant Professional Associations, including the Colegio Oficial de Arquitectos de Madrid (COAM) and the Consejo Superior de los Colegios de Arquitectos de España (CSCAE). These links ensure that the School is updated on professional problems and takes part in their solution, which facilitates the transference of these to the teaching context, thus transmitting the general problems inherent in professional activity.

Many members of faculty in fact serve on committees in these professional institutions which deal with professional post-graduate training, where they participate as teachers in updating activities for the professional institutions, and also on committees related directly to professional practice.

## A.5 Incentives for faculty

The UPM, within the legal context in which its activity is limited as a public institution in Spain, develops a personal policy based on incentives that can be applied in two levels, corresponding to its public nature and associated with innovative spirit and social responsibility. In this sense, various projects or measures currently in force are described.

### A.5.1 Remuneration

Remuneration of university faculty in Spain is regulated by Royal Decree 1086/1989, of August 28, 1989.

<https://www.boe.es/buscar/pdf/1989/BOE-A-1989-21967-consolidado.pdf>

In the body of this decree the basis for determining compensation of the following supplements is provided:

- Component educational merit.
- Complement productivity.

It also defines the plug-ins for old

### A.5.2 Selection

To access to the positions of Professor, Associate Professor or Assistant Professor it is necessary to have been positively evaluated by ANECA (National Agency for the Evaluation of Quality and Accreditation), as indicated in Royal Decree 1312/2007, which establishes the national accreditation for the access to university teaching bodies, for the different positions of Assistant Professor and Royal Decree 1313/2007, which regulates the system of competitions for access to university teaching bodies, for the positions of Professor and Associate Professor.

[https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20Especific%20del%20PDI/decreto\\_13122007.pdf](https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20Especific%20del%20PDI/decreto_13122007.pdf)

[https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20Especific%20del%20PDI/decreto\\_13132007.pdf](https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20Especific%20del%20PDI/decreto_13132007.pdf)

Subsequently, and once positively evaluated, each university puts out the position they need to tender. Access to the positions of Professor and Associate Professor is evaluated by a Selection Commission at the national level.

Access to the different positions of Assistant Professor, Lecturer and Assistant is evaluated with a Selection Commission of the University itself, in accordance with the Regulations of the contest of Access to University Teaching Bodies in the University Politécnica de Madrid, having as a reference the Scale to be used in the selection processes of hired teachers.

<https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20del%20Personal%20Docente%20e%20Investigador/Normativa%20regulacion%20Concursos%20Docentes.pdf>

Regarding the selection of teaching and research staff, the UPM has approved in its Governing Council the document "Criteria for access to university faculty places" that develops the Spanish official legislation on teacher recruitment

<https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20del%20Personal%20Docente%20e%20Investigador/baremo.pdf>

### A.5.3 Granting sabbaticals

The University has a regulation for granting sabbaticals:

<https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20del%20Personal%20Docente%20e%20Investigador/sabaticos.pdf> modified by

<https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20del%20Personal%20Docente%20e%20Investigador/Modificacion%20reglamento%20sabaticos.pdf>

And every year, a call for granting sabbaticals is proposed. The link can be consulted for the current 2019/2020:

<https://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Gestion%20Academica%20y%20Profesorado/PDI/Convocatorias/Convoc.sab%C3%A1ticos%20.2019-20.pdf>

#### A.5.4 Licenses for teaching and research (paid and unpaid)

Royal Decree RD 898/85 is the legal support applicable throughout Spain.

<https://www.boe.es/buscar/pdf/1985/BOE-A-1985-11578-consolidado.pdf>

This RD, Article 8 on *"Licenses for the purposes of teaching and research"* says literally that *"The Universities may grant study le Licenses to their faculty for teaching or research activities linked to a university, institution or center, national or abroad, according to the requirements and the duration established in its Statutes, within the available budget"*. It also establishes the time and the remuneration to which the teacher has the right in this regard.

UPM Statutes also include in Article 147 their regulation:

[https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20de%20la%20Universidad/EstatutosUPM\\_modificados\\_BOCM\\_09abr2018.pdf](https://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Legislacion%20general/Legislacion%20de%20la%20Universidad/EstatutosUPM_modificados_BOCM_09abr2018.pdf)  
(Artículo 147)

Point 1 of Article 147 of the UPM Statutes about licensing for the purposes of teaching and research, reads that *"In addition to the permits and licenses the staff are entitled to in accordance with applicable law and in accordance with the budgetary , faculty may request and, if necessary, get others to perform teaching or research activities linked to a university, institution or facility, or foreign national and, particularly, to perform instrumental activities of UPM entities"* and regulates the remuneration to which the faculty have the right in this regard.

In fact it a regulations for the granting of unpaid periods has been developed (UPM)

<http://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20del%20Personal%20Docente%20e%20Investigador/permisosnoretribuidos.pdf>

#### A.5.5 Five-year and six-year periods

The R. D. 1086/1989, of 28 August, on the Retribution of University Faculty, above mentioned, introduced in the faculty salary supplements for teaching activity (five-year) and for research activity (six-year).

Indeed, R.D. cited above establishes that *"university faculty officials who serve in the full-time shall be paid for the items of income, triennia, bonuses, extra allowance, special allowance and, where appropriate, productivity bonus, ..."*, linking the *"five-year"* to specific supplement and *"six-year "* to productivity.

So, on the special allowance, the R. D. states that it will result from the sum of the amounts of different components from those reflected *"components for teaching merits"*, according to the following rules:

*University faculty may submit his/her teaching activity every five years [...] to an evaluation to the university where provides services, [...]. Passed favorable evaluation, the teacher will acquire and consolidate for a merit component ... "whose annual amount is updated every year"*.

And on six-year periods, the R. D. states that will be linked to performance bonus and will be governed by the following rules:

*"1<sup>st</sup> University faculty may submit the research activity carried out every six years in full-time [...] to an assessment which will judge the performance of the research work developed during that period;*

*2<sup>nd</sup> This evaluation will be done by a national commission composed of representatives of the Ministry of Education and Science and of the regions governments [...].*

*3<sup>rd</sup> Positive evaluation by the national commission behave the teacher assigning a productivity component for a period of six years, .... "* the amount of which is also updated annually.

While evaluation of research activity is charged to a "national commission" (National Commission for the Evaluation of Research Activity, CNEAI), evaluation of teaching is entrusted to the university itself, in which the teacher evaluated provide a service, in our case, through DOCENTIA-UPM Process.

This model allows that the evaluations of their faculty performed by UPM be considered by the regional quality agencies and national accreditation procedures for faculty.

The Six-year periods, or research sections, represent the most important productivity bonus in the Spanish universities. Beyond the small financial reward involved, their achievement is a symbol of status and prestige in college.

The National Commission for Evaluation of Research Activity (CNEAI) performs the annual evaluation of the research activity of university faculty in order that they be recognized a productivity complement (six years). To obtain the productivity complement, researchers have to submit to assessment scientific work for a period not less than six years. To carry out the evaluations, the features CNEAI Advisory Committees made up of experts who conducted the technical study of the records. The CNEAI may also appoint other experts to act in specific areas or for other purposes.

<http://www.mecd.gob.es/ministerio-mecd/organizacion/organismos/cneai.html>

#### *A.5.6 Faculty mobility, and guest staff from Companies or Research Centres for teaching*

The Erasmus Program offers faculty the opportunity to teach in universities, companies and research centers in Europe for periods of not more than 1 week.

It also provides for staff mobility from companies or research centers to teach in the UPM.

The period of teaching abroad allows the faculty member to meet their counterparts from the host university, meet other university systems and ways of teaching and learning and speaking another language. Ultimately an enriching experiences from the academic point of view that they can integrate in their teaching.

The recipient will receive a scholarship funded by the European Commission for an amount between 120 € and 90 € per day, depending on the destination countries, and always with a minimum of five days staying and 8 h teaching. The Erasmus + Mobility Program for teaching staff and invited staff of Companies or Research Centers to teach (STA) in program countries (European) is:

[http://www.upm.es/Personal/PAS/Movilidad/Erasmus?id=1ec13c10a414f110VgnVCM10000009c7648a\\_\\_\\_&fmt=detail](http://www.upm.es/Personal/PAS/Movilidad/Erasmus?id=1ec13c10a414f110VgnVCM10000009c7648a___&fmt=detail)

The last call is from 2020, despite the circumstances:

[http://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Relaciones%20Internacionales/Europa/KA103\\_2020\\_21\\_STA\\_CONVOCATORIA\\_firmada.pdf](http://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Relaciones%20Internacionales/Europa/KA103_2020_21_STA_CONVOCATORIA_firmada.pdf)

#### *A.5.7 Mobility of teaching / non-teaching staff for training.*

Mobility programs are on the web: <https://www.upm.es/Personal/PDI/Movilidad>

This action, which is part of the broader objective of training personnel for periods of not more than 1 week includes two types of mobility: Companies and Universities and Research Centers. The mobility programs can be found on the web: The lines contained within the mobility program are:

- Lifelong Learning Program (PAP) aims to contribute to the creation of an advanced knowledge society, with sustainable economic development, more and better employment opportunities and greater social cohesion. The general objective is to facilitate exchange, cooperation and mobility between the education and training systems of the participating European countries, so that they become a quality reference in the world:  
<https://www.upm.es/Personal/PDI/Movilidad/ProgramaAprendizajePermanente>
- Erasmus + program: Erasmus + is the unique program that seeks to boost job prospects and personal development, as well as helping education, training and youth systems to

provide teaching and learning that will equip people with the skills necessary for the labor market and current and future society.

<https://www.upm.es/Personal/PDI/Movilidad/Erasmus>

- Hispanic-Chinese and Sino Spanish Program: The UPM is rapidly increasing its relations with the universities and research centers of the R.P. China, especially when it comes to student mobility in both directions. In order to strengthen current exchanges and, at the same time, explore the possibilities of cooperation in the area of joint research, it is advisable to promote the knowledge of Chinese research centers by UPM researchers.  
[https://www.upm.es/Personal/PDI/Movilidad/ProgramaHispanoChino\\_SINOEspañol](https://www.upm.es/Personal/PDI/Movilidad/ProgramaHispanoChino_SINOEspañol)
- Cooperative Travel Aids: Within the cooperation strategy of the UPM the support to the teachers, researchers and staff of the UPM in their work within the field of development should be mentioned. In this sense, the Development Cooperation Directorate manages its own program in the field of development cooperation, with calls for projects, travel aid for teachers and staff, support for cooperation groups, support for the itdUPM, among others. Support is also provided to teachers and groups to be able to apply to external calls from the cooperation area such as the calls of EuropeAid of the European Union, AECID, Community of Madrid, Madrid City Council ... among others.

<https://www.upm.es/Personal/PDI/Movilidad/AyudasViajeCooperacion>

Program for academic visits with Iran, Iraq and Israel: The objective of the AYUDAS PARA DEFINIR COTUTELAS UPM-III program is to support the definition of joint tutorials (joint doctorates) between the Polytechnic University of Madrid and leading universities in the Middle East, specifically universities in Iran, Iraq and Israel (III), in order to develop the relationships that later on will allow to attend European Union calls such as Erasmus + and others, with greater guarantees of success.

[https://www.upm.es/Personal/PDI/Movilidad/programa\\_visitas\\_iran\\_irak\\_israel](https://www.upm.es/Personal/PDI/Movilidad/programa_visitas_iran_irak_israel)

- Programs in North America: In order to give new energy to their relationships and promote collaboration between the Polytechnic University of Madrid (UPM) and the University of California at Berkeley (UCB), these institutions have agreed to develop a Research Mobility Program at Berkeley (PMIB) that allows doctoral students and faculty of the UPM to carry out a research stay at the UCB. In this way, the Vice-Rectorate for International Relations calls for grants to carry out research stays for doctoral students and professors at the UCB.

<https://www.upm.es/Personal/PDI/Movilidad/ProgramasAmericaNorte>

#### *A.5.8 Program of support measures and recognition of teaching activity in English by faculty from the UPM.*

Complementing the various activities that define its international dimension, the Polytechnic University of Madrid wants to continue supporting those activities that either help our undergraduate students prepare in the best possible conditions for the realization of future training placements at foreign centers or, on the other hand, facilitate foreign students training in our centers.

To this end, over the past four years, UPM has maintained support and recognition programs to teaching in English conducted by the faculty of the Polytechnic University of Madrid.

As a result of these programs developed by the UPM, teachers of many subjects taught in different university degrees have benefited from a greater recognition of his teaching activity in English and in many of them has had the participation of scholarship students collaborating on the development of in English teaching materials or aids to final review of documents to be included in the UPM computer servers. In years past many UPM students have studied these subjects and many of them are already available in the Open Course Ware of the university or are in the process of being published in the same.



The new Model for Estimating the Teaching Activity of the UPM Departments, considers a higher valuation of the teaching activity in English, to promote it. The previous one, from 2011, still in force, did not contemplate this. In addition, there is an offer of courses for teachers and Administration personnel, to obtain the C1 level of English, essential for teaching.

#### *A.5.9 Call for Project Aids and Educational Innovation Awards.*

Among the strategic objectives of the UPM is promoting educational innovation processes and development of projects related to the continuous improvement of the quality of their teaching, with special attention to the preparation of new training methods related to the implementation of the European Space for Higher Education.

To promote actions aimed at achieving this goal, the UPM has been supporting the call for institutional projects that allow our staff the implementation of actions aimed at improving the quality of their teachings in official degree for the past 13 consecutive years.

The active participation of the faculty and the provision of facilities and resources are essential in this process as well as ensure the maximum dissemination of the objectives and conditions for the award of these grants among the teaching staff.

At this moment, UPM has 121 Educational Innovation Groups, and 8 are from the ETSAM.

The budget for educational innovation momentum in the last year amounted to:

- 200.000 €
- Aid call Educational Innovation Projects. <http://innovacioneducativa.upm.es/proyectosIE>
- 20.000 €, Teaching Excellence Award
- 24.000 €, Educational Innovation Awards
- 4.500 €, Award for Educational Innovation Projects  
<https://innovacioneducativa.upm.es/premios-2019>

#### *A.5.10 Training*

Aside from the training that develops UPM to enrich the formation of the members of their community through the courses that are part of the **"Training Plan"** and platform **"Tuning"**, the University has an Institute of Education Sciences (ICE) which is a center that according to the Statutes of the university, is defined as: *"Proper Centre of the University (Art. 25) whose main objective is the training of teachers of the UPM in education and research."*

The priority is defined with actions aimed at increasing the quality of teaching through continued training and development of teachers, educational research in various fields, technical advice and pedagogical, methodological innovation and implementation of technologies for teaching, among other activities.

The ICE is also a **"meeting place"** between faculty of the Polytechnic University and other universities to address issues of common interest. It organizes congresses, conferences, lectures and panels on topical issues in the university and other open activities national and international.

<http://www.ice.upm.es/>

#### *A.5.11 Other activities*

- **Cultural Activities**

The University has an Area of Cultural Activities, with activities throughout the course, some of a formative nature with Musical Appreciation Courses, theater, learning to play instruments, painting, etc. and others such as series of concerts, in the centers or the cycle of the National Auditorium, which has 6 or 7 concerts throughout the course. This course, the Training Character Activities are online. It also has a long-standing Choir and recently an Orchestra. Both the Choir and the Orchestra are made up of people from the University community, students, teachers, and administration staff. Activities are open to the entire University Community.

[https://www.upm.es/UPM/Actividades\\_Culturales](https://www.upm.es/UPM/Actividades_Culturales).



- **Sports**

The UPM has a program of Sports Activities, both individual and team. The offer can be found at the web address: <http://www.upm.es/UPM/Deportes>. There are a series of centers on each of the Campus for individual activities, open to the entire University community, Faculty, students and administration and services personnel.

In addition, ETSAM has the Asociación Deportiva Arquitectura (<http://arqmaddeportes.blogspot.com/> Sports Association Architecture) that manages the teams that compete in the University league, at the University level, a tournament between centers, and at the interuniversity level. The school has a field for indoor soccer and basketball and another for Rugby training. The University subsidizes part of the activities. The Club Deportivo Arquitectura (Architecture Sports Club) aims to promote the development of competitive-sports activities among its members, especially Rugby; participate in the different competitions or tournaments that are organized for this purpose; collaborate in the programming and organization of these activities. In general, how many activities can be useful for the physical-sport development of its members.

- **Business Creation Competition (ACTUA-UPM)**

The UPM Business Creation Competition "actúaupm" is aimed at faculty, researchers, postgraduate, doctorate and master students. Additionally, any person or persons outside the UPM, forming team with personnel from the UPM, as well as administrative and service staff who accept the challenge to test their business ideas.

This initiative brings out the entrepreneurial spirit and encourage innovation in the university community and supports entrepreneurship generation economically and operationally viable, that can become a differential business project.

There have been already 17 editions of the contest. In the last edition, 45,000 euros were distributed in prizes.

[https://www.upm.es/Investigacion/innovacion/CreacionEmpresas/Servicios/Competicion\\_Creacion\\_Empresas](https://www.upm.es/Investigacion/innovacion/CreacionEmpresas/Servicios/Competicion_Creacion_Empresas)

#### **A.6 Policy, procedures and criteria for the recruitment, promotion and tenure of Faculty members where applicable.**

Teaching positions at the School are decided on two basic factors: the real teaching needs, established by the Departments and the real possibilities of the University itself, with budgets which depend in turn on the regional government.

The procedures and criteria for staff recruitment in all public universities in Spain are established at a national level, and with a single criterion, by the University Reform Law (*Ley de Reforma Universitaria (Ley Orgánica 11/1983)* and currently by *Royal Decrees: 1312/2007, del 5 de octubre*, which establishes national accreditation for access to university teaching and *1313/2007 de 5 de octubre*, which regulates the regime for recruitment calls for university teaching staff.

Note here that although the formal procedure to obtain a teaching post in the public university has gradually changed over time in Spain, it has always included some kind of competitive process which means that applicants require intensive preparation in terms of knowledge and experience, to be able to secure a position.

Also note that currently there are different ranks of university teachers and different access modes to a university teaching career. These can be divided into two main types: *Profesores Numerarios* and *Profesores Contratados*. The *Profesores Numerarios*, which become civil servants, are subdivided into two types: *Profesores Titulares* (Associate Professors) and *Catedráticos* (Full Professors).

In both cases, to be appointed to a university teaching post, applicants must present the corresponding qualifications specified in *Decree 1312/2007*. The university in question must

advertise the vacant post, depending on justified needs. Applicants who have obtained the appropriate accreditation for the advertised post, then present their applications and take the competitive exam (*concurso-oposición*) as specified in *Decree 1313/2007*, mentioned above. The successful applicant in this competitive process will be offered the faculty position at the university, with tenure until retirement age, unless a disciplinary process is initiated, leading to dismissal.

Note that to obtain prior accreditation applicants must demonstrate the required research, teaching and professional experience, with more requirements for Professorships. In fact, to be accredited as Full Professor (*Catedrático*) it is essential to have previously held the post of Associate Professor (*Profesor Titular*). These accreditations are exclusively issued by the ANECA for public universities in Spain.

There are several different types of contracted teachers: *Ayudante*, *Colaborador*, *Ayudante Doctor*, *Contratado Doctor* and *Asociado*. "*Interinos*", are also contracted teachers, both Associate and Full Professors, but their posts are temporary until the permanent post and its corresponding competitive recruitment process are advertised.

Except for the posts of *Ayudante* and *Asociado*, the other post types also require previous accreditation, which can be awarded by the ANECA, at countrywide level or by the local quality assurance agencies (ACAP in Madrid) which applies only to the corresponding regional Autonomous Community. The conditions are more demanding for post types 1-4 above in both research experience and professional experience, and applicants must have a PhD for the last three types.

Once the corresponding accreditation has been obtained, the candidates must wait until the university in question advertises the specific post and then make their application, taking part in the competitive process regulated by the *Decree 1313/2007*, mentioned above. Only the successful applicant in the competitive selection process has the right to a permanent tenured contract, until the post holder is promoted to a higher ranking post.

*Ayudantes* are young teachers in training and they do not pass through any previous filter. The university contracts them depending on their qualifications and their research interests.

For *Asociados* and *Interinos*, the conditions for accessing a post are established by each university. In both cases, applicants have to compete for the post when advertised. *Asociados* must renew their contract annually as the university sees fit.

*Interinos* must also renew their contracts each year until the university advertises the post they currently hold (as *Profesor Titular* or *Catedrático*) and at that point they can apply to take part in the corresponding competitive process, if they have the required accreditation.

### A.7 Visiting Lecturers and critics

The ETSAM attempts to forge links with everyday reality of the profession, at both national and international levels. To do this, it organizes different activities including presentations by guest professors with their personal overview of Architecture and the profession, to students and Faculty members of the School.

