



# THE UNIVERSITY SAN PABLO CEU

## ARCHITECTURE PROGRAM REPORT

APPLICATION FOR 'SUBSTANTIAL EQUIVALENCY'  
FOR

**GRADO EN ARQUITECTURA**  
**(DEGREE IN ARCHITECTURE)**

submitted to the NAAB  
The National Architectural Accrediting Board, Inc.

Year of Previous Visit: (Visit 2) March 2013

prepared by  
ESCUELA POLITECNICA SUPERIOR  
UNIVERSIDAD SAN PABLO CEU  
MADRID (SPAIN)

October 2014

## COVER PAGE

a. Name of Institution:

Fundación San Pablo CEU (San Pablo CEU Foundation)  
**Universidad San Pablo CEU (the University San Pablo CEU)**  
Escuela Politécnica Superior (Institute of Technology - EPS)

b. Degree program proposed:

**GRADO EN ARQUITECTURA (Degree in Architecture).**

c. Name, address, email, and telephone contact information for the following individuals:

i. Program administrator:

**Federico de Isidro Gordejuela**  
**Director, División de Arquitectura and Edificación**  
Address: Universidad San Pablo CEU, Escuela Politécnica Superior, Campus Montepríncipe,  
Boadilla del Monte, 28668 Madrid, Spain  
Email: isidro.eps@ceu.es  
Tel.: +34 91 372 40 17

ii. Head of academic unit in which the program is located:

**Federico de Isidro Gordejuela**  
**Director, División de Arquitectura and Edificación**  
Address: Universidad San Pablo CEU, Escuela Politécnica Superior  
Campus Montepríncipe, Boadilla del Monte, 28668 Madrid, Spain  
Email: dirarqeps@ceu.es  
Telephone: +34 91 372 40 17

iii. Chief academic officer

**David Santos Mejía**  
**Director, Escuela Politécnica Superior**  
Address: Universidad San Pablo CEU, Escuela Politécnica Superior  
Campus Montepríncipe, Boadilla del Monte, 28668 Madrid, Spain  
Email: directoreps@ceu.es  
Telephone: +34 91 372 40 16

iv. President of the institution

**Juan Carlos Domínguez Nafría**  
**Rector, Universidad San Pablo CEU**  
Address: Universidad San Pablo CEU, C / Julián Romea, 23 - 28003 Madrid, Spain  
Email: rector@uspceu.es  
Telephone: +34 91 456 63 00

# TABLE OF CONTENTS

## **PART I. INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS IMPROVEMENT**

- I.1 Identity and Self-Assessment
  - I.1.1 History and Mission
  - I.1.2 Learning Culture and Social Equity
  - I.1.3 Responses to the Five Perspectives
  - I.1.4 Long Range Planning
  - I.1.5 Program Self-Assessment
- I.2 Resources
  - I.2.1 Human Resources
  - I.2.2 Administrative Structure and Governance
  - I.2.3 Physical Resources
  - I.2.4 Financial Resources
  - I.2.5 Information Resources
- I.3 Institutional Characteristics
  - I.3.1 Statistical Reports
  - I.3.2 Faculty Credentials
- I.4 Policy Review

## **PART II. EDUCATIONAL OUTCOMES AND CURRICULUM**

- II.1 Student Performance Criteria (SPC)
- II.2 Curricular Framework
  - II.2.1 National Authorization
  - II.2.2 Professional Degrees and the Curriculum
  - II.2.3 Curriculum Review and Development
- II.3 Evaluation of Preparatory/Pre-professional Education
- II.4 Public Information
  - II.4.1 Statement on Substantially Equivalent Degrees
  - II.4.2 Access to NAAB Conditions and Procedures
  - II.4.3 Access to Career Development Information
  - II.4.4 Public Access to APRs and VTRs

## **PART III. SUMMARY OF RESPONSES TO THE TEAM FINDINGS FROM VISIT 2**

- III.1 Responses to Conditions Not Met
- III.2 Responses to Causes of Concern
- III.3 Summary of Responses to Changes in the NAAB Conditions

## **PART IV. SUPPLEMENTARY INFORMATION**

- IV.1 Course Descriptions
- IV.2 Faculty Résumés
- IV.3 Visiting Team Report (VTR) from the previous visit s
- IV.4 Catalog (or URL for retrieving online catalogs and related materials)

# I. INSTITUTIONAL SUPPORT AND COMMITMENT TO CONTINUOUS IMPROVEMENT

## I.1 Identity and Self-Assessment

### I.1.1 History and Mission

#### a. Brief history of the Institution, its mission, its fundamental principles and how they pertain to the current context

##### a.1. The Fundación Universitaria San Pablo CEU

The *Fundación Universitaria San Pablo CEU* (the University San Pablo CEU Foundation) is a private, not-for-profit educational institution whose alumni include renowned Spanish architects, lawyers, doctors, journalists, engineers, historians, scientists, and businesspeople. Founded by Ángel Herrera Oria in 1933, classes in what was then known simply as the *Centro de Estudios Universitarios* (CEU) started with six professorships for a small number of law students. Since then, the center has thrived, with only a relatively brief interruption of classes during the Spanish Civil War.

In 1945, the CEU was officially recognized as a center affiliated with the University of Madrid. The CEU first offered a course in architecture under the terms of a 1967 agreement with the public *Universidad Politécnica de Madrid*. Five years later, the CEU changed its name to the *Fundación Universitaria San Pablo CEU*. This Foundation focuses not only on university studies but on all levels of education, from preschool to postgraduate.

The University San Pablo CEU was officially recognized by the Spanish parliament in 1993 (see the *Boletín Oficial del Estado* (Official State Gazette) dated 10th April 1993). Two other private universities also belong to this Foundation.