The activities are listed at the web site:

<https://etsam.aq.upm.es/v2/es/escuela/lineas-estrategicas/cultura>

The news and events can be followed in: <https://etsam.aq.upm.es/v2/es/ETSAM/noticias-eventos>

In the 2017-2018 academic year, a Yearbook was made that collects the activities of the School. The Yearbook can be consulted at the web site:

<https://www.yumpu.com/es/document/view/62563823/anuario-etsam-2017-18>

The Yearbook for the 2018-19 academic year is in process, delayed by the current situation. Some of the outstanding talks and presentations given in the last two years include:

#### 2018-19

- **Visiting Lecturers:**

- ANTONIO ORTIZ \_Closure of the FAMA LAB HNA Fair
- Inauguration of the MOMOYO KAIJIMA course
- FRANCIS KÉRÉ (Qualifying Master, Luis Fernández Galiano)
- JOSEP MARÍA MONTANER (Heritage classroom)
- CARMEN ROJAS (Heritage classroom)
- PIET ECKART #argument 2 and Cátedra Blanca
- LUIS CALLEJAS #argument 2
- UMBERTO NAPOLITANO #argument 2
- EDUARDO NEILA\_ FICARQ
- PETER COOK
- MARKUS BADER\_ #argument 2
- INÉS LOBO\_ #argument 2
- FRANÇOIS CHARBONNET \_ #argument 2
- ALFREDO DUVAL \_
- FRANÇOIS CHARBONNET \_ #argument 2
- ALFREDO JAAR
- S.O.M

- **Events held / with ETSAM participation:**

- Architecture Fair\_ FAMA LAB\_ HNA
- OPEN HOUSE #madeinETSAM tour
- #ARGUMENT 2\_DPA
- Critical Crisis\_ DCA Mini-Congress
- Cultural Heritage Classroom Seminar
- International Seminar: The Reconstruction of Cultural Heritage. Rafael Manzano Award
- Congress GEPAC\_ patients with cancer
- International Film and Architecture Festival FICARQ
- Open doors December
- VIII International Congress on Ceramics and Architecture
- Congress City, Terrorism and Security in the Territory
- HULT PRIZE (April 5 and 6)
- Mariconers Congress (April 10-12)
- BOOK PRESENTATION: "Women, houses and cities. Beyond the threshold". Zaida Muxi
- ETSAM DOORS OPEN \_ 24 May
- SIKA awards ceremony
- Workshop Urban Living Lab. "The house of the future" in Mahou-Calderón. Pepe Coca

## 2019-20

- **Visiting Lecturers**

- [CONFERENCE "BENEFITS OF SPORT ON WOMEN'S HEALTH"](#) 2020/11/07
- [CÁTEDRA BLANCA | VALERIO OLGATI](#), 2019/09/16
- [LA ETSAM ANTE LOS ODS](#) 2019/09/17
- [Teaching and Practice: Reciprocal Relationships: Oct. 1 to 3. This course aims to study the links between the professional world and the academy through the experience of professors and professionals who, due to their trajectory, have built relationship platforms between both.](#)
- [Conference and colloquium by four architecture teams present at the BAL 2019 \(Latin American Architecture Biennial 2019\): GARZA CAMISAY \(Mexico\), COTIGNOLA-STARICCO-TOBLER \(Uruguay\), MUTAR ESTUDIO \(Chile\), NÓMENA ARCHITECTURA \(Peru\)](#)
- [Conference Interventions in the Royal Tobacco Factory of Madrid, David Mencías, Oct. 03](#)
- [WORLD HABITAT DAY 2019 AT ETSAM, Oct. 7](#)
- [Reflection sessions: Segregated Territories and \(dis\) Urban Governance](#), October 9 and 10, 2019, Department of Urban Development and Land Management (DUyOT)
- Bauhaus In and Out International Congress. Perspectives from Spain. O

- [Conference: Interventions in the Church of San Sebastián de Villacastín, Antonio Mas-Guindal, Oct, 10](#)
- [Exchange 2020-2021 Chicago Illinois Institute of Technology Information session Vanita Misquita Director or Overseas Programs.](#)
- [AIPA Colloquia: Analysis and intervention in architectural heritage. Carlos Lamela "Centro Canalejas", October 14, 2019 10: 30-12: 30h](#)
- [Conference "80 years ... presence of the Spanish exile in Mexican architecture", Juan Ignacio del Cueto Ruiz-Funes. 10/16/19 Wednesday](#)
- [Design of tall buildings. Mark Sarkisian \(San Francisco, Samantha Walker \(Paris\) de Skidmore, Owings & Merrill LLP \(SOM\), Oct, 16](#)
- [Territorial heritage, cultural landscapes. Specialty in cultural landscapes of salt in Latin America, Oct, 16](#)
- [Architectural Event of 2ACAA 2019 Interaction Forum. Award's Ceremony, Oct, 18](#)
- [1st Meeting of ETSAM Architecture Schools | GASU SAN PETERSBURG: Conference on Heritage and History of Construction and Projects](#)
- [Agustín Fernández Mallo: General theory of garbage \(culture, appropriation, complexity\). 22 October 2019 18:00 ETSAM XG5](#)
- [Conference: Unique interventions in foundations. José M. Rodríguez Ortíz. Oct, 24](#)
- [Conference: Consolidation of the Episcopal Palace of Tarazona. Pilar Rodríguez Monteverde. Juan Monjo. Rosa Bustamante. Oct, 31](#)
- [Conference: Pathologies in buildings induced by public works in urban areas. Jose Luis Criado Eduardo Alonso 11/07/19](#)
- [Colloquium "Bringing contemporary architecture to society" Rafael de La-Hoz, Victoria Garriga and María González. Moderated by Anatxu Zabalbeascoa. Presentation C-Guide: A global tool to encourage the knowledge and recognition of the architecture of excellence in the contemporary city. Nov, 11](#)
- [Conference: Science and aesthetics in the Modern Botanical Garden. Pablo Pérez Ramos 11/12/19](#)
- [Conference: Restoration of the Canal de Isabel II Deposit. Antonio Lopera, Javier Alau. Nov, 14](#)
- [BD conference. Nov, 27](#)
- [Roundtable Meeting: Architecture, Urbanism and Gender. Nov, 28](#)
- [Conference: The church of San Esteban de Gormaz. Soledad García Morales, Nov, 28](#)
- [Conference: Gong Dong. Vector Architects: Dic, 02](#)
- [Conference: Interventions at the Casa de Campo Fairgrounds. José de Coca Leicher. 12/05/2019](#)
- [30th edition of the contest for constructive solutions Pladur: The unprecedented in art. Presentation at ETSAM. Conference: The invisible: Alfredo Paya Benedito, Estudio Noname 29, Feb, 05](#)
- [Conference: Neri & Hu, Feb, 10](#)
- [Conference: Mark Fenwick: Caleido Tower \(fifth tower\). Feb, 12](#)
- [Animation and architecture microtaller. Juan Escudero \(MS-ARCH\). Soto Unit Department of Architectural Projects, Feb, 19](#)
- [Artificial intelligence and creativity. Pablo Gervás \(Ph.D\). Organized by Unidad Soto. Architectural Projects Department. February, 24](#)
- [Investigate and publish: the doctorate and the dissemination of results in academic journals. Álvaro Sevilla Buitrago. Cycle of support for doctorates and research 2020. Feb, 25](#)
- [Conference: Six strategies towards a more participatory architecture. Giancarlo Mazzanti. March, 03](#)
- [Conference: Architectural Affairs. Andreia Garcia. Diogo Aguiar Studio. March, 03](#)
- [Conference: Juhani Pallasmaa. The Veracity of Experience. The Representation of Multi-sensory Reality in Architecture. March, 04](#)
- [Colon Towers. The suspended architecture of Antonio Lamela. Documentary 25 '. Presented by: Carlos Lamela and Concha Esteban. March, 04](#)
- [Roundtable Meeting. EDUMEETSAM. Meetings to talk about pedagogy at school. COFFEE SESSIONS. #edumeetsam, March, 02 and 09](#)

- [Women and Mathematics: algorithms don't understand gender. International Women's Day. International Day of Mathematics, March, 13](#)
- [Conference: Cuenca Cathedral and its restoration. Joaquin Ibañez Montoya. Marian Alvarez-Builla Gómez. May, 07](#)
- [Conference: Bamboo schools: experiences of professional-community collaboration in Chile and Mexico. Ignacio Feuerhake. May. 05](#)
- [Conference: Interventions for the consolidation and repair of historic structures Juan Monjo. Pilar Rodríguez-Monteverde. Rosa Bustamante, May, 14](#)
- [Conference: The Bank of Spain. Recent interventions. Valentin Berriochoa. March, 28](#)
- **Events held / with ETSAM participation:**
  - [Seminar on Female Personal Defense](#) (prevention of harassment and gender violence) 2019/09/23
  - [FORD FUND SMART MOBILITY CHALLENGE \(Sept, 23 18H AULA DE GRADOS B\): Sustainable urban solutions for the cities of the future](#)
  - [10TH EDITION OF THE NIGHT OF THE RESEARCHERS](#): On Friday, September 27,
  - [XVI EDICIÓN DE LA SEMANA DE LA ARQUITECTURA](#) Sept, 30 to Oct, 07
  - [Iberian Bamboo Symposium](#): Oct, 1 to 4
  - [¿Cómo está el patio?: Curso abierto sobre estilos de vida, insostenibilidad y desigualdad](#), How is the patio?: Open course on lifestyles, unsustainability and inequality Oct, 28 to Nov, 17
  - [Building Information Modeling: Workshop: Inventory, intervention and management models in industrial heritage](#). Modelos de inventario, intervención y gestión en patrimonio industrial. Oct, 22/23
  - [Social University of Vallecas 2019, October 28 to 31](#)
  - [Seminar: Roofs on archaeological sites. Between design and conservation. Autonomous University of Madrid. Oct, 25](#)
  - [Responsible, Sustainable, Social and University ReS2 + U- TFG and TFM presentation session, Oct, 28](#)
  - [Internships in companies for students - COIE presentation: Employment Guidance and Information Center, Nuria Martin Piris \(Deputy Vice-Chancellor for Students, External Internships and Employability\), Prof. Carlos García Fernández \(ETSAM Professional Internship Office Coordinator\) Informative Day, Oct, 29](#)
  - [Venturi and us. III Mini-Congress of Theory, History and Criticism of Architecture, Oct, 30](#)
  - [Agroecological transitions confronting climate breakdown: Food planning for the post-carbon city](#) INTERNATIONAL CONFERENCE AESOP-SUSTAINABLE FOOD PLANNING ETSAM MADRID Nov, 7 to 9 2019
  - [Presentation of the book "STRUCTURES 2" José Luis de Miguel Rodríguez November 13, 2019](#)
  - [Jornadas sobre Innovación Docente en Arquitectura JIDA'19. ETSAM- Nov, 14 to 15](#)
  - [IV Ibero-American Se + PHI seminar-workshop: Cultural heritage in emergency situations: experiences in Ibero-America. Nov, 19 to 20, 2019](#)
  - [Symposium Cultural Landscapes of Artisanal Salt in Spain and Latin America, Nov, 20 to 21](#)
  - [ETSAM is commissioned to paint the emblem of the Climate Summit, Dic, 2 to 13](#)
  - [ETSAM Open Doors, Dic, 18](#)
  - [II INTERNATIONAL WORKSHOP OF ARCHITECTURE OF THE URBAN LIVING LAB. Jan, 16](#)
  - [OPEN DAY FEBRUARY 25, for students of Baccalaureate education](#)
  - [Dessert Plateau, Feb, 10 to 12](#)
  - [Masters of architecture talking with Ignacio Vicens Hualde, Feb, 13. Roca Madrid GalleryAwef](#)
  - [Roundtable Meeting: Ethics, Deontology and Architecture, Feb, 18](#)
  - [SIKA \(adhesives and sealants\). HILTI \(fixings for technological glass facades\) Master in technological facades and sustainable envelopes. Feb, 28](#)
  - [Advanced level architectural analysis-projects online workshop, taught in English for students of the Polytechnic University of Madrid \(10 students\) and Politecnico di Milano \(10 students\). June 9 to 20 and 22 to 28](#)

## A.8 Exhibitions

Similarly, continuously exhibitions on topics related to architecture and the architectural profession are held. In recent years include the following:

### 2018-2019

- EXHIBITIONS Main Hall:
  - Teachers \_catedra HNA
  - OIZA: 1918-2018 (totems and videos) \_Blanca Lleó
  - Young Talent Architecture Award 2017 \_Mien Van der Rohe Foundation
  - Architecture as a character \_Marta Muñoz linked to the Film and Architecture festival
  - The urban pieces of the bubble \_Julio Pozueta
  - Honor Roll Projects \_DPA
  - Graficoarquitectónicos Processes. Graphic Ideation Works \_Javier Raposo
  - #mujereswithoutarchitecture (exhibition about ETSAM women) \_Marta Muñoz
  - Work of the EMBT Study \_EMBT + Culture Area
  - Product Design \_interiors
  - Formal Analysis of Everyday Objects: a toy, a chair \_Interiors (in DIMAD NOW)
  - Efímeras \_Carmen Blasco
  - Enabling Master Exposure
  - BD Barcelona furniture exhibition
  - Juan Baraja Exhibition
  - EMBT Exhibition (the one that was at the Roca Gallery)
  - BID Exhibition + Interior Design + Dimad
- EXHIBITIONS New Pavilion:
  - LIVINGwithBASURA \_Belén Gesto
  - Photographs of Exhibitions \_Carmen Gimenez (TRAINCO educational innovation project)
  - From the ethereal to the concrete \_Miguel de Andrés + Mariano Redondo (interiors)
  - Facade construction systems \_Benito Lauret
  - The urban pieces of the bubble \_Julio Pozueta
  - Calavernario: On the shores of the poem \_Miguel Viloria
  - Matter and Space \_Álvaro Moreno
  - Pladur Awards \_Mar Barbero
  - TER 2 works \_Carlos Floriano (interiors)
  - Sculptures in the city \_Javier Raposo + Ricardo Santonja + Marta Muñoz
  - MIAU work \_Federico del Blanco
  - The work of Villanueva \_Paulina Villanueva
  - Women who broke the silence \_Concha Casajús
  - Work MIAU \_Federico del Blanco
  - Domestic Boundaries \_Paulina Villanueva
- EXHIBITIONS Library:
  - Meetings with OIZA \_Aurora Fernández + Susana Feito
  - TESTIMONIES OF THE ANDALUSIAN LEGACY \_Fernando Vela and Susana Feito
- EXHIBITIONS Lobby Aula Magna:
  - Ameba \_Carmen Blasco + María Mallo
- EXHIBITIONS Library Lobby:
  - Design and build \_Antonio Vela (interiors)
  - The Cathedral of Santiago: history and restoration \_PECSA
  - "heritage" \_Community of Madrid
  - Architecture Biennial: PFC \_David Escudero
  - Villanueva's work \_Paulina Villanueva (maybe in autumn)
  - Campo Baeza \_library donation
  - Félix Candela \_library funds
  - Architects in other disciplines: Photography \_Rainer Torrado

- Architects in other disciplines: Jewelry \_ Carlos Fernández Hoyos
- Cooperation Groups and Platforms of the UPM \_ Belén Gesto
- Architecture and Landscape. Tours and Imagined City. Fontcuberta and Coca
- WITH HONORS\_ DPA plates of honor
- PHOTOS PRIDE 2019\_ Rainer Torrado (inauguration 28.06)
- EXHIBITIONS patio between pavilions:
  - Alejandro de la Sota \_ COAG

## 2019-2020

- EXHIBITIONS Main Hall:
  - Master Thesis. September, 02 to October, 07
  - Habitat. October 07 to 15
  - [FAMA-lab](#): Madrid Architecture Fair. October 16, 17 and 18
  - Salt Landscapes. November, 11 to 21
  - [Félix Candela](#) - ETSAM Library Collection. October 23 - November 8, 2019. ETSAM Main Hall
  - BD Barcelona. November, 25 to December, 16
  - [With Honors: Students works of Projects subjects, Janvier, 16 to 31](#)
  - [Students works of DAI 2 and Intensification, February, 01 to 28](#)
  - The dream of Space Produces Forms, To March, 13
  - [Women #made in ETSAM 2020. Leading architects](#), March, 09 to 30
- EXHIBITIONS New Pavilion:
  - Experimental Workshop I works, Cátedra Blanca. September, 02 to 20
  - Experimental Workshop Experimental Construction works, Septiembre, 20 to October, 04
  - [Dom-Tag Painting Awards - Interior Landscape October, 04 to 25](#)
  - [Urban Espora. Experimental Workshop: Fashion and Product Design works. October 25 to November, 08](#)
  - [AESOP. Sustainable Food Planning October 25 to Nov, 08](#)
  - [3 SDG Health & Wellness. November, 29 to December, 13](#)
  - [Paldur Awards, February 03 to 14](#)
  - Hispalit Awards. February, 17 to March, 07
- EXHIBITIONS Library:
  - The School in war . September, 09 to December, 20
  - ["Modern architectures at the Feria del Campo"](#), Feb, 07 to April, 15
- EXHIBITIONS Lobby Aula Magna:
  - Utopie Abitative. February, 17 to March, 07
- EXHIBITIONS Library Lobby:
  - Subject DAI II Works, September, 09 to 27,
  - Experimental Workshop: Hybrid Actions works. September, 30 to October, 25
  - [Félix Candela](#) – Awards of Architectural Museum of Mexico. October, 23 to November, 08
  - [Colon Towers](#), March 02 to 27
- EXHIBITIONS: Classrooms 3D
  - [High-rise sports building](#), Feb, 03

## B. Staff

Below is a list of the staff, grouped by administrative units:

- **Head of Administration**  
Mr. Miguelez De La Torre, Jose Miguel
- **Administration**  
Ms. Murillo Sanchez, Beatriz



Ms. Romero Hernandez, Alicia

- **Graphic Arts**

Ms. Fernandez Baena, Maria Yolanda  
Mr. Gamarra Gaitero, Oscar  
Mr. Hontalba Bascuñana, Miguel Angel

- **Head of Library**

Ms. Feito, Susana

- **Library**

Ms. Carmona Garcia, Maria Pilar  
Ms. Figueroa Cordobes, Ana Belen  
Ms. Gonzalez Adrada, Lucia  
Ms. Hernandez Gonzalez, Teresa De Jesus  
Ms. Lopez Garcia, Ana Belen  
Ms. Otero Sacristan, Maria Pilar  
Ms. Quintero Martinez, Cristina  
Ms. Rodriguez Repila, Josefa  
Ms. Soto Villanueva, Beatriz  
Mr. Vazquez Sanchez-Horneros, Andres

- **Laboratory Technicians**

Mr. Berdejo Sanchez, Francisco  
Mr. Chacon Fernandez, Axel Maria  
Mr. Mendez Diez, Jose Carlos  
Mr. Plana Aparicio, Angel  
Mr. Prieto Prada, Antonio  
Mr. Sobrino Gonzalez, Miguel

- **Head of IT Service**

Mr. Fernandez Anta, Luis Julian

- **IT Service**

Mr. Cebrian Nuñez, Jesus  
Mr. Duran Cermeño, Francisco Javier  
Mr. Fernandez Hernanz, Alfredo  
Mr. Garcia Belmonte, Luis

- **Head of Secretariat**

Ms. Cabezas Gonzalez, Maria Inmaculada

- **Secretariat**

Ms. Sanchez Palacios, Maria Jesus  
Ms. Romero Prieto, Maria Isabel  
Mr. Lozano Galan, Fernando  
Mr. Portus Perez, Fernando  
Ms. Alvarez Otero, Maria Eugenia  
Mr. Callejo Heran, Juan  
Ms. Nuñez Ramirez, Maria Isabel  
Ms. Carracedo Castillo, Maria Olga  
Mr. Abella Alvarez, Jose Ricardo  
Ms. Fernandez Pons, Elena  
Mr. Perez Zubillaga, Asier  
Ms. Moreno Serrano, Susana



Ms. Ramirez Irnan, Mercedes

- **Head of Secretary of Direction**

Ms. Mejias Rodriguez, Isabel

- **Secretary of Direction**

Mr. Iglesias Mencias, Juan Carlos

Ms. Puado Veloso, Eva Maria

Ms. Triviño Garcia, Mercedes

- **Director's Secretary**

Ms. Gonzalez Fernandez, Maria Jesus

- **Secretary of Departments**

Ms. Ayllon Saez, Ma.Del Carmen

Ms. Carreton Ortega, Maria Dolores

Ms. Garcia De La Fuente, Blanca

Ms. Grano De Oro Manzano, Eloisa

Mr. Guerrero Garcia, Manuel

Mr. Hernandez Alexiades, Alfonso Angel

Ms. Lucas Salas, M. Cristina De

- **Audiovisual Media Laboratory**

Mr. Caceres Obreo, Jose Maria

Mr. Fernandez Lopez, Ildefonso

Ms. Martin Heras, Rosa

- **Head of Maintenance**

Mr. Muñoz Perez, Julian

- **Maintenance**

Mr. Agudo Simon, David

Mr. Aroca Paños, Mateo

Mr. Fernandez Lopez, Juan Jose

Mr. Gallardo Tejero, Jose Maria

Mr. Gonzalez Rodriguez, Enrique Alberto

Mr. Herrero Alonso, Francisco

Mr. Marin Lazaro, Jorge

- **Head of General Services**

Ms. Prieto Garcia, Maria Del Rosario

- **General Services**

Mr. Alguacil Camara, Miguel Angel

Ms. Carrascal Martinez, Marta Ines

Ms. Cebolla Ochoa, Marta

Mr. Cobas Pascual, Miguel

Ms. Cruz Bello, Agustina

Mr. Diaz Duran, Jose Gabriel

Ms. Esteban De La Orden, Maria Blanca

Mr. Fernandez Alonso, Jose Manuel

Mr. Garcia De La Calle, Alfonso

Mr. Gomez Aguado, Jose Maria

Ms. Gomez Fernandez, Ma. Del Carmen

Ms. Ibañez Cabello, Carmen Fatima

Mr. Martin Boya, Jose Alfonso  
Mr. Martinez Cob, Juan Carlos  
Mr. Merencio Garcia, Jesus  
Mr. Moran Luengo, Luis Miguel  
Mr. Rodriguez Muñoz, M. Agustina  
Mr. Rodriguez Parrondo, Carlos  
Ms. Romera Viyuela, Ana Isabel  
Ms. Suarez Mendoza, Maria Carmen

- **Model Lab**

Mr. Herranz Saguar, Jose Maria

- **Coordination Unit**

Mr. Alvarez Garcia, Alfredo Eduardo

### C. Students.

Below are some of the most important features of the ETSAM student admission procedures and activities in the degree program.

#### C.1 Applicant evaluation and selection process for admission to the School.

##### C.1.1 University Entrance Test

High School students who pass the University Access Evaluation (EvAU) may apply for admission to the Bachelor of Architecture degree program (*Grado en Fundamentos de la Arquitectura*) in the UPM, (as all students under 25 who apply for admission to the University). The University Access Evaluation (EvAU) must be taken in a public university in Spain corresponding to their pre-university study course, to guarantee that they have the maturity and previous knowledge required to ensure their suitability for the undergraduate course. The EvAU comprises a **compulsory general part** and an **optional specific part** which may improve the overall grade obtained. Each exercise in both phases allows students to select one of two options and the test may be taken in the official language of the regional Autonomous Community.

Each exam lasts 1 hour 30 mins. with breaks of at least 45 min between the end of one exercise and start of the next.

##### General part

- Four examinations must be taken (or 5 if there is an official language of the regional Autonomous Community).
  - Spanish language and literature.
  - Foreign language: students may choose German, French, English, Italian or Portuguese. From 2012 this includes a listening comprehension and speaking test.
  - History or Philosophy as chosen by the student.
  - One Baccalaureate subject chosen by the student.
- To pass, an overall grade of 5 or higher must be obtained as the sum of 60% of the average grade obtained in Baccalaureate and 40% of the grades obtained in the general part of the EvAU, when an overall grade of at least 4 has been obtained in the General Part. The validity of this qualification has no expiry date.

##### Specific part

- Includes examinations on the relevant subjects listed below:
  - The student may decide how many examinations to take, up to a max of 4. But only the grades obtained in a max. two subjects (weighting 10%) will be considered. The subjects are related to the knowledge area corresponding to the Degree of Bachelor of

Architecture, i.e. Engineering and Architecture (students are recommended to opt only for the examinations where they are really sure of the subject matter):

- Mathematics II.
  - Physics.
  - Chemistry.
  - Technical Drawing.
  - Earth and Environmental Sciences.
- The specific part may raise the admission grades by up to 4 points, taking into account that each university may increase the weighting of subjects considered as priority by up to 20%. i.e. a perfect examination in a subject related to the future degree course will raise the final grade by one point, or up to 2 points if the applicant's chosen university has marked this subject as a priority.
  - Grades in the specific part are valid for 2 years.

#### Correction

- Once the grades are published, the student has three working days to present a complaint or request a re-correction:
  - In the complaints procedure the examination is not re-marked, but a check is carried out to ensure that the script has been completely corrected, that the marks awarded for all sections have been totaled, that the grades obtained have been correctly transferred to all the relevant documents, etc. This is therefore an administrative check review of the correction and marking process.
  - A re-mark is carried out by a different specialist teacher from the original corrector. When there is a difference of more than two points, the script is corrected by a third expert. The final grade will be the arithmetical mean of the two (or three) grades awarded.
- The student has the right to see the corrected exam script within ten days of the completion of the correction and complaint process.

#### Examination sessions

- Two sessions of the EvAU are held each year.
- Students may enter for subsequent exam sessions to improve the grade obtained in the general or specific parts.

Students under 25 from Vocational Training, or Professional Training in Plastic Arts and Design, or in Sport, who have completed the corresponding cycle and apply for admission to the Bachelor of Architecture course in the UPM are not required to take the EvAU.

The admission grade will be the average mark obtained in the corresponding cycle, but if the student wishes to improve this grade, they must take the specific part of the EvAU in the Baccalaureate subjects relevant to the knowledge areas of the Bachelor of Architecture degree program, i.e. Engineering and Architecture, under the conditions outlined above.

The cut-off point – (i.e. the grade obtained by the last student from the EvAU or from Vocational or Professional Training who was admitted to the Bachelor of Architecture degree program) in the academic year 2020-2021 was 10.9101 and in the academic year 2019-20 was 9.6502.

The EvAU cut-off marks are increasing every year. However this year the rise has been spectacular, in general in quite a few degrees. This year, there have been no face-to-face classes from March to June, due to the problems of the coronavirus pandemic, and the EvAU

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<https://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Alumnos/Informacion/Preinscripcion/Documentos%20Nuevos/Notascorteordinaria2020-2021.pdf>

2

<https://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Alumnos/Informacion/Preinscripcion/Documentos%20Nuevos/Notascorteordinaria2019-2020.pdf>

exams have suffered a change. Normally students are given two exam options A and B and have to choose one of them.

This year they have been able to choose questions from the two options until completing the total number of questions. In this way, the scores have been higher and as the students refer to the cut-off grades from the previous year, the demand has been higher and, therefore, the cut-off grade.

In addition, ETSAM has organized the online teaching well from the beginning and all students have been able to follow the course and complete it and that has also been an important factor in the demand that has risen from around 650 applications to more than 850 this course. Of all these applications, about 480 students enter.

#### *C.1.2 Admission tests for applicants over 25*

Applicants aged over 25 on 1 October of the calendar year when the admission tests are held may take part in these tests if they do not fulfill the conditions required for university admission: official university degree, higher vocational qualification in plastic arts and design, or sport; have not passed the university entrance test or do not meet the general admission requirements):

- The methodology, layout and content of the exercises and evaluation criteria is produced by the Madrid Autonomous Community in agreement with the universities.
- One examination session is held per year for the Engineering and Architecture knowledge area.
- Candidates take the test in the UPM.
- The test includes two compulsory parts:
  - A general part with three exercises:
    - Textual commentary
    - Spanish language
    - Foreign language (German, French, English, Italian or Portuguese)
  - A specific part corresponding to the relevant knowledge area:
    - Engineering and Architecture
- Grades: The grade awarded will be the arithmetical mean of the marks obtained in the general and specific parts.
  - A final overall grade of at least 5 will be required to pass (grades lower than 4 will not be considered in some of the tests).

#### *C.1.3 Admission of applicants over 40*

Access with work and professional experience related to the degree course with no academic qualifications eligible for university access by other routes.

- Admission in this case will be granted with regard to the specific curriculum of the UPM Bachelor of Architecture.
- Admission must be requested through the Chancellor's Office.
- Personal interview.

#### *C.1.4 Admission of applicants over 45*

The candidate applying for admission is not required to have any academic qualification for university admission or accredited work or professional experience. The admission tests will be as follows:

- Admission test (adapted):
  - The test includes two or three exercises in the following areas:

- Textual commentary or discussion on a current general topic.
  - Spanish language.
  - Co-official language. The compulsory test in this language may be required by the relevant Autonomous Community.
  - This admission test is organized by the UPM within the framework established by the Madrid Community.
- Personal interview. The satisfactory outcome of this interview is a required condition for admission.
- The admission tests will be held once a year.
- The candidate will take the test for the same academic year in a single university which offers the course applied for.
- The final grade is the arithmetical grade average obtained in the exercises.
- The pass mark for the admission test is a final grade 5, with a minimum of 4 in each exercise.
- The grade may be improved in subsequent tests.
- Complaints may be made to the Chancellor of the UPM.

#### *C.1.5 Admission for students non- resident in Spain:*

- Exempt from admission tests.
  - Direct admission in accordance with their educational systems.
  - They may take the specific part.
  - With accreditation, the admission grade is calculated as follows:
    - Accredited grade  $+a*M1+b*M2$ .
    - M1 and M2 = Grades obtained in a maximum of two subjects passed in the specific test phase to improve the admission grade.
    - a and b = Weighting parameters for subjects in the specific part.
- Non-exempt.
  - Applicants will take the general part with special conditions. The exercises in the common subjects will be appropriate to the adapted curriculum.
  - The tests will be administered by the National University of Distance Education (UNED).

### **C.2 Student Support Services**

Students at the ETSAM have a wide variety of services available. The university has a central computing facility for students at the School with various plotters, in constant use during the academic year. The School also provides the students with a model room, a working area with tools including a laser cutter and other machinery for practical use.

The library is another service in much demand throughout the academic year.

The Student Union offers courses and internships in the Union itself and in other university services. The ARQMentor mentoring program is the first in the ETSAM, where students from senior years are trained in a coaching program to mentor and help first-year students.

The departments also have a certain number of student representatives who form part of their Council. The School Board also includes student representatives, so that the students form part of the system.

### **C.3 Facilitation of student opportunities to participate in field trips and other off-campus activities**

To facilitate student participation in field trips and off-campus activities, two weeks are scheduled each year in the academic calendar when no exams or submission deadlines are programmed. In point 4 of the ETSAM school calendar, it is indicated from September 28 to

October 2, 2020, the Week of Activities related to World Architecture Day, and from March 22 to March 26, 2021, the Week of Activities and Study Trips. During both periods, deliveries or evaluations cannot be scheduled<sup>3</sup>:

- Activities week related to World Architecture Day (the first week in October).
- Activities and field trips week (the week before Holy Week).

In addition, to facilitate student participation on field trips and help students with trips in Spain and abroad to attend events or activities and to carry out tasks, work or study which will enrich their educational training, the UPM has set up a fund for travel grants<sup>4</sup>.

The main type of trips for which travel grants may be available are study or work trips or active participation in meetings or programs of special interest, which are relevant to course work but not included in it. These include the following:

- Attendance at and/or participation in study-related courses, symposia, seminars, congresses and conferences.
- Placements in other institutions or work camps, when these are not paid, or when the payment is less than the Salario Mínimo Interprofesional (S.M.I.).
- Exchange programs which have no grant, scholarship or payment.
- Students meetings or symposia. Attendance at this type of event must be documented and course- related.
- Research work not included in funded programs, projects or contracts.
- Visits to companies and off-campus sites when these are previously approved within a visits program and accredited.
- Study, visits or work required to complete the final year Project.
- BEST or similar Programs, when these are related to the degree course.

Other trips which may be eligible for funding are related to humanitarian aid.

These include trips programmed by NGOs or other associations which need volunteers to cooperate on specific projects where travel expenses are not refunded. Students who request this type of travel grant must be directly involved and participate in the projects, accredited by a certificate from the relevant association<sup>5</sup>.

The third type of trips where a travel grant may be applied for are journeys in-country or abroad to represent the University or one of its Schools. These include student congresses in specific degree areas, meetings, sector-related symposia etc, with special emphasis on trips which may be potentially useful (to set up academic contacts, obtain information or documentation, scholarships, etc.) for a general or particular interest group within the School or the University. The type of participation in these events will also be taken into account, with preference given to active participation in presentations, projects or organized cooperation. 6:

As contemplated in Art. 46.2.i) (Ley Orgánica 6/2001, de 21 de diciembre de Universidades - Organic Law 6/2001, of December 21, on Universities) the curriculum leading to the degree of

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<sup>3</sup> [http://etsamadrid.aq.upm.es/sites/default/files/Calendario%20Escolar%202020-2021\\_JE10072020.pdf](http://etsamadrid.aq.upm.es/sites/default/files/Calendario%20Escolar%202020-2021_JE10072020.pdf)

<sup>4</sup> <https://www.upm.es/Estudiantes/BecasAyudasPremios/Bolsa%20de%20viaje>

<sup>5</sup> [https://www.upm.es/Estudiantes/Movilidad/Programas\\_Internacionales/Ayudas\\_Viaje\\_Coophttps://www.upm.es/Estudiantes/Movilidad/Programas\\_Internacionales/Ayudas\\_Viaje\\_Coop](https://www.upm.es/Estudiantes/Movilidad/Programas_Internacionales/Ayudas_Viaje_Coophttps://www.upm.es/Estudiantes/Movilidad/Programas_Internacionales/Ayudas_Viaje_Coop)

<sup>6</sup> <https://www.upm.es/Estudiantes/BecasAyudasPremios/Bolsa%20de%20viaje>

Bachelor of Architecture envisages that students may be awarded academic recognition and credits for their participation in university activities in areas including culture, sport, student representation, solidarity or cooperation, up to a max. 6 credits in the free election curriculum module, according to the conditions laid down by the ETSAM Board<sup>7</sup>.

The UPM Regulations include an annex with credit recognition and transfer, stating the ECTS credits recognized in undergraduate studies for student representation activity.

The maximum number of ECTS credits recognized for a student in one academic year cannot be greater than 3, accumulating the credits recognized for individual and personal student representation and participation in the sessions held by collegiate governing bodies. 8.

The UPM also makes available a General Catalog of University Activities for Credit, which includes participation in sports competitions and cultural, scientific and technological competitions, or cooperation with the University Community, among others<sup>9</sup>.

#### C.4 Opportunities for work in professional studios and organizations

ETSAM students can access information on scholarships and competitions, as many of them are exclusively for undergraduate students.

Although there is no direct link between the university and architectural practices, attempts are currently underway to help students find placements or internships which are one of the best practical learning experiences.

#### C.5 Facilities for research work, scholarships and creative activities

The ETSAM has a Research Office which provides a work space for the researchers in the various current research groups in the School.

Students in the final years may be able to start to engage in research, as the School has a small number of its own collaboration scholarships for undergraduate students, and most of the ETSAM research groups are widely recognized and their projects are selected each year for research funding by the Ministry for Education. This means that a considerable number of final year students are able to participate in research groups through this collaborative funding.

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#### <sup>7</sup> **“EXEMPTION FROM COMPLEMENTARY PREPARATORY COURSES, EXPERIMENTAL WORKSHOPS, INTENSIVE SUBJECT COURSES AND MODERN LANGUAGE**

*Exemption may be obtained from all or part of the ECTS in the group formed by Complementary preparatory courses, Experimental workshops, Intensive subject courses and Modern language under the conditions set out in this report for the following concepts :*

- **Recognition** : The number of ECTS in the programs allows recognition of 24 ECTS credits for students who have obtained 60 ECTS in core subjects in the course programs leading to other degrees in the same branch (maximum recognition 60 ECTS). These 60 ECTS, officially recognized, are grouped into 36 ECTS credits in basic branch specific course subjects, with quantitative and qualitative recognition, plus 24 ECTS in core subjects from other branches (through exemption from the subjects in question). These latter subjects are recognized in quantitative but not qualitative terms, so that students who have successfully completed all core materials in other degree programs within the same branch are not obliged to obtain the ECTS exempted in the subject areas listed in Para.1 above, although they must complete the subjects corresponding to the core subjects of other branches.
- **Adapting Plan 96**: The 24 ECTS listed above may be totally or partly recognized for adapting Plan 96 to the New Plan, on the conditions defined in Ch. 10 of this report.
- **External Placements** : In compliance with the “Requisitos y recomendaciones para la implantación de Planes de Estudio en la Universidad Politécnica de Madrid”, agreed by the Governing Council of the UPM, external company placements are included as optional subjects with a max 6 ECTS available, which may be recognized for credit purposes under the conditions laid down by the Board of the ETSAM.
- **Participation in university activities** : As contemplated in Artículo 46.2.i) de la Ley Orgánica 6/2001, de 21 de diciembre de Universidades, students may obtain academic credit recognition for their participation in university cultural, sports, student representation, solidarity and cooperation activities up to a max. 6 credits in optative curriculum modules under the conditions laid down by the Board of the ETSAM.

<sup>8</sup>

<http://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20Academica/Normativa%20reconocimiento%20y%20transferencia%20de%20credititos.pdf>

<sup>9</sup>

[https://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Alumnos/Convalidaciones/normativa\\_recono\\_trans\\_creditos\\_20130131.pdf](https://www.upm.es/sfs/Rectorado/Vicerrectorado%20de%20Alumnos/Convalidaciones/normativa_recono_trans_creditos_20130131.pdf)

Listed below are the different research structures existing in the School, where students can embark on research, through the scholarships and funding mentioned above.

*C.5.1 Research Groups:*

- Advanced Structural Materials and Nanomaterials ([Materiales Estructurales Avanzados y Nanomateriales](#))
- Analysis and Documentation of Architecture, Design, Fashion & Society ([Análisis y Documentación de Arquitectura, Diseño, Moda & Sociedad](#))
- Analysis and Intervention in Architectural Heritage ([Análisis e Intervención en Patrimonio Arquitectónico](#))
- Applied Photonics Group ([Grupo de Fotónica Aplicada](#))
- Architectural Acoustics ([Acústica Arquitectónica](#))
- Architectural Criticism ([Crítica Arquitectónica](#))
- Bioclimatic Architecture in a sustainable environment-ABIO ([Arquitectura Bioclimática en un entorno sostenible-ABIO](#))
- Collective housing ([Vivienda Colectiva](#))
- Complex Systems Group ([Grupo de Sistemas Complejos](#))
- Cultural Landscape. Contemporary interventions in the city and the territory ([Paisaje Cultural. Intervenciones contemporáneas en la ciudad y el territorio](#))
- Geometry and its applications ([Geometría y sus aplicaciones](#))
- Habitat Culture ([Cultura del Hábitat](#))
- Heritage, landscape, graphic documentation and agroforestry construction ([Patrimonio, paisaje, documentación gráfica y construcción agroforestal](#))
- Historical form and construction ([Forma y construcción histórica](#))
- HYPERMEDIA: Architectural Configuration and Communication Workshop ([HYPERMEDIA: Taller de Configuración y Comunicación Arquitectónica](#))
- Innovation in urban processes and building technologies ([Innovación en procesos urbanos y tecnologías de la edificación](#))
- Innovative and Sustainable Techniques in Building ([Técnicas Innovadoras y Sostenibles en la Edificación](#))
- LoCUS - Interdisciplinary Research Group on Complex Spatial / Urban-territorial Processes ([LoCUS - Grupo de Investigación Interdisciplinar en Procesos Espaciales/Urbano-territoriales Complejos](#))
- New Techniques City Architecture ([Nuevas Técnicas Arquitectura Ciudad](#))
- Nonlinear Mathematical Models ([Modelos Matemáticos no Lineales](#))
- ProLab. Research Laboratory of the Contemporary Project. ([ProLab. Laboratorio de Investigación del Proyecto Contemporáneo.](#))
- Research Group in Architecture, Urbanism and Sustainability (GIAU + S) ([Grupo de Investigación en Arquitectura, Urbanismo y Sostenibilidad \(GIAU+S\)](#))



- Research in Instrumentation and Applied Acoustics (I2A2) ([Investigación en Instrumentación y Acústica Aplicada \(I2A2\)](#))
- Science and Technology of advanced nuclear fission systems ([Ciencia y Tecnología de sistemas avanzados de fisión nuclear](#))
- Seismic Engineering: Dynamics of Soils and Structures ([Ingeniería Sísmica: Dinámica de Suelos y Estructuras](#))
- Systems and Instruments Integration (ISI) ([Integración de Sistemas e Instrumentos \(ISI\)](#))
- Theory and Criticism of the Project and Modern and Contemporary Architecture ([Teoría y Crítica del Proyecto y de la Arquitectura Moderna y Contemporánea](#))
- Theory, History, analysis and criticism of architecture ([Teoría, Historia, análisis y crítica de la arquitectura](#))
- Transportation Planning ([Planificación del Transporte](#))
- Wood Construction ([Construcción con Madera](#))

#### *C.5.2 Corporate sponsored Professorships:*

- Ceramic Professorships Madrid ([Cátedra Cerámica Madrid](#))
- Professorships "HNA Emprende" on complementary training and other measures to promote job creation and self-employment in the field of architecture ([Cátedra "HNA-Emprende" sobre formación complementaria y otras medidas para favorecer la creación de empleo y autoempleo en el ámbito de la arquitectura](#))
- Italy Professorships on exchange of relations with Italy in the field of architecture ([Cátedra Italia sobre intercambio de relaciones con Italia en el ámbito de la arquitectura](#))
- Unesco Professorships Chair for Gender Policies and Equal Rights for Women ([Cátedra Unesco de Políticas de Género y de Igualdad de Derechos entre Mujeres](#))
- White Professorships ([Cátedra Blanca](#))

### **C.6 Support for attending meetings of student organizations and similar**

The Student Union is responsible for passing on news of changes in the system through committees and open meetings. The students who are also departmental representatives have the opportunity to attend and speak at departmental council meetings and meetings of student representatives. The School also has special interest student associations for sport, music, theatre and architecture related activities.

### **I.2.2 Physical Resources**

#### **A. Location.**

The ETSAM is located in Madrid's university district, a unique area on the northwest axis of the capital. Its origins date back to a Royal Decree of 1927, when King Alfonso XIII of Spain who had devised the project took the initiative and made it happen. An independent committee was created to manage the variety of pedagogical, financial, administrative and technical aspects, and also to determine its exact location. The architect Modesto López Otero was in charge of the technical direction and the development plan was finished in 1929.

Modesto López Otero conceived the University City as a unitary whole. This was organically structured around distinct disciplines which would define the City, including others which would manage it and make it an independent urban area. The university plan was given shape

through three main elements: the purely academic units or faculties, in turn grouped separately according to their speciality, such as the medical/scientific and the Fine Arts buildings; the units for political/administration and representation purposes, such as the Chancellor's Office, the auditorium and the library; and housing and leisure units, such as dormitories, residence halls for faculty and sports facilities.

Much more recently, in 1999, the University City was registered as Heritage of Cultural Interest in the category of Historical Sets by the Regional Government of Madrid Autonomous Community (Comunidad Autónoma de Madrid). One year later, the Special Plan for the University City was approved by Madrid City Council (Ayuntamiento de Madrid).

Today, this is an area full of wide and green open spaces conveniently located on Madrid's Northwest edge and with superb communication links and accessibility to the city. The campus is shared by UPM, the Complutense University of Madrid (Universidad Complutense de Madrid, UCM) and the National University of Distance Education (Universidad Nacional de Educación a Distancia, UNED). Hence, a number of faculties and schools covering all disciplines and branches of knowledge are grouped into the district.

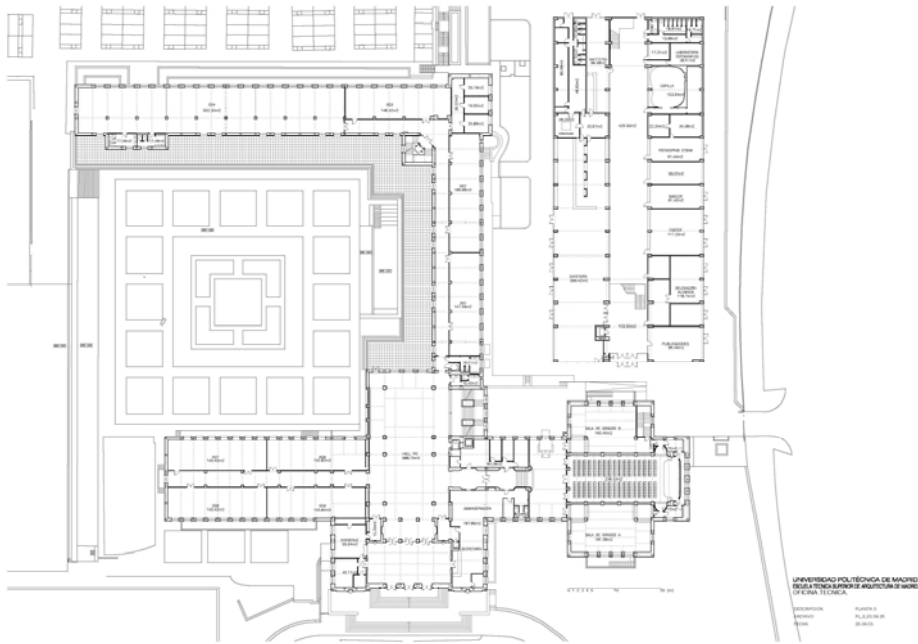
The ETSAM building is easily accessible via public transportation (subway and bus) or private vehicle (two free parking lots are provided for faculty and students). Also, an integrated public bike service has been recently launched in the University City.

## **B. Areas & Services**

The courses of the ETSAM Undergraduate Program are offered in the aforementioned building. From its opening in 1936, several extensions and renewals have been realized to increase comfort, improve accessibility and upgrade facilities according to the diversity of teaching, cultural activities and research.

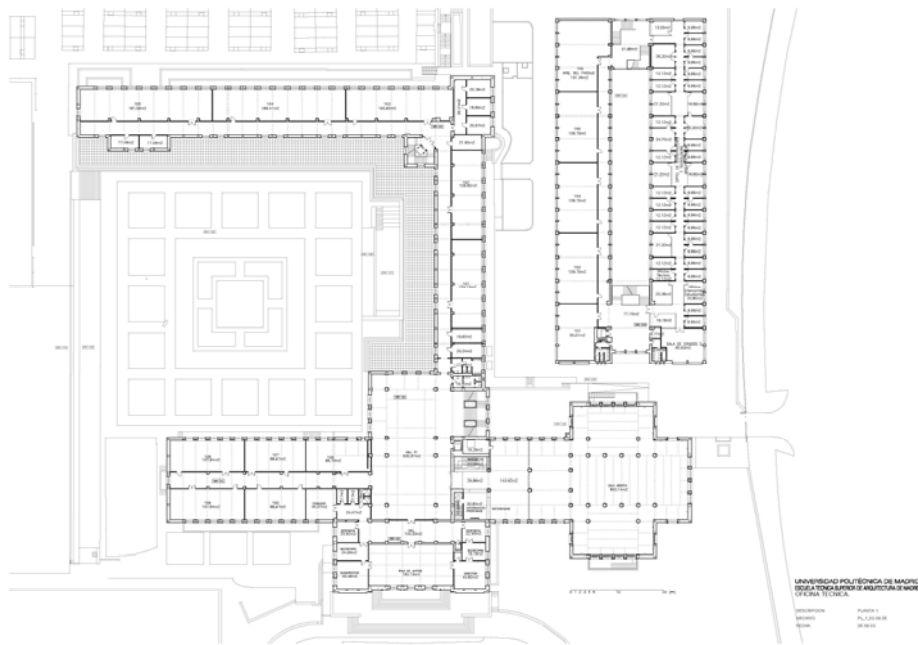
- Teaching areas:
  - Classrooms and seminar rooms. The classrooms have been adapted, this year, for on-line teaching, so that the classes can be transmitted to the students who follow the course at home
  - Computer classrooms
  - SDP Classroom
  - Labs and workshops:
    - Acoustics.
    - Architectural Illumination and Electrical Systems
    - Structural Engineering
    - Physics
    - Building Materials
    - Soil Mechanics
    - Photography
    - Stonework
    - Gothic Construction
    - Model-making
    - Experimental Construction
- All-purpose rooms:
  - Assembly Hall
  - Seminar Rooms A, B and C
  - Meeting Room
  - Special Lecture Room
  - Main Lecture Hall
- Collaborative workspaces for students
- Workplaces for faculty
- Research Office

- Sports facilities
- Areas for exhibition and cultural activities
- Services:
  - Registrar's Office
  - Finance & Administration Office
  - Computer Center
  - Reception
  - Library
  - Other services:
    - Cafeteria
    - Reprographics
    - Stationery Store

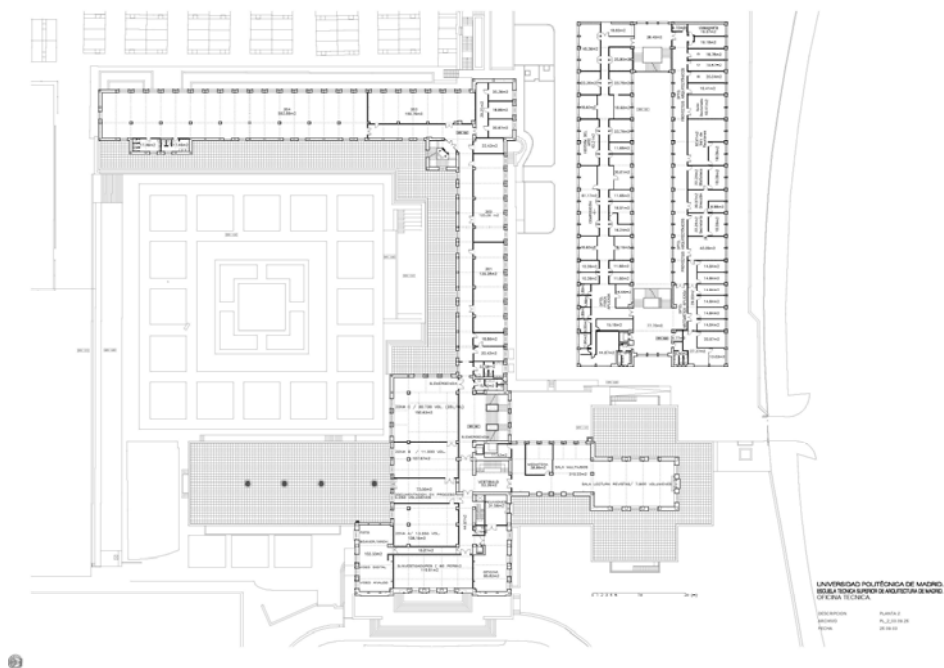


- Bookshop

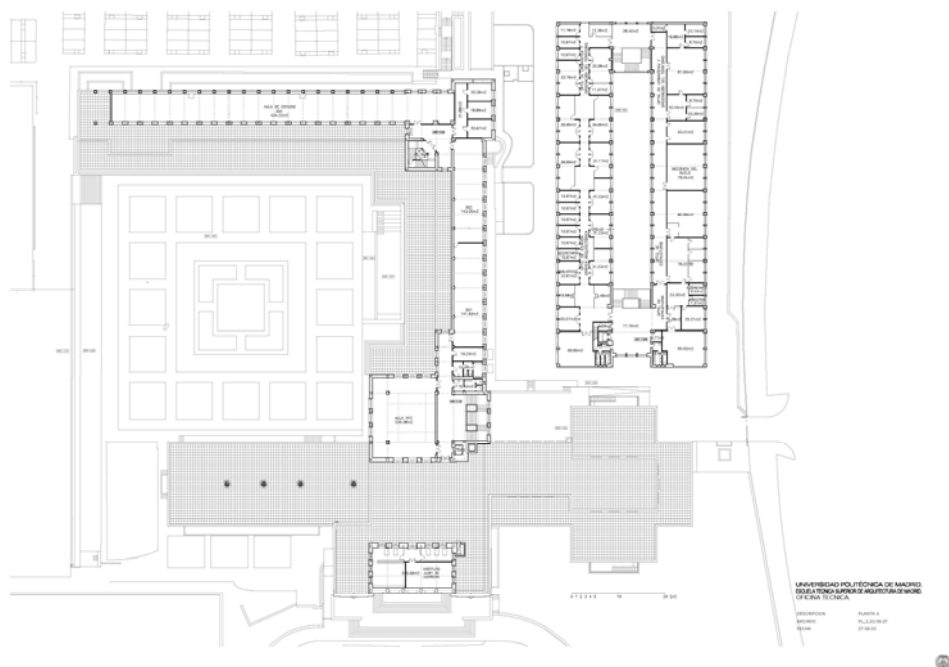
### ETSAM-UPM 1. Ground Floor



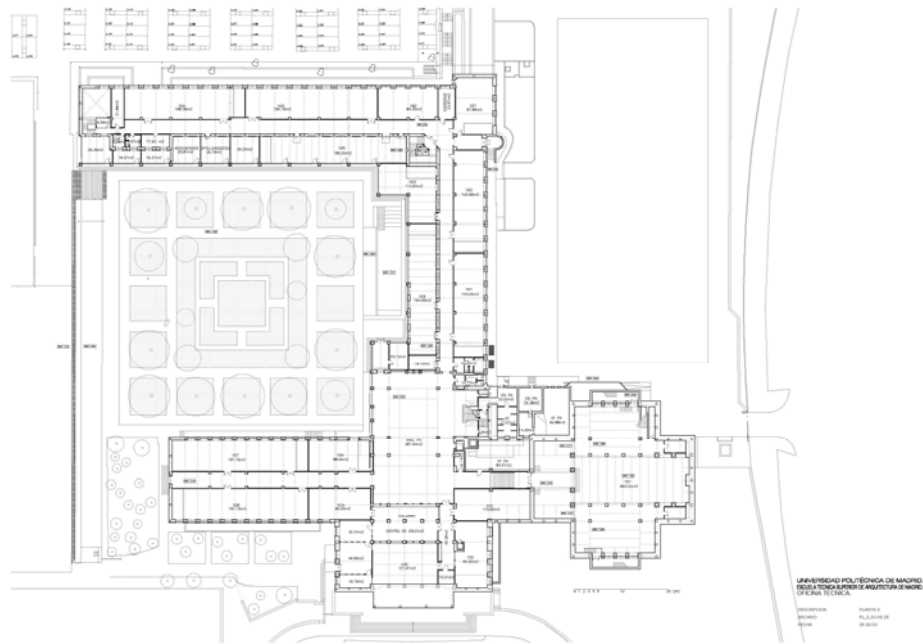
### ETSAM-UPM 2. First Floor



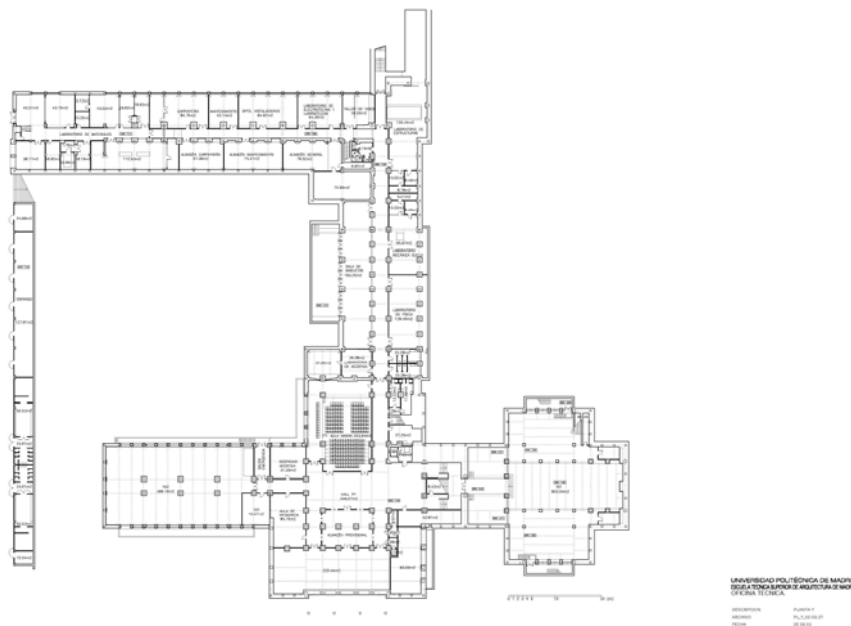
ETSAM-UPM 3. Second Floor



ETSAM-UPM 4. Third Floor



**ETSAM-UPM 5. -1 Floor**



**ETSAM-UPM 6. -2 Floor**

### 1.2.3 Financial Resources

To understand the economic-financial situation of the ETSAM requires a mention of its legal characteristics and its real economic-geographical environment. These two aspects shape and determine the outcome.

The ETSAM is a public body, but with no legal personality of its own. The legal entity is the UPM of which it is part.

The fact that it has no legal personality of its own, or rather that it is part of another legal entity, also affects its financial situation: its resources are mainly grants which it receives for running costs or investment: this funding is transferred from the central Government and the Autonomous Community to the University and from the University to the ETSAM.

Similarly, the resources the School generates from student enrollment fees, research, etc. are only indirectly at its disposal, as the University is the direct beneficiary.

This report does not consider the resources received as grants by the various Departments of the School, around 10-20% in total, nor the School's own resources from postgraduate courses, agreements and projects subscribed with Departments, nor staff, faculty and services costs which are managed directly by the University, nor other expenses, such as general studentships, also managed centrally by the University.

What is considered here, therefore, is the funding which the ETSAM as a School receives for running costs and investment.

It is also important the investment effort carried out continually in the existing physical space in the School, to adapt it to the dictates of the Bologna Process and the European Higher Education Area: the library, classrooms and workshops have been partially remodeled; research and study areas have been created along with conference rooms, rooms for educational innovation and videoconferences and computer facilities.

In parallel to the efforts made to remodel the physical space, an equally important project has been carried out to equip this physical spaces with the facilities, furniture, audiovisual and computer resources required to fulfill the mission and aim of the ETSAM.

For all these reasons, we consider the ETSAM well-equipped.

To confirm the above, the current running costs are shown below as well as those incurred in the year immediately prior to the International Certification, reflecting the investment made in space and equipment, which as already mentioned above, have left the ETSAM in an excellent position in terms of infrastructure.

#### A. 2019 fiscal year report

92,56% of the budget of 1.445.112,17 € was spent. The items are summarized under the following headings:

Rental - photocopiers	8.884,80 €
Rental - fences Puerta La Latina Works	7.833,90 €
Rental - furniture	0,00 €
Maintenance - building	39.794,00 €
Maintenance - land and natural goods	0,00 €
Maintenance - installations	44.572,00 €
Maintenance - furniture	11.263,00 €
Maintenance - Computer equipment	0,00 €
Maintenance - Other fixed assets	623,00 €
Supplies, consumibles	373.560,00 €
Activities	124.792,00 €
Transportation	26.333,00 €
Investment - works	427.109,00 €
Investment - installations	103.381,00 €

Investment - Laboratory hard material	574,00 €
Investment - furniture	14.490,00 €
Investment - hardware	112.386,00 €
Investment - library	35.588,00 €
Investment - research	6.387,00 €
<b>Total</b>	<b>1.337.570,00 €</b>

## B. Expenditures - decentralized department management - 2019 budget year

As additional information, we include the expenditures of 2019 decentralized for departments:

Repairs, maintenance, and upkeep	2.477,12 €
Materials, supplies and others	10.895,32 €
Travel, allowances and other service related expenses	4.409,94 €
Real investments	2.933,63 €
<b>Total for the Architectural Composition department</b>	<b>20.716,01 €</b>
Repairs, maintenance, and upkeep	4.774,96 €
Materials, supplies and others	15.929,41 €
Real investments	8.423,97 €
<b>Total for the Construction and Technology in Architecture department</b>	<b>29.128,34 €</b>
Repairs, maintenance, and upkeep	1.446,25 €
Materials, supplies and others	9.986,60 €
Real investments	4.367,34 €
<b>Total for the Building Structures &amp; Physics department</b>	<b>15.800,19 €</b>
Repairs, maintenance, and upkeep	1.283,84 €
Materials, supplies and others	15.488,22 €
Real investments	5.138,25 €
<b>Total for the Graphic Ideation of Architecture department</b>	<b>21.910,31 €</b>
Leasing and fees	1.657,29 €
Repairs, maintenance, and upkeep	1.538,07 €
Materials, supplies and others	8.037,33 €
Travel, allowances and other service related expenses	1.989,97 €
Collaboration grants	2.190,46 €
Real investments	8.836,01 €
<b>Total for the Applied Mathematics department</b>	<b>24.249,13 €</b>
Repairs, maintenance, and upkeep	5.074,23 €
Materials, supplies and others	36.985,80 €
Real investments	1.978,11 €
<b>Total for the Architectural Projects department</b>	<b>44.038,14 €</b>
Repairs, maintenance, and upkeep	5.443,38 €
Materials, supplies and others	9.379,04 €
Travel, allowances and other service related expenses	4.035,25 €
Real investments	1.130,35 €
<b>Total for the Urban and Regional Planning department</b>	<b>19.988,02 €</b>
Materials, supplies and others	1.780,80 €
Travel, allowances and other service related expenses	1.264,27 €

Real investments 397,48 €

**Total for the Applied Linguistics for Science and Technology department 3.442,55 €**

**Total decentralized department expenditures 179.272,69 €**

### C. ETSAM Budget Evolution 2009/2019

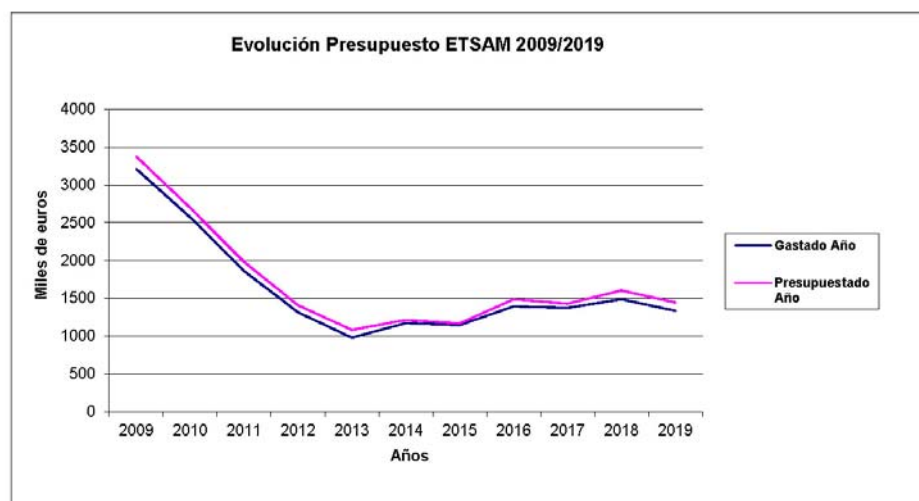
As additional information, we include a graph in which the evolution of ETSAM's income and expenses in the last 10 years can be appreciated.

Evolución Presupuesto ETSAM 2009/2019

Gastado Año	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Importe en miles	3215	2574	1866	1317	981,4	1173,3	1148	1395	1376	1489	1.337,6
% Ejecutado	95,15%	95,30%	94,10%	93,40%	90,54%	96,64%	98,11%	93,61%	96,10%	92,83%	92,56%

Presupuestado Año	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Importe en miles	3379	2701	1983	1410	1084	1214,1	1170,1	1490	1432	1604	1.445,1



As can be seen in the graph, there has been a clear reduction in the total budget for 2019 compared to the previous year. This reduction is due to a fall in both the amount received for Teaching Equipment and RMS.

Regarding expenses, they have also fallen, although the percentage executed is similar to that of 2018, without it having been possible to execute the entire budget due to the maximum term established to carry out the contracts, prior and necessary to be able to spend. However, despite this reduction, both the regular budget and its execution have been quite well complemented by the extra funds from the Rectorate, which have allowed the works of foundations, dampness of the Physics and Structures laboratories, as well as part of the work on the Puerta de la Latina, whose execution was suspended due to the discovery of a bomb from the civil war. However, work is being done so that this work continues and ends in 2020, except for any imponderable that may occur.

### D. Progress of the ETSAM budget for 2020



We include the budget for the year 2020, indicating the concept, the total budget, the expenditure made and the credit still available as of April of this year.

Concept	Total budget	Available credit	Expenditure
LEASES	47.517,71	3.578,01	43.939,70
REPAIRS	86.650,00	31.447,16	55.202,84
CURRENT EXPENSES	425.120,94	14.658,05	410.462,89
ELECTRICAL POWER SUPPLY	95.000,00	51.108,38	43.891,62
WATER SUPPLY	24.000,00	11.517,75	12.482,25
GAS SUPPLY	150.238,00	1.537,09	148.700,91
PROTOCOL EXPENSES	2.000,00	2.000,00	0,00
COMPENSATION FOR SERVICES	5.300,00	5.055,88	244,12
COLLABORATION SCHOLARSHIPS	23.840,00	790,00	23.050,00
OTHER GRANTS	0,00	0,00	0,00
INVESTMENTS	479.493,25	58.236,35	421.256,90
	<b>1.339.159,90</b>	<b>179.928,67</b>	<b>1.159.231,23</b>

#### E. Expenditures - decentralized department management - 2020 Budget Oct 8th, 2020

As a final additional information, we include the expenditures of 2020 decentralized for departments:

Repairs, maintenance, and upkeep	829,50 €
Materials, supplies and others	2.431,49 €
Travel, allowances and other service related expenses	945,95 €
Real investments	4.561,70 €
<b>Total for the Architectural Composition department</b>	<b>8.768,64 €</b>
Repairs, maintenance, and upkeep	620,28 €
Materials, supplies and others	3.836,02 €
Real investments	8.435,39 €
<b>Total for the Construction and Technology in Architecture department</b>	<b>12.891,69 €</b>
Repairs, maintenance, and upkeep	95,32 €
Materials, supplies and others	1.292,85 €
Real investments	5.190,90 €
<b>Total for the Building Structures &amp; Physics department</b>	<b>6.579,07 €</b>
Repairs, maintenance, and upkeep	66,42 €
Materials, supplies and others	10.122,06 €
<b>Total for the Graphic Ideation of Architecture department</b>	<b>10.188,48 €</b>
Leasing and fees	469,34 €
Repairs, maintenance, and upkeep	583,86 €
Materials, supplies and others	6.044,96 €
Travel, allowances and other service related expenses	488,88 €
Collaboration grants	2.195,64 €
Real investments	11.651,44 €
<b>Total for the Applied Mathematics department</b>	<b>21.434,12 €</b>

Repairs, maintenance, and upkeep	3.490,23 €
Materials, supplies and others	25.975,32 €
<b>Total for the Architectural Projects department</b>	<b>29.465,55 €</b>
Materials, supplies and others	1.397,43 €
Real investments	10.755,49 €
<b>Total for the Urban and Regional Planning department</b>	<b>12.152,93 €</b>
Travel, allowances and other service related expenses	525,53 €
Real investments	912,34 €
<b>Total for the Applied Linguistics for Science and Technology department</b>	<b>1.437,87 €</b>
<b>Total decentralized department expenditures</b>	<b>102.918,35 €</b>

#### I.2.4 Information Resources

*"The UPM University Library is a resource center for learning, teaching, research and activities related to the work and management of the UPM as a whole. Its mission is to facilitate access to and publication of information resources and cooperate in knowledge creation processes with the aim of contributing to ensure the objectives of the University are achieved"* (Art. 181 UPM Statutes) evidencing the institutional existence and official recognition of the mission, vision and aims of the University Library System.

<http://www.upm.es/sfs/Rectorado/Legislacion%20y%20Normativa/Normativa/Normativa%20de%20la%20Universidad/Estatutosupm031003.pdf>

The Library System includes a total of 17 libraries and 1 documentation centre which the University has available to attend to the need for scientific information and teaching/ learning support for the university community of faculty, researchers and students. Although all of them have unique characteristics and collections, the technical management of their services is closely coordinated and intercommunicated through IT.

In terms of its administrative structure, the ETSAM library has a two-fold dependence: it is included within the structure of the School of Architecture and responds as another of the various units to the needs of the School itself, and in organic and hierarchical terms is dependent on it. In addition, as mentioned above, the library forms part of the University Library System, which is coordinated technically by the University Library Service, an overall structure which guarantees the correct and homogeneous application of technical norms and the development of computer-based and on-line services, particularly electronic collections and digital publishing platforms.

To optimize resources the ETSAM library maintains strong links with other organizations and engages in library cooperation programs at regional, national and international levels. The ETSAM library is a member of the following cooperative bodies:

- **El Consorcio Madroño** (<http://www.consorcioamadrono.es/>)

The Consortium for Library Cooperation of the Madrid Community Universities and the UNED (Madroño), brings together the seven public university libraries in the Madrid Region.

- **REBIUN** (<http://www.rebiun.org/>)

The Spanish University Library Network (REBIUN) is the most important technical and professional body of the university library in Spain and its activity focuses on the normalization and development of technical directives and the cession of licenses and contracts with international providers in the area of scientific documentation.

- **IATUL** (<http://www.iatul.org/>)

The International Association of Scientific and Technological University Libraries (IATUL), is an international university library forum in the area of technology, engineering and architecture.

- **ABBA** (<http://biblioteca.upc.es/abba/index.asp>)

The Association of Librarians and Libraries of Architecture, Construction and Town Planning (ABBA) is formed by institutions and staff of libraries and specialized documentation centers related with architecture, construction and town planning in Spain.

## **A. History of the Library**

The history of the ETSAM library can be traced back to the foundation of the Escuela Especial de Arquitectura in 1844. Up to that date, studies in architecture were provided by the Real Academia de Bellas Artes. The first books which made up the primitive library collection came from a small number of documents from the Real Academia, from purchases and donations. In 1903 Don Juan C. Cebrián, a Spanish engineer and architect who had moved to the US, returned to Spain and on a visit to the School library was impressed by the lack of important books in the collection. From then on he became a protector and benefactor. Thanks to his generous support over a period of almost 30 years the ETSAM library became one of the most important in Europe in this subject area.

In 1935 the School of Architecture moved to its current building in the Ciudad Universitaria in Madrid, but when the Civil War broke out the campus became the front line which led to the loss of some 60% of the collection. After the huge losses suffered during the Civil War, the collection has continued to grow up to the present. The volume of the stocks increased from 20,000 books in the 1960s to 30,000 in the 1970s. The current stocks include more than 96,000 documents, including 1,294 periodical titles.

## **B. Facilities, infrastructure and staff**

The library surface area is 2,533 m<sup>2</sup>, divided into two floors with a Reading Room, Periodicals Room, Research Room and General Purpose Room used for film projections and user training, three deposits and various work areas. It also has a deposit and store of 125 m<sup>2</sup> in another part of the building where most of the professional architectural archives in the library collection are stored.

The university library uses the integrated library system ALMA of ExLibris Group to manage the catalog, acquisitions, users, lending and OPAC.

The library provides:

- 335 reading desks of which 23 are computer user stations, with 80% user rate during the academic year.
- 1 photocopier for student use, managed by a private company and 1 for use by faculty and staff.
- 2 scanners for faculty and researchers and 1 for students with 80% use and 1 printer.
- 1 self-service lending facility which carries out 65% of the library transactions.

There are 1590.3 linear m of open access stacks holding more than 42.233 books and 200 periodical titles and 2.597 linear m of closed access stacks.

For internal use, the library also has 27 computer terminals, A0, A2, A3 and A4 scanners for slides and rolls, essential equipment for digitalizing the different items which are being added to the Digital Collection (7.500 documents in the ETSAM) and the University Digital Archive (8.732 documents) for teaching/learning and research support.

The ETSAM Library now has 4 librarians, 7 library assistants staff member.

## **C. Collections**

### **C.1 Monographs and periodicals**

The paper-based collections of the UPM library include over 553,000 volumes and 12,859 journal titles, with the ETSAM library holding 76,000 documents, 1,366 of which are Periodical and Journal titles. The audiovisual collection consists of 3,340 items, including talks videos on the work of architects and classes by ETSAM faculty members and a cinema collection.

Over the last ten years the collection has grown by an average 3,000 titles per year. The number of subscriptions has remained steady at 116 titles, some duplicated to satisfy user needs. 69 of these are foreign publications and 47 are Spanish; 30 titles appear in the "The AASL core list of periodicals" and 11 in the supplementary list. On the other hand, 86 titles subscribed to appear in one or more of the best bibliographic databases in this subject area, including Avery, ICONDA, RIBA, A&HCI or JCR.

As part of the initiative [Nosólotécnica](http://serviciosgate.upm.es/nosolotecnica/) (<http://serviciosgate.upm.es/nosolotecnica/>) by the UPM university library to encourage reading, and with the cooperation of the ETSAM theatre group Cain the Library started a theatre section with theatre plays and books on drama and theatre techniques.

### **C.2 Old and historic collection**

The ETSAM library has a valuable collection of pre-1900 books. This collection includes some 6000 volumes, with manuscripts, printed books and periodical publications.

Among the manuscripts of special interest is the Libro de arquitectura by Hernán Ruiz el Joven, written in the second half of the 16th century, and a manuscript copy of the Libro de traças de cortes de piedra by Alonso de Vandelvira, made by Bartolomé de Sombigo y Salcedo in the 17th century. Both these manuscripts are basic texts for the study of Spanish Renaissance architecture.

Another particularly valuable section of the library collection is the collection of treatises on architecture with different editions from the 16th, 17th and 18th centuries by Vitruvio, Leon Battista Alberti, Sebastiano Serlio, Pietro Cataneo, Jacopo Barozzi da Vignola, Andrea Palladio, Vincenzo Scamozzi or Philibert de L'Orme.

A special mention should also be made of the collection Monumentos Arquitectónicos de España, an ambitious editorial project started around 1850 by this School of Architecture with an example conserved of all the published volumes. The aim of this project was to describe the architectural heritage of Spain through drawings and casts made by teachers and students.

The old collection of printed books is completed with a notable collection of 19th century English, German and French architecture and building journals with some of the titles dating back to 1830-40.

### **C.3 Archive Holdings**

The Library holds a total of 32 professional, academic and personal archives belonging to architects and landscape architects. The School's Library document collection also contains a number of other documents, many of which are of uncertain origin. These architecture archives are an essential primary source of information for the scientific study of architecture and for any kind of intervention on built heritage. These collections more than 15,000 plans and drawings, 5,000 items of written documentation and 10,000 photographs.

These documents are being inventoried, catalogued and digitalized to make them accessible to researchers based in the School and external researchers with an interest in studying them (<http://cdp.upm.es/>).

### **C.4 Electronic Resources**

The Library has a great many electronic resources that may be accessed via INGENIO (<http://ingenio.upm.es>) a tool that enables all University Library collections, both printed and electronic, to be consulted from a single search box.

#### *C.4.1 Commercial Digital Collection*

The Library has access to 106.284 journals and periodicals, 232.554 electronic books and 264 databases. They can be viewed from outside the UPM network via a VPN remote access portal, using the institutional electronic mail address as password ([https://portalvpn.upm.es/dana-na/auth/url\\_default/welcome.cgi](https://portalvpn.upm.es/dana-na/auth/url_default/welcome.cgi)).

The following databases are extremely useful for ETS Architecture library users: Avery Index to Architectural Periodicals, ICONDA, Jstore, Periodicals Archive Online, Periodicals Index Online, Web of Science, El Derecho-Urbanismo, Dissertations and Theses, ISOC, ABI/INFORM Global.

- Digital Archive (<http://oa.upm.es>)

The UPM digital archive stores academic and scientific documentation generated in the institution in digital format and makes it available via the Internet under the University's open archive policy ([http://oa.upm.es/POLITICA\\_OA\\_UPM.pdf](http://oa.upm.es/POLITICA_OA_UPM.pdf)), the Budapest Open Access Initiative (<http://www.opensocietyfoundations.org/openaccess>) and the Berlin Declaration (<http://oa.mpg.de/lang/en-uk/berlin-prozess/berliner-erklarung/>) to which the UPM is a signatory.

ETS Architecture has published 12.798 of the 45.855 documents it contains, and is currently the UPM School with the greatest digital archive production. The Library works with researchers and teaching staff, encouraging them to publish by self-archiving or publishing documents themselves with permission from the author and requesting the appropriate permits in each case.

Work has been done on the complete works of several faculty members and the Library has also collaborated to include four of the School's professors in the "Cream of Science" section (<http://oa.upm.es/creamofscience.html>). Of 6.612 doctoral theses published, 1.058 are from ETS Architecture, and 1.438 TFG and TFM.

#### *C.4.2 Politécnica Digital Collection (CDP) (<http://cdp.upm.es>)*

The University Library has set up the Politécnica Digital Collection (CDP), a platform with open public access to University documents in electronic format. The collection comprises library holdings of enormous value in the history of science and architecture as well as other digital publication used by teachers and researchers as part of their normal teaching practice. The CDP has two primary aims:

- To disseminate the UPM Library historic collections and make them available to Internet users in digital format, thereby helping to preserve the originals in good condition.
- To serve the academic community by holding a number of digital items included in the teaching material on which its work relies, making this material available via a platform that enables it to be viewed, downloaded and used on line.

The CDP holds all kinds of digital items in a range of formats (text, images, video, etc.) with varying degrees of accessibility. At the moment, the Politécnica Digital Collection comprises 16.882 digital items consisting of more than 13.1841 files (pdf, jpg, htm, swf, gif, avi, etc.). ETS Architecture is the School that has contributed the greatest number of items to the CDP, over 7.500 in total, including books from the Library's ancient and historic collection and from the *Fuentes para la historia de la construcción* collection, compiled in partnership with the

Sociedad Española de Historia de la Construcción (the Spanish building history society, SEHC).

C.4.3 *Poli-Red* (<http://polired.upm.es>).

This is the University's open access electronic journal and periodicals publication platform. From March 2013, 9 journals published by various departments in the School were accessible.

## C.5 Non-bibliographic Material

The Library has laptop computers, e-book readers, and calculators available for loan to users.

## D. Services

The Library has a Service Charter approved by the University Board of Governors in 2010 (<http://www.upm.es/institucional/UPM/Biblioteca/ServiciosUsuario>).

### D.1 Loans (<http://www.aq.upm.es/biblioteca/servicios/prestamos.html>)

- *Reading Room*. The Library received 70.498 visitors over the course of 2019.
- *Home Loans*. The Library made 23.816 loans in 2019, an average of 4,43 loans per user.
- *Inter-library Loans*. This service is aimed primarily at faculty teaching staff and researchers. During 2019, a total of 148 documents were requested from other libraries and 131 were sent out. The Library holds an agreement with the Consorcio Madroño and Rebiun libraries. We also work with Subito, a German document supply service, and with the British Library Document Supply Centre, Library of Congress, OCLC, etc.

### D.2 Bibliographic Information and User Service

- *On-line catalogue (OPAC)*. All resources are accessed via the multi search tool INGENIO, plus services such as book renewals, reserves, purchasing requests and all kinds of suggestions.
- *Bibliographic Information*. The information service can be accessed by visiting the Library in person, sending an e-mail or telephoning.
- *User Training*. The ETS Architecture Library runs two types of training activities for users:
  - One session for first-year students in September.
  - At least two sessions per year for researchers or final-year students.A virtual on-line tour can be accessed via the Library web site [http://www.youtube.com/watch?feature=player\\_embedded&v=GErSO7CgitM](http://www.youtube.com/watch?feature=player_embedded&v=GErSO7CgitM) and video tutorials on Library resources are also available. There is also a course entitled *Acceso a la información en Ingeniería y Arquitectura: aplicación práctica de los recursos de la Biblioteca Universitaria* (Access to information in Engineering and Architecture: practical application of University Library resources) which is taught via the Moodle platform. The course carries 2 ECTS credit.
- *Suggestions and Complaints*. UPM University Library users can make observations, suggestions and complaints about the service in the following ways:
  - By e-mail [biblioteca.arquitectura@upm.es](mailto:biblioteca.arquitectura@upm.es)
  - By using the suggestions box in the Library.
  - By taking part in the regular user satisfaction surveys sent out by the Library, where they can express their level of satisfaction with the services outlined in the Charter

### D.3 Special Services

The Library has special regulations for disabled people and for elite sportspeople belonging to the University Community.



(<http://www.upm.es/institucional/UPM/Biblioteca/NuestraBiblioteca/NormativaDocumentos/23160c5e1e23e210VgnVCM10000009c7648aRCRD>)

#### **D.4 Madroño Passport Card**

Faculty teaching staff and researchers who use the Library may obtain this card enabling them to borrow two items from any public university library in the Community of Madrid.

#### **D.5 Communication**

Communication with users is key to providing services that meet their needs.

The Library uses the following resources to communicate with its users:

- Web sites (<http://www.upm.es/institucional/UPM/Biblioteca> and <http://www.etsam.upm.es/>)
- E-mail and SMS, for sending notifications and particular information.
- Social networks: Twitter, Pinterest.

#### **E. External Promotion**

The Library works in partnership with School teaching staff to hold temporary exhibitions in library premises to raise awareness of its collections among the user community.

Since 1999, the Library has been assisting with the on-line publication of the ETS Architecture Old Books Holdings, produced by the School and comprising important books from the collection accompanied by a preliminary study by a member of faculty teaching staff.

#### **F. User Satisfaction Surveys**

Within the Satisfaction surveys of both Undergraduate and Master students and faculty, the Degree of Satisfaction with the Library is investigated.

The students' response to Question 17: *The library or study rooms, as well as the bibliographic resources available, are adequate and have offered me a service that has facilitated my study*, it is 7.85 for undergraduate students and 7.37 for Master's degrees.

The faculty respond with a rating of 6.56 to the question: *Bibliographic resources provided by the University for the development of research activity*, and with a 7.00 to the question: *Bibliographic resources provided by the University for the preparation of teaching subjects*.

#### **G. Technical Process**

The Library complies with international standards and protocols for carrying out its various technical processes: MARC 21, Dublin Core, OAI protocols.

#### **I.2.5 Administrative Structure & Governance**

Due to the size and subsequent stratification of our University it becomes necessary to describe the governing bodies and administrative positions for both the UPM and the ETSAM:

##### **A. UPM Organization**

UPM ADMINISTRATIVE POSITIONS (UPM Organization)

#### UPM Organization Chart



- The **Rector** is the highest academic authority of the University and holds its representation. He/she exerts leadership, governance and its management, develops the lines of action approved by the relevant corporate bodies and executes their agreements.
- The **Vice-Rectors**, a maximum of eight, are appointed by the Rector from the full-time professors of the University. Their mission is to help out the Rector in the impulse of University politics and being in charge of the direction and management of the areas entrusted to them.
- The **General Secretary**, appointed by the Rector, his/her functions include: lifting Minutes of meetings, ensuring the adequate dissemination of the agreements and resolutions of the University's governing bodies, ensuring the protocol of academic acts, safeguarding the register and official files, maintaining the census, and all the functions proper to a Secretary.
- The **General Manager**, appointed by the Rector, is in charge of the administrative and economic affairs management.

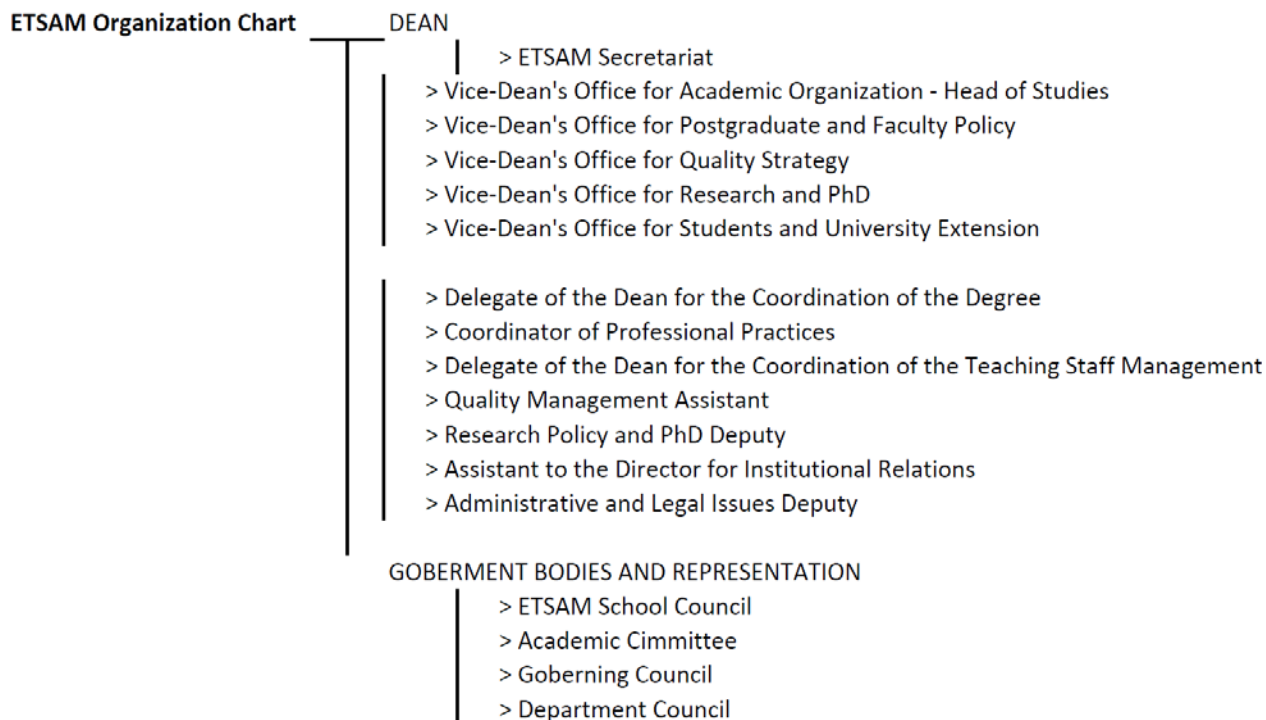
#### UPM GOVERNING BODIES:

- The **Governing Board** sets forth strategies and operational guidelines, the principles and procedures for their implementation, and the general organization of teaching, research, human and economic resources, and budgeting. Its duties and responsibilities are established by the Universities Organic Law / Ley Orgánica de Universidades (LOU) and by the UPM Statutes themselves.
- The **University Senate** is the highest administrative authority. It oversees the management of UPM and defines the overall policy applied to each scope of academic life.
- The **Social Board** promotes participation of external organizations in UPM. It connects cultural, scientific, professional, financial and business sectors with university, and fosters its opening up to those fields of activity and to the whole society.

#### **B. ETSAM organization**



Each center (School) is responsible for teaching organization and for the academic, administrative and management procedures regarding the undergraduate and graduate programs leading to BAr, MSc and PhD degrees. The ETSAM organization is described in the figure below. ETSAM Organization.



#### ETSAM ADMINISTRATIVE POSITIONS:

- The **School's Dean**, he/she represents the official position of the School and is in charge of management and academic administration. The Dean is elected by direct universal suffrage in a free and secret ballot.
- The **Vice Deans**, they are appointed by the School Dean after consulting the School Board. Vice Deans are often also tenured, full-time professors who help the Dean in different areas of activity whose employees will act under their direction and supervision. At present, there are five Offices of Vice Deans in the ETSAM covering the scopes stated below:
  - *Academic Affairs*, including school-year calendar and class schedule, allocation of common teaching resources and general development of teaching.
  - *Students*, assistance to students activities, job list and so on, such as alumni association.
  - *Postgraduate and PhD studies*, assistance to Departments and faculty.
  - *Academic Management and Faculty*, assistance to Departments and faculty.
  - *Research*, assistance to Departments and faculty.
- The **Assistant Vice Deans**, they are appointed by the School Dean after consulting the School Board. Vice Deans are full-time professors who help the Dean and Vice Deans in different areas of activity. At present, there are four Offices of Assistant Vice Deans in the ETSAM covering the scopes stated below:
  - Faculty Mobility.
  - Laboratories Management.
  - Management of Alumni Association.
  - Quality Management.

- Besides, the **Academic Secretary of the ETSAM** performs duties of attestation and bears responsibility for register, records and safe-keeping of all documents belonging to the School archives.

#### ETSAM GOVERNING BODIES:

- The **ETSAM School Council** sets forth its general objectives and guidelines. It deals with organization criteria for teaching activities, drawing up of proposals for study plans, projects of facility improvement to the ETSAM building, and so on.
- The **Academic Committee** is a Consulting Organism dependent upon the ETSAM School Council. It's primary function is to analyze the teaching program chart proposed by the different Departments and submit it for approval by the same Council.
- The **Governing Council** assists to the Dean in School government and makes proposals to be discussed or approved by the ETSAM Board.
- The **Department Council** holds the authority to evaluate faculty and teaching quality, to approve course syllabi, to assign teaching duties and to set up criteria for applying resources in teaching and research.

#### ETSAM DEPARTMENTS.

Teaching and research is organized and coordinated through curriculum study areas. Each department assists in teaching activities and research developed by faculty and associate or assistant researchers. The Head of Department represents its official position and is in charge of management and academic administration. He/she is elected in a vote by the Department Board.

There are eight Academic Departments and one departmental unit in the ETSAM, as follows:

- Departmental Unit of Applied Mathematics
- Department of Applied Physics and Technical Equipment for Architecture, Urban Planning and the Environment.
- Department of Architectural Composition.
- Department of Architectural Projects.
- Department of Building Structures and Physic.
- Department of Construction and Technology in Architecture.
- Department of Graphic Ideation of Architecture.
- Department of Urban and Regional Planning.
- Departmental Unit of Applied Linguistics for Science and Technology.

## Part One (I), Section 3: Institutional Characteristics

### I.3.1 Statistical Reports

#### A. Program student characteristics

In terms of students on the program, the following data can be provided:

Firstly, the number of students registered in the last round of applications was 2702 Bachelor Degree and 578 for Master Degree.

Secondly, it should be noted that students wishing to study for the degree in Architecture must have attained a minimum grade in the “EvAU” examination (“cut-off grade”), which depends on the total number of applications. In fact, the 410 students with the highest grade are admitted, which establishes the abovementioned cut-off grade.

Afterwards, a percentage of students from other origins are admitted, up to an entrance of approximately 470 students, which this year is 459. The cut-off grades are in the following table:

Academic Year	Cut-off Grade
2020-21	10,910
2019-20	9,650
2018-19	9,518
2017-18	9,268
2016-17	8,629
2015-16	9,800

On the other hand, regarding the number of years it takes students to graduate, the data are as follows:

Bachelor Degree in Fundamentals of Architecture					
Academic Year	Enrolled	Graduates	Average grade	No. years elapsed	No. Years enrolled
2014-15	2137	81	7,02	4,81	4,83
2015-16	2527	219	6,85	5,61	5,63
2016-17	2733	340	6,84	5,8	5,78
2017-18	2759	365	6,88	5,8	5,79
2018-19	2737	378	6,82	6,03	6,02
2019-20	2702	400	6,89	6,15	6,12
Master Degree in Architecture					
Master degree	Enrolled	Graduates	Average grade	No. years elapsed	No. Years enrolled
2015-16	151	69		1	1
2016-17	409	211		1,35	1,35
2017-18	498	286		1,59	1,59
2018-19	569	301		1,59	1,59
2019-20	578	338		1,62	1,62

#### B. Program faculty characteristics

In the next chart the following data are provided grouped by departments:

- Number of faculty by rank

- Number of full-time and part-time faculty

Department		Professors		Associate professors		Assistant professors		Lecturers		Assistants	
Applied Mathematics	Part-time	-	-	2	12	-	4	2	2	-	-
	Full-time	-	-	10	-	4	-	-	-	-	-
Architectural Composition	Part-time	-	3	-	12	1	15	9	9	-	-
	Full-time	3	-	12	-	14	-	-	-	-	-
Architectural Projects	Part-time	-	14	-	16	1	28	62	62	-	3
	Full-time	14	-	16	-	27	-	-	-	3	-
Building Structures and Physic	Part-time	-	2	-	15	-	11	13	13	-	5
	Full-time	2	-	15	-	11	-	-	-	5	-
Construction and Technology in Architecture	Part-time	-	4	-	17	1	13	27	27	-	1
	Full-time	4	-	17	-	12	-	-	-	1	-
Graphic Ideation of Architecture.	Part-time	-	2	1	14	-	7	30	30	-	-
	Full-time	2	-	13	-	7	-	-	-	-	-
Urban and Regional Planning	Part-time	-	1	1	6	1	11	19	19	-	1
	Full-time	1	-	5	-	10	-	-	-	1	-
Unit of Applied Linguistics for Science and Technology	Part-time	-	-	-	2	-	1	1	1	-	-
	Full-time	-	-	2	-	1	-	-	-	-	-
TOTAL	383	26	26	94	94	90	90	163	163	10	10
TOTAL (%)	100,00%	6,79%		24,54%		23,50%		42,56%		2,61%	

## **Part Two (II). Educational Outcomes and Curriculum**

### **Part Two (II) Section I. Student Performance Criteria**

#### **II.1.1 Student Performance Criteria (SPC)**

To better understand the development of the Student Performance Criteria (SPC) in the ETSAM, and before including the table showing we believe it is necessary to include a series of data on the “skills” students are supposed to acquire while they are studying on the ETSAM architecture program according to the verification report for the 2010 Syllabus. These skills are split into three categories: general, transversal and specific, and the various subject descriptions set out the skills to be acquired in each case. Full information is shown in tables 2.1, 2.2 and 2.3 in Appendix 5.

## Part Two (II) Section II: Curricular Framework

### II.2.1 National Authorization and Institutional Quality Assurance

#### A. Original accreditations

For the 2010 Syllabus, two letters were received confirming successful assessment by ANECA<sup>10</sup>, one for the Bachelor Degree in Fundamentals of Architecture Degree and another for the Master's in Architecture. Both are reproduced below.



EXPEDIENTE Nº 3982/2010

#### EVALUACIÓN DE LA SOLICITUD DE VERIFICACIÓN DE TÍTULO OFICIAL

Denominación del Título	Grado en Fundamentos de la Arquitectura
Universidad o Universidades solicitantes	Universidad Politécnica de Madrid

Conforme a lo establecido en el artículo 25 del R.D. 1393/2007, de 29 de octubre, ha procedido a evaluar el plan de estudios que conduce al Título oficial arriba citado de acuerdo con el Protocolo de evaluación para la verificación de Títulos Oficiales.

La evaluación del plan de estudios se ha realizado por la Ingeniería y Arquitectura 2, formada por expertos nacionales e internacionales del ámbito académico, profesionales del título correspondiente y estudiantes. En dicha evaluación también han participado expertos externos a la Comisión que han aportado informes adicionales a la misma. Los miembros de la Comisión y los expertos externos han sido seleccionados y nombrados según el procedimiento que se recoge en la Web de dicha agencia dentro del programa VERIFICA.

Dicha Comisión de evaluación, de forma colegiada, ha valorado el plan de estudios de acuerdo con los criterios recogidos en el mencionado Protocolo de evaluación para la verificación.

De acuerdo con el procedimiento, se envió una propuesta de informe provisional a la Universidad, la cual ha remitido las observaciones oportunas. Una vez finalizado el periodo de observaciones a dicho informe, la Comisión de Evaluación, en nueva sesión, emite un informe de evaluación en términos **FAVORABLES**, considerando que:

#### Observaciones al Consejo de Universidades:

Este título ha cambiado su denominación, en principio se presentó como Grado en Arquitectura. Tras la fase de alegaciones pasa a denominarse Grado en Fundamentos de Arquitectura.

Este Grado se ha evaluado atendiendo a la Orden EDU/2075/2010 en los aspectos referentes al Grado.

#### MOTIVACIÓN:

El Proyecto de Título presentado:

#### CRITERIO 1: DESCRIPCIÓN DEL TÍTULO

Recoge una descripción del plan de estudios adecuada y coherente con la denominación propuesta. Asimismo, dicha Memoria aporta información suficiente y precisa sobre los efectos académicos del Título y sobre otros datos que facilitan el conocimiento de sus características básicas así como los procesos de matriculación y de expedición del Suplemento Europeo al Título.

#### CRITERIO 2: JUSTIFICACIÓN

<sup>10</sup> Spanish National Quality and Accreditation Agency



EXPEDIENTE Nº 3982/2010

Aporta diferentes evidencias que ponen de manifiesto su interés y relevancia académica y científica.

#### CRITERIO 3: OBJETIVOS

Define unos objetivos pertinentes con la denominación del Título que se concretan en competencias propias de esta propuesta a lograr por los estudiantes.

#### CRITERIO 4: ACCESO Y ADMISIÓN DE ESTUDIANTES

Propone mecanismos y procedimientos accesibles para regular e informar con claridad al estudiante sobre las diferentes vías de acceso y admisión al Título, de los sistemas de transferencia y reconocimiento de créditos y de los sistemas de orientación al inicio de sus estudios.

#### CRITERIO 5: PLANIFICACIÓN DE LAS ENSEÑANZAS

Presenta una planificación de la formación diseñada en coherencia con las competencias que se pretenden lograr, adecuada a la dedicación estimada de los estudiantes y ajustada a los sistemas de evaluación y calificación previstos.

#### CRITERIO 6: PERSONAL ACADÉMICO

Especifica el personal académico y de apoyo necesario que resulta adecuado para favorecer la consecución de competencias que pretenden lograrse.

#### CRITERIO 7: RECURSOS MATERIALES Y SERVICIOS

Concreta los recursos materiales y servicios necesarios para el desarrollo de las actividades formativas previstas y adecuados para la consecución de las competencias que pretenden lograrse.

#### CRITERIO 8: RESULTADOS PREVISTOS

Establece los resultados previstos del Título en forma de indicadores de rendimiento, explicando el procedimiento general para valorar el progreso y los resultados de aprendizaje de los estudiantes.

#### CRITERIO 9: SISTEMA DE GARANTÍA DE LA CALIDAD

Incluye un sistema de garantía de la calidad para la recogida y análisis de información sobre el desarrollo del plan de estudios.

#### CRITERIO 10: CALENDARIO DE IMPLANTACIÓN

Identifica un calendario adecuado de implantación del Título y concreta el modo en que los estudiantes de estudios existentes pueden adaptarse al nuevo plan de estudios, así como el mecanismo que permitirá a los estudiantes la superación de las enseñanzas una vez extinguidas. De igual modo, detalla las enseñanzas que se extinguen con la implantación del Título.



EXPEDIENTE Nº 3982/2010

En Madrid, a 27/09/2010  
LA DIRECTORA DE ANECA

Zulima Fernández Rodríguez

#### TRANSLATION:

*RECORD No. 3982/2010*

*EVALUATION OF THE APPLICATION FOR VALIDATION OF AN OFFICIAL DEGREE*

*Name of Degree: FUNDAMENTALS IN ARCHITECTURE*

*Applicant University or Universities: Universidad Politécnica de Madrid*

*In accordance with the content of article 25 of Royal Decree 1393/2007 of 29 October, the syllabus leading to the abovementioned official degree has been assessed in accordance with the Assessment Protocol for validating official degrees.*

*The assessment of the syllabus has been carried out by the Masters in Engineering and Architecture formed by national and international experts from the academic environment, professionals from the corresponding degree and students. This assessment also involved experts from outside the Commission who were selected and nominated according to the procedure detailed on the agency web site under the VERIFICA program.*

*The Assessment Committee has jointly evaluated the syllabus according to the criteria outlined in the abovementioned Validation Assessment Protocol.*

*In accordance with the procedure, a proposal for a provisional report was sent to the University, which has sent its comments. Once the period for making comments had finalized, the Assessment Committee met once again and issued a favorable assessment report considering that:*

*Comments to the Universities Council:*

*This title has changed its name, at first appeared like Degree in Architecture. Following allegations phase Degree was renamed Fundamentals of Architecture.*

*This degree has been assessed against the Order EDU2075/2010 on aspects concerning the degree.*

#### MOTIVATION

*The project title submitted*

##### CRITERION 1: DESCRIPTION OF THE TITLE

*It provides a description of the curriculum appropriate and consistent with the proposed name. Also, this memory provides sufficient and accurate information on the academic effects of Title and other data that provide knowledge of its basic features as well as the processes of registration and issuance of the European Diploma Supplement.*

##### CRITERION 2: JUSTIFICATION

*It provides various evidences which show their interest and academic and scientific relevance.*

##### CRITERION 3: OBJECTIVES

*It defines relevant targets under the name of the title which are specified in skills of this proposal to be achieved by students.*

##### CRITERION 4: ACCESS AND ADMISSION OF STUDENTS

*It proposes mechanisms and procedures accessible to regulate and clearly inform the student of the different routes of access and admission to the Title, transfer systems and credit recognition and guidance systems at the beginning of their studies.*

##### CRITERION 5: PLANNING EDUCATION



*It presents a training schedule designed in line with the skills to be achieved, appropriate to the dedication of the students estimated and adjusted to the evaluation and rating systems provided.*

**CRITERION 6: FACULTY STAFF**

*It specifies the faculty and support staff needed to be suitable to support the achievement of skills that aim to be accomplished.*

**CRITERION 7: RESOURCES AND SERVICES**

*It specifies the material resources and services necessary for the development of the training activities planned and appropriate to achieve the skills that aim be accomplished.*

**CRITERION 8: EXPECTED RESULTS**

*It establishes the expected outcomes of the Title as performance indicators, explaining the general procedure for assessing the progress and outcomes of student learning.*

**CRITERION 9: QUALITY ASSURANCE SYSTEMS**

*It includes a system of quality assurance for the collection and analysis of information on the development of the curriculum.*

**CRITERION 10: IMPLEMENTATION SCHEDULE**

*It identifies an appropriate timetable for implementing the specific Title and how existing studies students can adapt to the new syllabus, as well as the mechanism that will allow students to overcome once the teachings extinct. Similarly, it details the teachings that are extinguished by the implementation of the Title.*



EXPEDIENTE Nº 4170/2010

**EVALUACIÓN DE LA SOLICITUD DE VERIFICACIÓN  
DE TÍTULO OFICIAL**

<b>Denominación del Título</b>	MASTER UNIVERSITARIO EN ARQUITECTURA
<b>Universidad o Universidades solicitantes</b>	Universidad Politécnica de Madrid

Conforme a lo establecido en el artículo 25 del R.D. 1393/2007, de 29 de octubre, ha procedido a evaluar el plan de estudios que conduce al Título oficial arriba citado de acuerdo con el Protocolo de evaluación para la verificación de Títulos Oficiales.

La evaluación del plan de estudios se ha realizado por la Máster de ingeniería y arquitectura formada por expertos nacionales e internacionales del ámbito académico, profesionales del título correspondiente y estudiantes. En dicha evaluación también han participado expertos externos a la Comisión que han aportado informes adicionales a la misma. Los miembros de la Comisión y los expertos externos han sido seleccionados y nombrados según el procedimiento que se recoge en la Web de dicha agencia dentro del programa VERIFICA.

Dicha Comisión de evaluación, de forma colegiada, ha valorado el plan de estudios de acuerdo con los criterios recogidos en el mencionado Protocolo de evaluación para la verificación.

De acuerdo con el procedimiento, se envió una propuesta de informe provisional a la Universidad, la cual ha remitido las observaciones oportunas. Una vez finalizado el periodo de observaciones a dicho informe, la Comisión de Evaluación, en nueva sesión, emite un informe de evaluación en términos favorables, considerando que:

Observaciones al Consejo de Universidades: Este título se ha evaluado atendiendo a la Orden Ministerial EDU/2075/2010 por la que se establecen los requisitos para la Verificación de títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Arquitecto. MOTIVACIÓN: La propuesta de Título Oficial cumple con los requisitos de evaluación según lo establecido en el Real Decreto 1393/2007 modificado por el Real Decreto 861/2010.

**TRANSLATION:**

**RECORD No. 4170/2010**

**EVALUATION OF THE APPLICATION FOR VALIDATION OF AN OFFICIAL DEGREE**

**Name of Degree: UNIVERSITY MASTER'S DEGREE IN ARCHITECTURE**

**Applicant University or Universities: Universidad Politécnica de Madrid**

*In accordance with the content of article 25 of Royal Decree 1393/2007 of 29 October, the syllabus leading to the abovementioned official degree has been assessed in accordance with the Assessment Protocol for validating official degrees.*

*The assessment of the syllabus has been carried out by the Masters in Engineering and Architecture formed by national and international experts from the academic environment, professionals from the corresponding degree and students. This assessment also involved experts from outside the Commission who were selected and nominated according to the procedure detailed on the agency web site under the VERIFICA program.*

*The Assessment Committee has jointly evaluated the syllabus according to the criteria outlined in the abovementioned Validation Assessment Protocol.*

*In accordance with the procedure, a proposal for a provisional report was sent to the University, which has sent its comments. Once the period for making comments had finalized, the Assessment Committee met once again and issued a favorable assessment report considering that:*

*Comments to the Universities Council: This degree has been assessed according to Ministerial Order EDU/2075/2010 establishing the requirements for Validating University Degrees entitling graduates to practice the profession of Architect. REASON: The proposed Official Degree fulfills the assessment requirements according to the contents of Royal Decree 1393/2007 modified by Royal Decree 861/2010.*

**B. Bachelor Degree Accreditation Renewal**

In 2017, the Bachelor Degree in Fundamentals of Architecture was evaluated for the second time, by the Madri+d Foundation, the Accreditation Agency of the Community of Madrid, delegated by ANECA for the renewals of the accreditation that are carried out periodically. Since 2010 when it was approved, the title has had a follow-up review in 2013 and renewal of accreditation in 2017.

The Renewal Report is included below, with subsequent translation.

## RENOVACIÓN DE LA ACREDITACIÓN INFORME FINAL

### DATOS DEL TÍTULO

Número de Expediente (RUCT):	2502137
Denominación Título:	Grado en Fundamentos de la Arquitectura
Universidad responsable:	Universidad Politécnica de Madrid
Universidades participantes:	
Centro en el que se imparte:	ETS Arquitectura
Nº de créditos:	240
Idioma:	Español
Modalidad:	

### MIEMBROS DEL COMITÉ DE EVALUACIÓN Y ACREDITACIÓN

Presidente del Pleno:	Jesús Sanchez Martos
Experto externo:	Rosa de Couto Gálvez
Vocal estudiante:	Silvia Maiorana
Presidente Comité Artes y Humanidades:	Manuel González Morales
Presidente Comité Ciencias:	Celso Rodríguez Fernández
Presidente Comité Ciencias de la Salud:	Francisco Javier Castillo García
Presidente Comité Ciencias Sociales y Jurídicas:	Eduardo García Jiménez
Presidente Comité Ingeniería y Arquitectura:	Enrique Masgrau Gómez
Secretario:	Oscar Vadillo Muñoz

### Valoración del Título:

El Real Decreto 1393/2007, de 29 de octubre por el que se establece la ordenación de las enseñanzas universitarias oficiales, dispone en el artículo 27bis que los programas oficiales, para que puedan renovar su acreditación deberán ser evaluados mediante una visita a la institución. Asimismo, la Guía de evaluación para la renovación de la acreditación de títulos oficiales de grado y máster de la Fundación madrimasd contempla el reconocimiento de las evaluaciones realizadas por agencias internacionales sectoriales con quienes la Fundación mantenga convenios específicos de colaboración.

En este sentido, la Fundación madrimasd tiene firmado un Convenio Marco de Colaboración con The National Architectural Accrediting Board (NAAB), agencia reconocida en los EEUU de América en el establecimiento de normas de aseguramiento de la calidad en el ámbito de los estudios superiores de la arquitectura. Los procesos de evaluación de esta agencia integran los elementos fundamentales contemplados en los European Standards and Guidelines: informes de autoevaluación, visita externa de expertos y evaluación de criterios relativos al contenido del programa, recursos disponibles y resultados de aprendizaje. Para el aseguramiento

### TRANSLATION:

#### RENEWAL OF ACCREDITATION

#### FINAL REPORT

#### TITLE DATA

File Number (RUCT): 2502137

Title: Degree in Fundamentals of Architecture

Responsible University: Polytechnic University of Madrid

Participating universities:

Center where it is taught: ETS Arquitectura

Number of credits: 300

Spanish Language

Modality:

#### MEMBERS OF THE EVALUATION AND ACCREDITATION COMMITTEE

*President of the Plenary: Jesús Sanchez Martos*

*External expert: Rosa de Couto Gálvez*

*Student member: Silvia Maiorana*

*President of the Arts and Humanities Committee: Manuel González Morales*

*President of the Science Committee: Celso Rodríguez Fernández*

*Chairman of the Health Sciences Committee: Francisco Javier Castillo García*

*President of the Social and Legal Sciences Committee: Eduardo García Jiménez*

*Chairman of the Engineering and Architecture Committee: Enrique Masgrau Gómez*

*Secretary: Oscar Vadillo Muñoz*

*Title Assessment:*

*Royal Decree 1393/2007, of October 29, which establishes the organization of official university education, provides in article 27bis that official programs, in order to renew their accreditation, must be evaluated through a visit to the institution. Likewise, the Evaluation Guide for the renewal of the accreditation of official bachelor's and master's degrees of the Madrimasd Foundation contemplates the recognition of the evaluations carried out by international sectoral agencies with whom the Foundation has specific collaboration agreements.*

*In this sense, the Madrimasd Foundation has signed a Framework Collaboration Agreement with The National Architectural Accrediting Board (NAAB), an agency recognized in the United States of America in the establishment of quality assurance standards in the field of higher education in Architecture. The evaluation processes of this agency integrate the fundamental elements contemplated in the European Standards and Guidelines: self-evaluation reports, external visits of experts and evaluation of criteria related to the content of the program, available resources and learning results. To ensure the correct application of these criteria, this Agreement contemplates the participation of members of the Foundation in the evaluation process of these degrees and guarantees the substantial equivalence of the evaluation programs carried out by both institutions.*

*The Bachelor's degree in Fundamentals of Architecture from the Polytechnic University of Madrid, as stated in the documentation in the file, has passed the evaluation process by The National Architectural Accrediting Board (NAAB), confirming compliance with the necessary criteria for renewal of accreditation.*

#### **GLOBAL ASSESSMENT OF THE TITLE**

*After the period of 20 days for submitting allegations to the Interim Report and considering the information available on the degree included in the accreditation file and, where appropriate, the allegations and / or Improvement Plan presented by the university, this Evaluation Committee and Accreditation issues the following Final Accreditation Renewal Report in terms of FAVORABLE. This Report must be made public on the website of the title itself in an easily accessible way.*

*In Madrid, December 22, 2017*

*Signed: Jesús Sanchez Martos*

*The President of the Evaluation and Accreditation Committee*

### **C. Master Degree of Architecture Accreditation Renewal**

In 2016, the Master Degree in Architecture was evaluated to be renewed, by the Madri+d Foundation, the Accreditation Agency of the Community of Madrid, delegated by ANECA for the renewals of the accreditation that are carried out periodically. Since December 28, 2012 when it was approved, the title has had a first renewal of accreditation in 2016.

The Renewal Report is included below, with subsequent translation.

## RENOVACIÓN DE LA ACREDITACIÓN INFORME FINAL

### DATOS DEL TÍTULO

Número de Expediente (RUCT):	4314048
Denominación Título:	Máster Universitario en Arquitectura
Universidad responsable:	Universidad Politécnica de Madrid
Universidades participantes:	-
Centro en el que se imparte:	ETS Arquitectura
Nº de créditos:	60
Idioma:	Español
Modalidad:	

### MIEMBROS DEL COMITÉ DE EVALUACIÓN Y ACREDITACIÓN

Presidente del Pleno:	Federico Morán Abad
Experto externo:	Rosa Couto
Vocal estudiante:	Silvia Maiorana
Presidente Comité Artes y Humanidades:	Manuel González Morales
Presidente Comité Ciencias:	Celso Rodríguez Fernández
Presidente Comité Ciencias de la Salud:	Francisco Javier Castillo García
Presidente Comité Ciencias Sociales y Jurídicas:	Eduardo García Jiménez
Presidente Comité Ingeniería y Arquitectura:	Enrique Masgrau
Secretario:	Concha Serrano Alcaide

### Valoración del Título:

El Real Decreto 1393/2007, de 29 de octubre por el que se establece la ordenación de las enseñanzas universitarias oficiales, dispone en el artículo 27bis que los programas oficiales, para que puedan renovar su acreditación deberán ser evaluados mediante una visita a la institución. Asimismo, la Guía de evaluación para la renovación de la acreditación de títulos oficiales de grado y máster de la Fundación madrimasd contempla el reconocimiento de las evaluaciones realizadas por agencias internacionales sectoriales con quienes la Fundación mantenga convenios específicos de colaboración.

En este sentido, la Fundación madrimasd tiene firmado un Convenio Marco de Colaboración con The National Architectural Accrediting Board (NAAB), agencia reconocida en los EEUU de América en el establecimiento de normas de aseguramiento de la calidad en el ámbito de los estudios superiores de arquitectura. Los procesos de evaluación de esta agencia integran los elementos fundamentales contemplados en los Criterios y Directrices Europeos de Evaluación en el EEES: informe de autoevaluación, visita de expertos externos y evaluación de criterios relativos al contenido del programa, recursos disponibles y resultados de aprendizaje. Para el aseguramiento de la correcta aplicación de estos criterios, este Convenio contempla la participación de miembros de la Fundación en el proceso de evaluación de estos títulos y garantiza la equivalencia sustancial de los programas de evaluación realizados por ambas instituciones.

El título Máster Universitario en Arquitectura según consta en la documentación que obra en su expediente ha superado el proceso de evaluación por The National Architectural Accrediting Board (NAAB), confirmándose el cumplimiento de los criterios necesarios para la renovación de la acreditación.

### DECISIÓN PROVISIONAL SOBRE EL TÍTULO:

Transcurrido el plazo de 20 días para la presentación de alegaciones al Informe provisional y considerando la información disponible del título incluida en el expediente de acreditación y, en su caso, las alegaciones y/o Plan de Mejora presentadas por la universidad, este Comité de Evaluación y Acreditación emite el siguiente Informe final de renovación de la acreditación en términos de FAVORABLE. Este Informe debe hacerse público en la página web del propio título de forma fácilmente accesible.

En Madrid, a 21 de Diciembre de 2016

Fdo.: Federico Morán Abad

El Presidente del Comité de Evaluación y Acreditación

TRANSLATION:

RENEWAL OF ACCREDITATION

FINAL REPORT

TITLE DATA

File Number (RUCT): 4314048

Title: Master's Degree in Architecture

Responsible University: Polytechnic University of Madrid

Participating universities: -

Center where it is taught: ETS Arquitectura

Number of credits: 60

Spanish Language

Modality:

MEMBERS OF THE EVALUATION AND ACCREDITATION COMMITTEE

President of the Plenary: Federico Morán Abad

External expert: Rosa Couto

Student member: Silvia Maiorana

President of the Arts and Humanities Committee: Manuel González Morales

Science Committee President: Celso Rodríguez Fernández

Chairman of the Health Sciences Committee: Francisco Javier Castillo García

President of the Social and Legal Sciences Committee: Eduardo García Jiménez

Chairman of the Engineering and Architecture Committee: Enrique Masgrau

Secretary: Concha Serrano Alcaide

Title Assessment:

Royal Decree 1393/2007, of October 29, which establishes the organization of official university education, provides in article 27bis that official programs, in order to renew their accreditation, must be evaluated through a visit to the institution. Likewise, the Evaluation Guide for the renewal of the accreditation of official bachelor's and master's degrees of the Madrimasd Foundation contemplates the recognition of the evaluations carried out by international sectoral agencies with whom the Foundation has specific collaboration agreements.

In this sense, the Madrimasd Foundation has signed a Framework Collaboration Agreement with The National Architectural Accrediting Board (NAAB), an agency recognized in the United States of America in the establishment of quality assurance standards in the field of higher studies in Architecture. The evaluation processes of this agency integrate the fundamental elements contemplated in the European Evaluation Criteria and Guidelines in the EHEA: self-evaluation report, visit of external experts and evaluation of criteria related to the content of the program, available resources and learning results. To ensure the correct application of these criteria, this Agreement contemplates the participation of members of the Foundation in the evaluation process of these degrees and guarantees the substantial equivalence of the evaluation programs carried out by both institutions.

The Master's Degree in Architecture, as stated in the documentation in the file, has passed the evaluation process by The National Architectural Accrediting Board (NAAB), confirming compliance with the necessary criteria for the renewal of the accreditation.

PROVISIONAL DECISION ON THE TITLE:

After the 20-day period for submitting allegations to the Interim Report and considering the information available on the degree included in the accreditation file and, where appropriate, the allegations and / or Improvement Plan presented by the university, this Evaluation Committee and Accreditation issues the following Final Accreditation Renewal Report in terms of FAVORABLE. This Report must be made public on the website of the title itself in an easily accessible way.

*In Madrid, December 21, 2016*

*Signed: Federico Morán Abad*

*The President of the Evaluation and Accreditation Committee*

#### **D. Master Degree of Architecture next Accreditation Renewal**

The next renewal of the accreditation of the UPM Master's Degree in Architecture will be in 2021. On February 26. The Self-Assessment Report must be sent and, subsequently, it will take place the visit of the Evaluation Panel. These dates can be modified based on the NAAB renewal dates.

### **II.2.2 Professional Degrees and Curriculum**

As we have commented in Part II, Section I. (tables on pages 86 and 87), all the SPCs indicated in NAAB are covered by the skills required for architecture teaching programs in Spain, which are incorporated into the courses taught at the ETSA-UPM, as can be seen in the course descriptions, in Appendix 1. In any case, the curricula of the degrees offered are developed below.

#### **A. Degrees offered**

As it has been mentioned above, the ongoing ETSAM Degree Program is heir to a long tradition of models of accredited architectural studies. However, its most significant precedent is PS '75, which arose as a consequence of the reforms introduced in higher education in Spain in 1970. This plan of study was followed by PS '96 and PS '10, that are both characterized by continuity of faculty, teaching methods and contents.

In 1999, a process of convergence of European higher education spread around the continent to guarantee the diversity of education systems within a common legal framework. The process was inspired by the so-called Magna Charta Universitatum, a proposal formally signed by Chancellors of different European universities in 1988. The four basic principles of the future reform were pointed out in that document: freedom in research and training, recruitment of teachers, safeguard of students' freedoms, and mutual exchange of information and documentation.

The signing of Bologna Declaration in 1999 marked the beginning of a long and legally complex process that included the approval and application of different regulations and decrees. As a consequence, in 2010 it was concluded in Spain that there is one only architect's degree with master category to be awarded after successful completion of 360 ECTS-credits<sup>11</sup>.

The ETSAM PS '10 represents a clear change in the way to understand the training process. First of all, there is growing recognition that higher education can be acquired not only in lecture rooms, but the access to knowledge is diversified through Information and Communication Technologies (ICT) as it was in PS '96. Secondly, the current holistic approach to architectural training is improved and at least 6 years will be necessary to successfully complete the requirements of a program leading to the Master's degree.

For a few years, Syllabus 1996 and Syllabus 2010 have been running simultaneously, until 2017 when Syllabus 1996 was extinguished.

Syllabus 2010, offers two consecutive degrees: The first is "*Degree in Fundamentals of Architecture*", awarded after completing the 10 first semesters and equivalent to 300 ECTS, which include the "Degree Completion Project" (PFG) in the 10th semester. Credits are awarded as shown in the following table:

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<sup>11</sup> ECTS, European Credit Transfer System, equivalent between 25 and 30 hours of work of the students

- TABLE 2.6: Distribution of credits by subject type on the Syllabus 2010 Fundamentals of Architecture degree course

Basic subjects	60 ECTS
Compulsory subjects	222 ECTS
Elective subjects	12 ECTS
Final Year Project	6 ECTS
<b>TOTAL CREDITS</b>	<b>300 ECTS</b>

This degree does not equip students for professional practice, so they may not register in a professional architects' association. According to Royal Decree 861/2010 of 2 July, modifying Royal Decree 1393/2007 of 29 October, establishing the organization of official university courses, this degree is the only one that gives access to the Official Master's in Architecture Program.

Next, by studying two additional semesters, equivalent to 60 ECTS, which include the Final Year Project (PFC), students obtain the official qualification of "Master in Architecture", entitling them to enter regulated practice as an Architect, in line with the legal framework shown below. They may also register with any branch in Spain of the Official Association of Architects and work in professional practice, the same as with the degree award obtained under Syllabus 1996.

The credit structure for the Master's in Architecture is summarized in the table below:

- TABLE 2.7: Distribution of credits by subject type in the Master's degree in Architecture under Syllabus 2010

Master's degree compulsory subjects	20 ECTS
Elective subjects for in-depth study/research on architecture	10 ECTS
Master's degree final project	30 ECTS
<b>TOTAL CREDITS</b>	<b>60 ECTS</b>

The legal framework governing the Architecture profession in Spain is as follows:

- Royal Decree 314/2006 of 17 March, approving the Building Technical Code (Código Técnico de la Edificación, CTE).
- Directive 2005/36/EC of the European Parliament and of the Council, of 7 September 2005, on the recognition of professional qualifications.
- Law 38/1999 of 5 November on Building Organization.
- Royal Decree 685/1982 of 17 March setting out certain aspects of Law 2/1981 of 25 March on mortgage market regulation.
- Royal Decree 2512/1977 of 17 June approving the fees charged by architects in the practice of their profession, ratifying, with the exception of financial aspects included in the derogatory clause in Law 7/1997 of 14 April, deregulatory measures relating to land and professional associations.
- Decree 119/1973 of 1 February redrafting article 2 of Decree 893/1972 of 24 March and creating the Decorators' Union Association.



Current legislation defines the profession of architect as a regulated profession, the exercise of which requires being in possession of the appropriate Degree or Master's qualifications, obtained in accordance with the contents of Article 12.9 of Royal Decree 1393/2007 in its redrafted form as contained in Royal Decree 861/2010, and in Article 15.4 as set out in the conditions established by the Council of Ministers Agreement explaining it.

## **B. Description of Syllabus 2010. Structure and credits.**

In Syllabus 2010, in curricular terms, the array of issues and areas is structured into modules and subjects. The subject is an academic unit including one or several courses that may be holistically conceived, therefore they are coherent in terms of areas of knowledge. The module is an academic unit including one or several matters that form an organizational element within the Plan of Study. The key features are the following:

- The curriculum is organized around modules and subjects, not only around courses.
- Teaching is based on methodology.
- Teaching methods compatible with EHEA are developed.
- ICT tools are incorporated into the training.
- Student work is emphasized through specific teaching models.
- Training and research are partially combined, so that when the student is interested in research training, this is provided as a natural continuation of the degree program.
- Student mobility is promoted and exchange matters are clearly specified.

The general objectives of the Architect's degree are defined in accordance with the specific set of duties and responsibilities assigned by the legislation currently in force and with the requirements established at EU level. There is a unifying link connecting the degree program objectives, the European Directive for Architects, the adaptation to the EHEA defined by Bologna Declaration, the compliance with the Spanish Building Regulations (Ley de Ordenación de la Edificación) and the maintenance of the current technical capacity of Spanish architects to perform their duties as required by the building trade and by architecture as a regulated profession.

Consequently, the objectives of the **ETSAM** five-year degree program in Fundamentals of Architecture shall ensure the acquisition of the skills presented below:

- Adequate knowledge of the history and theories of Architecture and the related arts, technologies and human sciences.
- Knowledge of Fine Arts as an influence on the quality of architectural design.
- Adequate knowledge of urban design, planning and techniques applied in the planning process.
- Understanding of the structural design, construction and engineering problems associated with building design, and of theories necessary for proposing solutions.
- Adequate knowledge of the industries, organizations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning.
- Understanding of the relationship between people and buildings, and between buildings and their environment, and of the need to relate buildings and the spaces between them to human needs and scale.

Apart from these objectives, and according to the NAAB requirements related to the inclusion of the general studies in arts, humanities and sciences in the Substantial Equivalency program, it is worth noting:

- The student with access to university studies is understood to come from the Spanish High School, with a wide preparation on these fields.
- Studies in the Fundamentals of architecture Degree include subjects in the arts, more specifically the core subjects of *“Geometry and Architecture Drawing”, “Drawing, Analysis and Creation”,* and *“Architectural Projects”* among others, as well as many of the corresponding to the subject of *“Experimental Workshops”*.
- Studies in the Fundamentals of Architecture Degree include as well subjects related to the field of science education, more specifically the core subjects of *“Calculus”, “Building Physics”, “Building Technology”* and *“Structural Design”* among others.
- Studies in the Fundamentals of architecture Degree include subjects in the field of humanities, more specifically the core subjects of *“Architectural Regulation”, “History of Art and Architecture”, “History of architecture and town Planning”* and *“English Oral and Written Communication”,* as well as many of the corresponding to the subject of *“Experimental Workshop”*.
- Moreover, students are well prepared in the field of humanities during the Spanish High School, which has a sufficient number of subjects to form the student as a responsible person in society.
- In any case, the field of arts and science, including many of the optional subjects, represent around 60 ECTS, which means 20% of the total credits in the curriculum.

The objectives of the **ETSAM** one-year master’s degree program in Architecture shall ensure the acquisition of the following skills:

- Understanding of the methods of research and preparation of the brief for a design project.
- Ability to create architectural designs that satisfy both aesthetic and technical requirements, and the necessary design skills to meet building users’ requirements within the constraints imposed by cost factors and building regulations.
- Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors.

More specifically, the structure of Syllabus 2010 is as shown in the following table, including the modules, sub-modules and subjects mentioned earlier:

- TABLE 2.9: Modules, sub-modules and subjects of the Degree in Fundamentals of Architecture

List of Modules or Subjects of the Degree in Fundamentals of Architecture						
MODULES	SUB-MODULES	SUBJECTS	ECTS assigned	NATURE	TYPE	Teaching languages

List of Modules or Subjects of the Degree in Fundamentals of Architecture						
FOUNDATION SUBJECTS	DRAWING	Graphic expression	12	B	OB	S
		Specific graphic expression	12	BE	OB	S
		Introduction to architectural design	6	E	OB	S
	BASIC SCIENCES	Physics	12	B	OB	S
		Mathematics	12	B	OB	S
			3	E	OB	S
	MIXED	Complementary foundation subjects	6	E	OBDV	S
TECHNICAL	BUILDING	Building materials	6	E	OB	S
		Building	21	E	OB	S
		Legal architecture	6	E	OB	S
	STRUCTURES	Structures and foundations	30	E	OB	S
	INSTALLATIONS	Technical equipment and finishes	15	E	OB	S
ARCHITECTUR AL DESIGN	COMPOSITION	History	6	BO	OB	S
			6	E	OB	S
		Analysis and theory	6	BE	OB	S
			15	E	OB	S
	DESIGN	Architectural design	78	E	OB	S
	TOWN PLANNING	Town planning	24	E	OB	S
	ELECTIVE		Experimental workshop	6	E	OPT
Extension			6	E	OPT	S
MODERN LANGUAGE		Modern language	6	UPM	OB	-
FINAL YEAR PROJECT		Final Year Project	6	E	OBDV	S
EXEMPTIONS		Study recognition	24 max	UPM	OPT	-
		Syllabus 1996 adaptation	24 max	E	OPT	-
		External work placement	6 max	UPM	OPT	-
		Extra-curricular activities	6 max	UPM	OPT	-

• TABLE 2.10: Modules and subjects of the Master's degree in Architecture

List of Modules or Subjects of the Master's degree in Architecture					
MODULES	SUBJECTS	ECTS assigned	NATURE	TYPE	Teaching language

TECHNICAL	Construction and Facilities	4	8	E	OB	S
	Building Structures	4				
ARCHITECTURAL DESIGN	Architectural Composition	4	34	E	OB	S
	Projects Design	24				
	Architectural Communication	2				
	Town planning	4				
EXTENSION/ RESEARCH ON ARCHITECTURE	Architectural design	4-8	8	E	OPT	S
	Building and technology	4-8		E	OPT	S
	Building structures	4-8		E	OPT	S
	Town planning	4-8		E	OPT	S
	Theory and critique	4-8		E	OPT	S
	Specific graphic expression	4-8		E	OPT	S
	Mathematics and physics (Basic sciences)	4-8		E	OPT	S
	Technical equipment and finishes	4-8		E	OPT	S
	External work placement	4-8		E	OPT	S
MASTER'S DEGREE FINAL PROJECT	Project and technical development, presentation and defense of Final Project	10		E	OB	S

Syllabus 2010 is structured in semesters as the only way they may be studied, with 30 ECTS credits per semester, the equivalent of 750 hours of work by the student, 300 hours of which are classroom taught.

The semester structure is shown in the following table:

- TABLE 2.11: Subjects for the Degree in Fundamentals of Architecture:

YEAR	SUBJECT					
	SPANISH NAME	ENGLISH NAME	DPT.	TYP E	ECTS	
1 <sup>st</sup> YEAR	1 <sup>st</sup> SEMESTER	Geometría y dibujo de arquitectura I	Geometry and architectural drawing I	D.I.G.A	OB	6
		Dibujo, análisis e ideación 1	Drawing, analysis and	D.I.G.A	OB	6
		Geometría euclídea y proyectiva	Euclidean and projective	D.M.A	OB	6
		Introducción a la arquitectura	Introduction to Architecture	D.C.A	OB	6
		Taller propedeútico	Workshop	Dptos	OBDV	6
	2 <sup>nd</sup> SEMESTER					
		Dibujo, análisis e ideación 2	Drawing, analysis and ideation	D.I.G.A	OB	6

		Geometría y dibujo de arquitectura II	Geometry and architectural drawing II	D.I.G.A	OB	6
		Proyectos 1 - Iniciación	Architectural Design 1	D.P.A	OB	6
		Cálculo	Calculus	D.M.A	OB	6
		Historia del Arte y de la	History of Art and Architecture	D.C.A	OB	6

2 <sup>nd</sup> YEAR	3 <sup>rd</sup> SEMESTER	Proyectos 2	Architectural Design 2	D.P.A.	OB	9
		Mecánica Física	Physical Mechanics	D.F.I.A.	OB	6
		Materiales de construcción	Building Materials	D.C.T.A.	OB	6
		Ciudad y urbanismo	The City and Town Planning	D.U.Y.O.T	OB	6
		Curvas y Superficies	Curves and Surfaces	D.M.A.	OB	3
	4 <sup>th</sup> SEMESTER	Proyectos 3	Architectural Design 3	D.P.A.	OB	9
		Estructuras 1	Structures 1	D.E.E.	OB	6
		Física de las Construcciones	Building Physics	D.F.I.A.	OB	6
		Análisis de la Arquitectura	Architectural Analysis	D.C.A.	OB	6
		Construcción 1	Construction and Building	D.C.T.A.	OB	3

3 <sup>rd</sup> YEAR	5 <sup>th</sup> SEMESTER	Proyectos 4	Architectural Design 4	D.P.A.	OB	12
		Construcción 2	Construction and Building	D.C.T.A.	OB	6
		Estructuras 2	Structural Design 2	D.E.E.	OB	6
		Historia de la Arquitectura y del Urbanismo	History of Architecture and Town Planning	D.C.A.	OB	6
	6 <sup>th</sup> SEMESTER	Proyectos 5	Architectural Design 5	D.P.A.	OB	12
		La ciudad y el Medio	The City and the Built	D.U.Y.O.T	OB	6
		Paisaje y jardín	Landscape and Garden	D.C.A.	OB	3
		Acondicionamiento ambiental y habitabilidad	Environmental Conditioning and Habitability	D.C.T.A.	OB	3
		Comunicación Oral y escrita en lengua inglesa	English communication	Several Dpts.	OB	6

4 <sup>th</sup> YEAR	7 <sup>th</sup> SEMESTER	Proyectos 6	Architectural Design 6	D.P.A.	OB	12
		Construcción 3	Construction and Building	D.C.T.A.	OB	6
		Estructuras 3	Structural Design 3	D.E.E.	OB	6
		Composición Arquitectónica	Architectural Composition	D.C.A.	OB	6
	8 <sup>th</sup> SEMESTER	Proyectos 7	Architectural Design 7	D.P.A.	OB	12

		Proyecto Urbano	Urban Project	D.U.Y.O.T.	OB	6
		Instalaciones y servicios técnicos	Technical Equipment and Services	D.F.I.A	OB	3
		Electrotecnia, luminotecnia y comunicación	Electric, Lighting and Media Technologies.	D.C.T.A.	OB	3
		Optativas / Taller Experimental	Experimental Workshop 1	Several	OPT	6

5 <sup>th</sup> YEAR	9 <sup>th</sup> SEMESTER	Proyectos 8 (MFG)	Architectural Design 8	D.P.A.	OB	12
		Mecánica del suelo	Soil Mechanics	D.E.E.	OB	6
		Arquitectura legal	Architectural Regulation	D.C.T.A.	OB	6
		Planeamiento y Territorio (MFG)	Urban and Land Planning	D.U.Y.O.T	OB	6
	10 <sup>th</sup> SEMESTER	Proyecto de sistemas constructivos y tecnológicos (MFG)	Building and Technology Systems Design	D.C.T.A.	OB	6
		Proyecto de estructuras (MFG)	Structural Design	D.E.E.	OB	6
		Proyecto de instalaciones (MFG)	Technical Equipment Design	D.F.I.A.	OB	6
		Intensificación opcional (MFG)	Optional Extension	Several	OPT	6
		Trabajo Fin de Grado (TFG)	Diploma Project	Several	OBD	6
		The Diploma Project carries a total academic weighting of 18 ECTS (12 in MTFG subjects and 6 for TFG subjects. This allows students to design their own Diploma Project working schedule.				

• TABLE 2.11: Subjects for the Master's degree in Architecture

YEAR	SUBJECT				
	SPANISH NAME	ENGLISH NAME	DPT.	TYP E	ECTS

YEAR 1	1 <sup>st</sup> SEMESTER	Taller de Composición	Architectural Composition Workshop	D.C.A.	OB	4
		Taller de Proyectos I	Projects Design Workshop I	D.P.A.	OB	4
		Taller de Proyectos II	Projects design workshop II	D.P.A.	OB	10
		Taller de Urbanismo	Urban and Regional Planning Workshop	D.U.Y.O.T	OB	4
		Optativas (*):	Optional subjects (*)		OPT	8
		Prácticas en empresas y estudios profesionales	Practices at architectural office and bussines		OPT	4
		Prácticas en empresas y estudios profesionales	Practices at architectural office and bussines		OPT	4

2 <sup>nd</sup> SEMESTER	Taller de comunicación arquitectónica	Architectural Communication Workshop	D.C.A.	OB	2
	Taller de Construcción y tecnología	Construction and Technology Workshop	D.C.T.A.	OB	4
	Taller de Estructuras	Building Structures Workshop	D.E.F.E.	OB	4
	Taller de Proyectos III	Projects design workshop III	D.P.A.	OB	10
	Trabajo Fin de Máster (TFM)	Final Master Project	D.P.A.	OBDV	10
<b>TOTAL ECTS credits</b>					<b>60</b>

OPTIONAL SUBJECTS (*)			
SPANISH NAME	ENGLISH NAME	DPT.	ECT S
Análisis crítico de proyectos fin de carrera	Critical analysis of final projects	D.C.A.	4
Estudio documental y arqueológico de construcciones históricas	Documentary and Archeological Studies of Historical Constructions	D.C.A.	4
La arquitectura ahora	Architecture now	D.C.A.	4
Accesibilidad en la Arquitectura	Accessibility in architecture	D.C.T.A.	4
Actividad empresarial del arquitecto	Architectural management	D.C.T.A.	4
Arquitectura religiosa y simbólica	Religious and symbolic architecture	D.C.T.A.	4
Bases constructivas del proyecto de arquitectura	Constructive basis of the architectural project	D.C.T.A.	4
Diseño integrado. La estructura en la construcción arquitectónica	Integrate design. Structure in building	D.C.T.A.	4
Instalaciones solares fotovoltaicas integradas en edificios y entornos urbanos	Photovoltaic installations integrated in buildings and urban environments	D.C.T.A.	4
Nuevos materiales de construcción	New materials applied to architectural project	D.C.T.A.	4
Seminario de arquitectura textil	Seminar on textile architecture	D.C.T.A.	4
Arquitecturas efímeras	Ephemeral architecture	D.I.G.A.	4
Intervención en lo ya construido (conservación, restauración, rehabilitación)	Intervention in built constructions (Conservation, restoration, rehabilitation)	D.I.G.A.	4
Estadística en los procesos del proyecto arquitectónico	Statistics in the process of architectural design	D.M.A.	4
Diseño geométrico asistido por ordenador:	Computer Aided Geometric Design: Free	D.M.A.	4

formas libres y en equilibrio	forms and forms in equilibrium		
Métodos informáticos en arquitectura	Computer methods in architecture	D.M.A.	4
Modelización y análisis numérico	Modeling and numerical analysis	D.M.A.	4
Dirección facultativa de obras	Technical construction management	D.C.T.A.	4
Bóvedas: su construcción y empleo en la arquitectura antigua	Vaults: construction and employment in ancient and modern architecture	D.E.F.E.	4
Arquitectura del siglo XX: teoría y crítica	Architecture of the 20th century: Theory and Criticism	D.C.A.	4
Fotogrametría para el levantamiento	Photogrammetry for survey	D.I.G.A.	4
Arquitectura y lugar: el plano de situación	Architecture and place: the situation plan	D.I.G.A.	4
Marketing, comercialización y comunicación de la Arquitectura	Marketing activity in architecture	D.C.T.A.	4
Herramientas de investigación en proyectos arquitectónicos	Tools for Research in Architectural Design	D.P.A.	4
Cambio climático, dinámica del paisaje y gestión del territorio	Climate change, landscape dynamics and land management	D.U.Y.O.T	4
Análisis socioeconómico	Socio-economic analysis	D.U.Y.O.T	4
Accesibilidades, ciudad y movilidad	Accessibility, cities and mobility	D.U.Y.O.T	4
Técnicas de planificación II	Planning techniques II	D.U.Y.O.T	4
Teoría crítica e historia del urbanismo	Planning history and critical theory	D.U.Y.O.T	4
Por una ciudad más sostenible: La nueva agenda	Towards a more sustainable city: new Urban Agend	D.U.Y.O.T	4
Complejidad y resiliencia: Procesos urbanos contemporáneos	Complexity and resilience: contemporary urban processes	D.U.Y.O.T	4
Estrategia, prospectiva y gobernanza en las ciudades contemporáneas	Strategy, foresight and governance in contemporary cities	D.U.Y.O.T	4
Teoría y práctica de la regeneración urbana en el Marco Europeo	Urban regeneration in the European framework	D.U.Y.O.T	4
Planificación ambiental y salud	Delivering healthier communities	D.U.Y.O.T	4
Urban Workshop	Urban Workshop	D.U.Y.O.T	4

### C. Requirements for acceptance on the program

Students applying for Syllabus 2010 to study on the Degree in Fundamentals of Architecture must fulfill the general requirements described in II.3. Specifically, entry rules comply with the contents of Article 14, paragraph 1, of Royal Decree 1393/2007 of 29 October, according to the modifications made by Royal Decree 861/2010 of 2 July. Likewise, UPM entry and registration requirements establish the following access routes to courses under the EHEA<sup>12</sup>:

- Route 1

<sup>12</sup> EHEA, European Higher Education Area



- Students from university entry examinations (EvAu)
  - Students from 2º High School
  - Students from University Foundation courses
  - Students from Vocational Training courses
  - Students with university degrees or equivalent or who present other valid entry qualifications
- Route 2 – Students from a College or School belonging to another University
  - Route 3 – Students from a UPM College or School
- ENTRY ROUTES FOR FOREIGN STUDENTS**
- Route 4 – Students with degrees from foreign universities

As far as the percentages of entry for each route, the rules applicable to each course will be followed.

Students wanting to access the two semesters of the Master's degree in Architecture must have completed the degree in Fundamentals of Architecture and therefore have the following skills and knowledge:

- TABLE 2.13: Skills acquired in the Degree of Fundamentals in Architecture and required for entry to the Master's degree

C1	Sufficient knowledge of the history and theories of architecture and of the related arts, technology and human sciences.
C 2	Knowledge of fine art as a factor that may influence the quality of the architectural concept.
C 3	Sufficient knowledge of urban development, planning and the techniques applied in the planning process.
C 4	An understanding of the problems involved in the concept of structure, building and engineering in relation to building design projects, and of the techniques for resolving them.
C 5	Sufficient knowledge of physical problems and various technologies, and of the function of buildings, to be able to provide them with internal conditions of comfort and protection against the weather.
C 6	Sufficient knowledge of the industries, organizations, regulations and procedures required for turning designs into actual buildings and integrating plans into the planning process.
C 7	Ability to understand the relations between people and buildings and between buildings and their surroundings, as well as the need to connect buildings and the areas between them according to human needs and scale.

#### D. Elective subjects and routes

Syllabus 2010 has elective subjects divided into two types, "Experimental workshops" and "Extension topics".

Experimental workshops may be attended by students in the 1st semester, with a maximum of 6 ECTS, with no specific route, and in the 8th semester with a further 6 ECTS, but with a particular route. In the 10th semester, students may study an extension subject, also with a maximum of 6 ECTS, to complete the route started in the 8th semester. With the knowledge acquired on this route, students can opt to undertake their Diploma Project as part of it. Students on the official Master's degree course may obtain a further 6 ECTS by studying new extension subjects in the 1st semester of their Master's, to increase their knowledge on the route they embarked on during the 8th semester.

The itineraries of the 8th semester of the Degree in Fundamentals of Architecture are fitted into one of the three modules contemplated under the Syllabus (Foundation, Technical or Architectural Design).

The following possible itineraries or routes are:

- Landscape as project
- Town planning
- Heritage
- Technology and sustainability
- Project instruments
- Architectural communication
- Architectural Review and Research

The subjects corresponding to each itinerary will be taught every semester, as long as there is a sufficient number of students applying for them.

### **E. Student exchange and work placements**

Under the program, students can opt to do activities outside the university that allow credits to be accumulated towards their degree in architecture. Two types of options are available: full semesters in other universities and professional company work placements.

Full semesters in other universities are organized through exchange agreements and there is a limit on the number of students in each case. The ETSAM has signed around 150 agreements with other universities for this kind of exchange program, mostly under the ERASMUS program, although it also takes part in other similar programs such as SICUE-SENECA and MAGALHAES as well as holding being a signatory to specific bilateral agreements.

ERASMUS is a European funded exchange program in which students from any university in a European Union member state may study for one or two semesters in another university. The program ensures that the content of students' period abroad is accepted by their home university as part of the curriculum. To do this, a teacher from the home university is responsible for making sure that the knowledge students will be acquiring in the host university are equivalent to what they would have been learning in the home university, enabling the credits obtained to be directly validated and recognized.

SICUE-SENECA is a similar program involving student exchange between Spanish universities. A prior agreement must also be in place to ensure equivalency between the subjects studied.

MAGALHÃES is an exchange program for Engineering and Architecture students in Europe and Latin America. It is based on the philosophy of the Erasmus program and is aimed at degree and master's students who wish to study either a full academic year or particular subjects at the host university. They can also opt to do their Diploma Project or Master's Degree Final Project for one or two semesters at the host university. Exchanges can only be done between universities holding a bilateral agreement.

Students registered at the UPM on degree courses lasting five years or more must have completed the first three years of their course; students registered on three-year diploma or degree courses must have completed the first two years. Studies undertaken in the host university are given full academic recognition by the home university.

The UPM announces the number of places and grants every year for these programs.

The total number of credits that may be recognized for carrying out university activities such as student representation or sports, cultural, cooperation and charity work may not exceed 6 ECTS.

### II.2.3 Curriculum Review and Development

For a better understanding of this section, an extract from chapter 9 (Quality Guarantee System) from the Application for Syllabus Validation Report is included below, collecting only the headings of its sections. The full text of the chapter can be seen in the appendix 6.

#### 9. "QUALITY GUARANTEE SYSTEM"

*The information contained in this section refers to the School's Internal Quality Guarantee System, which has been submitted to the AUDIT program run by ANECA and has obtained a favorable report from this body.*

##### 9.1. RESPONSIBILITY FOR THE SYLLABUS QUALITY GUARANTEE SYSTEM

*The department responsible for the system is the ETSAM Quality Strategy, which, like all departments in the School, will follow the standard procedure set out by the Universidad Politécnica de Madrid, under reference PR-ES-001 Elaboración y Revisión de Plan Anual de Calidad (Process for drawing up and reviewing the annual Quality Plan). The aim of it is to describe how ETSAM defines, reviews and maintains its institutional commitment to its Quality Policy constantly updated, plus the mechanisms and information sources that enable the decision-making process to focus on continuous improvement, with the participation of all the groups involved.*

*The ETSAM Sub-Directorate for Quality Management will be accountable for its actions to the School Quality Delegate Committee and follow the guidelines set by it.*

*The IQGS in place in ETSAM establishes the way in which the various interest groups (faculty, students, academic management, support staff and other external personnel) are involved in Quality Planning via the Internal Quality<sup>13</sup> Committee. This information may be consulted in the document "Quality Manual of the Escuela Técnica Superior de Arquitectura de la Universidad Politécnica de Madrid".*

*The main purpose of this Committee will be to monitor the activities of the PDI and the PAS, as well as of students on the program, and to ensure that quality targets are maintained, following the criteria laid down in the official documents for obtaining quality recognition. The Assessment and Planning Committee is also expected to be involved in meeting this objective. A number of Quality Assessment Committees may also be set up by the Quality Committee to take part in the process. A description of the actions and specific responsibilities of each one follows below.*

##### 9.2. TEACHING AND FACULTY QUALITY ASSESSMENT AND IMPROVEMENT PROCEDURES

###### 9.2.1 Teaching quality assessment and improvement procedures

*Information about the mechanisms for defining teaching-related quality objectives for the proposed degree may be found in the following references:*

- PR-ES-001 Elaboración y Revisión de Plan Anual de Calidad (Process for drawing up and reviewing the annual Quality Plan)
- PR-ES-002: Gestión de Títulos Oficiales (Management of Official Titles)

###### 9.2.2 Faculty quality assessment and improvement procedures

*Faculty members will be assessed by the students and by the Program Management team. Information about the mechanisms for defining faculty quality objectives for the proposed degree may be found in the following references:*

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<sup>13</sup> Internal Quality Guarantee System

- PR-SO-001: Gestión del PDI (PDI management)
- PR/SO/006 Gestión de Sugerencias, Quejas y Felicitaciones (Management of Suggestions, Complaints and Congratulations):
- PR-SO-007: Docencia (Teaching)
- PR-SO-008 Sistema de Encuestación UPM (Encuestas al PAS, PDI y Alumnos, Egresados y Empleadores) UPM Survey System (Surveys to PAS, PDI and Students, Graduates and Employers)

### **9.3. PROCEDURES FOR GUARANTEEING THE QUALITY OF EXTERNAL WORK PLACEMENTS AND MOBILITY PROGRAMS**

*If students undertake a series of training activities including external work placements and study periods in other universities, monitoring and assessing these activities is governed by a set of quality control procedures.*

#### **9.3.1 Procedures for guaranteeing the quality of external work placements**

*Information about the specification of activities ensuring that external work placements are carried out correctly (relations with companies and other organizations, selection and monitoring students, assessment and assigning credits, etc.) can be found in the following references:*

- PR-CL-003 Prácticas externas (External work placements)

#### **9.3.2 Procedures for guaranteeing the quality of Mobility programs**

*Information about the specification of activities ensuring that mobility programs are carried out correctly (agreements, student selection and monitoring, assessment and assigning credits, etc.) can be found in the following references:*

- PR-CL-004: Movilidad OUT: Proceso de Movilidad de Alumnus del Centro que realizan Estudios en otras Universidades, Nacionales o Extranjeras (Process for the mobility of students from the School who carry out study periods in other universities in Spain and abroad)
- PR-CL-005: Movilidad IN: Proceso de Movilidad de Alumnos que realizan Estudios en la UPM, procedentes de otras Universidades, Nacionales o Extranjeras (Process for the mobility of students from other universities in Spain and abroad who undertake study periods at UPM)

### **9.4. PROCEDURES FOR ANALYZING GRADUATES' INSERTION INTO THE JOB MARKET AND THEIR SATISFACTION WITH THE EDUCATION RECEIVED**

*The program has an employment bureau which receives job offers and forwards them to students. ETSAMM Management will put the appropriate mechanisms in place so that contact may be made between job market offer and demand. The Management will also provide advice on this topic for both students and organizations interested in employing young professionals. Once students from the Program have been employed, their progress and job performance will be monitored.*

#### **9.4.1 Procedures for analyzing graduates' insertion in the job market**

*Information on the description of methods available in the University to allow information on job market insertion of future graduates to be collected and analyzed can be found in the following references:*

- PR-CL-006: Orientación laboral (Job orientation process)
- PR-SO-008: Sistema de encuestación (Survey System)

#### **9.4.2 Procedures for analyzing satisfaction with the education received**

*Information on the description of methods available in the University to allow information on satisfaction with the education received to be collected and analyzed can be found in the following reference:*

- PR-SO-008: Sistema de encuestación (Survey System)

## **9.5. PROCEDURES FOR ANALYZING THE SATISFACTION OF THE VARIOUS GROUPS INVOLVED AND HOW SUGGESTIONS AND COMPLAINTS ARE DEALT WITH**

Every year a survey campaign will be run to ascertain the level of satisfaction of groups connected with the proposed study program. Royal Decree 1393/2007 and the Support Guide produced by ANECA state that the groups involved for which procedures for analyzing satisfaction levels should be set up are: students, PDI and PAS.

Information on the specification of how the information on levels of satisfaction will be used to review and improve the syllabus can be found in the following reference:

- PR-SO-008: Sistema de encuestación (Survey System) Mentioned above

### **9.5.1 Procedures for analyzing the satisfaction of the various groups involved**

The analysis of how suggestions and complaints are dealt with will be done according to UPM Procedure "PR 14: Gestión de Incidencias, Reclamaciones y Sugerencias" (Management of incidents, complaints and suggestions).

Information on the specification of the procedures for collecting and analyzing information on the satisfaction of the groups involved in the degree program can be found in the following reference:

- PR-SO-008: Proceso de Encuestas de Satisfacción (Satisfaction surveys process)

### **9.5.2 Procedures for analyzing how suggestions and complaints will be dealt with**

Information on the specification of the appropriate procedures for collecting and analyzing suggestions and complaints made by students can be found in the following reference:

- PR-SO-006: Gestión de Quejas, Sugerencias y Felicitaciones (Management of complaints, suggestions and congratulations)
- PR-ES-001: Evaluación y Revisión del Plan Anual de Calidad (Process of drawing up and reviewing the Annual Quality Plan, already mentioned) Previously described.

### **9.5.3 Procedures for ensuring transparency and full information is given to interest groups**

Information on the specification of procedures for publishing information that will reach everyone involved in or interested in the syllabus, how it is developed and its outcomes can be found in the following reference:

- PR-ES-004: Publicación de la Información sobre las Titulaciones que oferta el Centro (Process for publishing information on degrees offered by the School)

## **9.6. PROCEDURES FOR REGULATING THE TERMINATION OF THE SYLLABUS**

The proposed degree may be suspended if one of the following circumstances applies:

- When the new degree replacing it has been authorized and registered in the RUCT.
- If the Syllabus has been modified to such an extent that the nature and objectives of the degree are changed.
- If the accreditation process is unsuccessful.
- If there is a fall in demand to below a previously set level for the degree.

Information on the specification of the criteria for cancelling a degree course, either temporarily or definitively, and the mechanisms for safeguarding the rights and commitments acquired with students (criteria referring to student numbers, teacher qualifications and material resources) can be found in the following reference:

- PR-ES-002: Gestión de Títulos Oficiales, en su subproceso SBPR-ES-002-04 Extinción de Títulos Oficiales (Management of Official Titles, in its sub-process SBPR-ES-002-04 Terminating of Official Titles)

## Part Two (II), Section III: Evaluation of Preparatory/Pre-professional Education

Although this topic has also been described in point I.2.1 “**Human resources & Human Resource Development / b. Students / b.1 Applicant evaluation and selection process for admission to the School**”, the most important aspects are discussed here.

Students may access to ETS Architecture to study the degree of Fundamentals in Architecture, as for any other university, in the following ways:

- After having completed their secondary school studies, for students under the age of 25, and having passed the University access examinations (Pruebas de Acceso a la Universidad, EVAU).
- Having obtained a degree or diploma from a university.
- Having studied at least 30 credits in a University.
- Students from European member states who are eligible for university access in their home country.
- Foreign students who have had their studies approved in Spain.
- Student who have successfully undergone the university access procedure for qualifications obtained from Higher Technical professional or artistic training, who are aged over 25, according to Law 6/2001, who have professional accreditation, Law 4/2007, or who are aged over 45.

The university access examination comprises two parts,

- The general compulsory phase, which is intended to assess students' maturity and basic skills, especially in understanding messages, use of language to analyze, relate, summarize and express ideas, basic understanding of a foreign language and the basic knowledge or techniques in a subject area. This part of the exam consists of three exercises: the first is a text commentary plus language and literature content; the second assesses knowledge of one of the following subjects: History of Philosophy, History of Spain, Science for the Contemporary World, or Philosophy and Citizenship; the third is oral and reading comprehension plus oral and written expression in a foreign language. Each part carries a mark of 0 to 10 and the overall mark is the arithmetical average of the three.
- The specific voluntary phase aims to assess students' knowledge and reasoning ability in fields related to the courses they are hoping to study and enables them to improve on the mark obtained in the general phase. Marks are awarded from 0 to 10.

Marks for the university access examination are based on 60% of the average grade obtained during secondary school, plus 40% of the average mark in the general exam, plus the results of the two best marks in the subjects answered in the specific phase, each multiplied by a coefficient of 0.1 or 0.2 depending on the relevance of the subject to the area of knowledge of the degree applied for.

*Admission mark = 0.6 x Average Secondary Studies Mark + 0.4 x Average University Access Exam Mark + a x Subject 1 + b x Subject 2, with a and b being coefficients with a value of 0.1 or 0.2.*

For Fundamentals in Architecture, the subjects with a coefficient of 0.2 are: Technical Drawing, Physics, Mathematics II, and those with a coefficient of 0.1 are: Biology, Earth and Environmental Sciences, Design, Company Finance, Electrotechnics, Chemistry, Industrial Technology II and Economy.

The other access procedures also have specific access tests, but numbers are low.

The access mark for the 2013-2014 academic year was 9.978 for Group 1, consisting of students from University Access Examinations and Vocational Training, and 7.36 for Group 2, with other equivalent degrees and qualifications.

## **Part Two (II), Section IV: Public Information**

### **II.4.1 Statement on International Certification Degrees**

In order to ensure that all members of the ETSAM community (faculty, students and staff) have as much information as possible on the NAAB accreditation process currently being followed by the School, as well as the necessary data for the practice of architecture in the USA, a section has been made available on the School web site where information about the process is being published and updated. The link is as follows:

<https://etsam.aq.upm.es/v2/es/escuela/lineas-estrategicas/calidad/acreditaciones>

### **II.4.2 Access to NAAB Conditions and Procedures**

Likewise, links are included to the NAAB web site which shows the conditions for accreditation granted by this organization.

<https://www.naab.org/>

<https://www.naab.org/international/international-certification/>

### **II.4.3 Access to Career Development Information**

The ETSAM career information is accessible at the ETSAM website itself

<http://etsamadrid.aq.upm.es/estudios/grados/plan2010-general2>, and more specifically in the section entitled: Información General (General Information). Also directly from the webpage of UPM:

[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/EstudiosOficialesGrado/ArticulosRelacionados?fmt=detail&prefmt=articulo&id=a166b8e68f6d6210VgnVCM10000009c7648a](https://www.upm.es/Estudiantes/Estudios_Titulaciones/EstudiosOficialesGrado/ArticulosRelacionados?fmt=detail&prefmt=articulo&id=a166b8e68f6d6210VgnVCM10000009c7648a)

### **II.4.4 Public Access to Program Self-Evaluation Reports and Visiting Team Reports**

As mentioned above, information on this APR and VTR is included in the section set up for this purpose on the ETSAM web site:

<https://etsam.aq.upm.es/v2/es/escuela/lineas-estrategicas/calidad/acreditaciones>

And the links to the archives directly are:

[http://etsamadrid.aq.upm.es/sites/default/files/APR\\_SE\\_VISIT%203\\_ETSAM\\_UPM%20v4.pdf](http://etsamadrid.aq.upm.es/sites/default/files/APR_SE_VISIT%203_ETSAM_UPM%20v4.pdf)

[http://etsamadrid.aq.upm.es/sites/default/files/UPM-VTR-SEv3\\_final.pdf](http://etsamadrid.aq.upm.es/sites/default/files/UPM-VTR-SEv3_final.pdf)

Also, you can find a copy of the APR and the VTR as well as the last version of the Conditions and Procedures for Substantial Equivalency at the Library of the ETSAM, available to students, faculty, staff, parents and the general public.

### **II.4.5. Admissions and Advising**

#### **A. Bachelor's Degree**

The información about the Bachelor's Degree in Fundamentals of Architecture can be found on:

[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/EstudiosOficialesGrado/ArticulosRelacionados?fmt=detail&prefmt=articulo&id=a166b8e68f6d6210VgnVCM10000009c7648a](https://www.upm.es/Estudiantes/Estudios_Titulaciones/EstudiosOficialesGrado/ArticulosRelacionados?fmt=detail&prefmt=articulo&id=a166b8e68f6d6210VgnVCM10000009c7648a)

Admissions and enrollment take place at the University. Information on the Pre-registration and enrollment process can be found on:

<https://www.upm.es/FuturosEstudiantes/Ingresar>  
<https://www.upm.es/FuturosEstudiantes/Ingresar/Matriculacion>

The School has the information on the degrees and courses on the website:

<http://etsamadrid.aq.upm.es/>

The initial information refers to the "Welcome Day" for new students and information to the beginning of the course: [Information Year Start 2020 \(upm.es\)](http://etsamadrid.aq.upm.es/informacion-year-start-2020)

In addition, all the General Information, Calendars, Teaching Schedule, Classrooms, Faculty that teach each group of each subject, how to choose the groups and Experimental Workshops 1 and 2, etc., can be found on the following sites:

<http://etsamadrid.aq.upm.es/estudios/grados/plan2010-general2>  
<http://etsamadrid.aq.upm.es/node/6064>

In addition, the Student Delegation publishes a Guide to help new students learn about the different possibilities that can be presented to them at the School. It can be found on:

[Student Guide 2021 web.pdf \(upm.es\)](http://etsamadrid.aq.upm.es/estudios/grados/plan2010-general2)

Also, the Mentor Program has an important function in the welcome to the new students.

## B. Master's Degree

The information about the Master's Degree in Architecture can be found on:

[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master/Programas?id=3.16&mt=detail](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master/Programas?id=3.16&mt=detail)

Likewise, the information about the Master Pre-registration, admission and enrollment process can be found on the UPM websites:

[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master)  
[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master/Admision](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master/Admision)  
[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master/Matricula](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master/Matricula)

The ETSAM informs also on its website about the pre-registration, admission and enrollment process:

[http://etsamadrid.aq.upm.es/sites/default/files/2014-2015/master-arquitectura/acceso\\_master\\_arq.pdf](http://etsamadrid.aq.upm.es/sites/default/files/2014-2015/master-arquitectura/acceso_master_arq.pdf)  
[http://etsamadrid.aq.upm.es/sites/default/files/2014-2015/master-arquitectura/acceso\\_master\\_arq.pdf](http://etsamadrid.aq.upm.es/sites/default/files/2014-2015/master-arquitectura/acceso_master_arq.pdf)  
<http://etsamadrid.aq.upm.es/master-arquitectura/preinscripcion>  
[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master/Matricula](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master/Matricula)  
<https://www.upm.es/helios/?idioma=E>

Also, ETSAM website has the general information about the Master, with the information about the general calendar and the evaluation calendar (exams), the day of the courses presentations and the way to choose them as well as the information about the ones available to be chosen each semester.

<http://etsamadrid.aq.upm.es/master-en-arquitectura>

### II.4.6 Student Financial Information

The Polytechnic University of Madrid is a Public University, financed with public funds. Periodically, the Government of the Community of Madrid sets the academic fees for all levels of education, including the University and its Degrees, Masters and Doctorates.

The 2020-2021 academic fees can be found on the page published in Decree 116/2018 of July 31:

[http://www.bocm.es/boletin/CM\\_Orden\\_BOCM/2018/08/03/BOCM-20180803-1.PDF](http://www.bocm.es/boletin/CM_Orden_BOCM/2018/08/03/BOCM-20180803-1.PDF)



The Teaching of Architecture corresponds to the Degree of Experimentation 2 and the Fees are the following:

#### A. Bachelor's Degree

[https://admision.upm.es/grado/informacion\\_matricula](https://admision.upm.es/grado/informacion_matricula)

BACHELOR DEGREE FEES PER CREDIT IN EUROS – ACADEMIC COURSE 2020-21				
Level of experimentality	First registration	Second registration	Third registration	Fourth and successive registrations
1	26,14	48,03	98,75	136,44
<b>2</b>	<b>24,55</b>	<b>45,25</b>	<b>92,86</b>	<b>128,57</b>
3	21,39	40,02	82,30	113,71

The price for a full year (60 ECTS) in first registration will be:

- Bachelor Degree in Fundamentals of Architecture: **1,473,00 €**
- Master's Degree: The Fees of the Master's Degree in Architecture are those corresponding to the rest of Master's degrees:

[https://www.upm.es/Estudiantes/Estudios\\_Titulaciones/Estudios\\_Master/Matricula](https://www.upm.es/Estudiantes/Estudios_Titulaciones/Estudios_Master/Matricula)

	Community Student (European Union)	Extra-Community Student (*)
Master's in Teacher Training	24,24 € / crédito	126,00 € / crédito
Masters in Annex I	29,78 € / crédito	154,80 € / crédito
Rest of master's degrees	45,02 € / crédito	84,07 € / crédito

MASTER DEGREE FEES PER CREDIT ECTS IN EUROS – ACADEMIC COURSE 2020-21			
Master Type	First registration	Second registration	Third registration and successive registrations
Rest of Master's Degree	45,02	71,88	84,07

Therefore the price of the Master in Architecture for a full year (60 ECTS) in first registration will be: **2.701,20 €**

## **APPENDICES**