**Mission and Goals.** The *Fundación Universitaria San Pablo CEU* was established with the mission to contribute to the creation of a better society by providing a comprehensive model for coeducation advancing principles of justice in the public sphere. Its goals are to achieve academic and professional excellence, develop innovative teaching methodologies and educate students in humanistic values and integrity.

**Educational model.** The Foundation's educational model is based on the search for truth and knowledge, the development of critical thinking, and the promotion of active participation in public life. Its distinctive features are its interdisciplinary nature, support processes of internationalization, social commitment, a tutoring system, continuous assessment, close contact between the academic and professional worlds, and adherence to the principles of Catholic humanism.

**Academic programs.** The *Fundación Universitaria San Pablo CEU* offers more than 200 programs covering all educational levels:

- Secondary education (10 schools).
- Higher and professional education (4 affiliated centers and vocational schools).
- Universities (3 universities, located in Madrid, Barcelona, and Valencia).
- Postgraduate education (5 centers, located in Madrid, Valencia, and Valladolid).
- Doctoral programs (forming part of the 3 universities).
- International programs (forming part of the 3 universities): bilingual programs, international academic mobility programs, international professional practice and Summer School.
- Universitas Senioribus (university education for mature students aged 40 and over).

## a.2. The University San Pablo CEU

In its declaration of principles the University San Pablo CEU defines itself as a participatory academic community which, inspired by the values of Catholic humanism, seeks to contribute to the development of individuals, and to satisfy the social needs of the public sphere. Academic excellence is the main objective behind all activities organized by this university.

The aim of its educational programs is to enable students to develop their powers of reasoning, to understand the connections between concepts, to broaden their knowledge of each subject area (starting with the basics and building to master the details), and to understand the principles and practice of problem-solving. At the same time, the University San Pablo CEU strives to improve students' oral and written communication skills and their ability to construct arguments, to use new learning technologies effectively. It exposes students to the realities of professional practice as early as the first year of their degree studies. All in all, the University San Pablo CEU may be characterized by its emphasis on:

- Humanistic education.** San Pablo CEU provides students with a humanistic and Christian education by programming courses on Anthropology, History and Society, Great Books and Catholic Social Teaching.
- Practical training.** All subjects taught within a degree include practical components which guarantee that students not only acquire solid theoretical and technical knowledge, but also the capacity to solve a variety of problems according to a clear set of ethical values.
- Sufficient proficiency in a second modern language to exercise professionally.** All students are required to speak a second language to a level appropriate to their field of choice. The Architecture Program is also offered as a bilingual course (Spanish and English).
- Individual and academic tutoring.** The program involves two kinds of tutoring: one individual, whose aim is to provide guidance to students throughout their time at the university and the other academic, which is delivered in small tutor groups in which students engage in a series of complementary activities. The system seeks to develop an in-depth understanding of a range of subjects that would not be possible were the course taught only through lectures and seminars. Thus, academic tutoring provides students with direct access to the key aspects of each subject by providing an opportunity to tackle problems and face situations and practices similar to those they will encounter in their professional lives.

The University San Pablo CEU has a prestigious instructional faculty made up of individuals with well-established professional and academic careers. Our faculty is responsible for CEU San Pablo's reputation for high-quality teaching and research. The university offers state-of-the-art resources and facilities, adapted to the latest European educational requirements. It provides students with the option to participate in work placements in Spain and abroad. It also offers the unique opportunity to study in bilingual programs (English

and Spanish), providing students with a degree that opens the way to international academic and professional careers. The University San Pablo CEU belongs to an extensive network and is able to offer numerous exchange agreements with prestigious universities across the globe.

### a.3. The Institute of Technology (EPS)

Founded in 2000, the *Escuela Politécnica Superior* (Institute of Technology, EPS) is one of the University San Pablo CEU's six faculties and schools. It was officially recognized by Decree 147/2001 of 6 September 2001, published in issue 218 of the *Boletín Oficial de la Comunidad de Madrid* (Official Gazette of the Community of Madrid) on the 13 September 2001. The EPS was authorized to start operating by Decree 2316/2002 of 23 May 2002, published in the Official Gazette of the Community of Madrid on 6 June 2002.

Between 2001 and 2009 the University San Pablo CEU took over responsibility for providing architectural training, which had previously been provided by the *Universidad Politécnica de Madrid*. In 2010 it began implementation of a newly-designed curriculum in line with the framework established by the European Higher Education Area.

The configuration of the program; the teaching order, the methodology which the University San Pablo CEU has been developing since 1993, the tutoring, learning and assessment systems designed to ensure that goals are met, the professional practice program, the characteristics of the Final Degree Project (see Part II, Section 2.2), the quality of our academic staff, and many other factors come together to make our Degree in Architecture unique.

### a.4. Timeline

- 1908** Foundation of the ***Asociación Católica de Propagandistas*** (ACdP). Founder: Ángel Ayala.
- 1933** Foundation of the ***Centro de Estudios Universitarios (CEU)***. Founder: Ángel Herrera Oria. Classes start in 1933 with six professorships for a small number of law students. Since then, classes have only been interrupted once by the Spanish Civil War.
- 1945** Official recognition of the **CEU** by the Spanish Ministry of Education as a private educational center affiliated with the public *Universidad Complutense of Madrid*.
- 1967** Initiation of architectural studies at the CEU.
- 1969** The CEU becomes a not-for-profit educational foundation known as the ***Colegio Universitario San Pablo CEU***, as a dependency of the *Universidad Complutense de Madrid*. In cooperation with several public universities degrees are offered in Law, Economics and Business Administration, Humanities, Architecture and Civil Engineering.
- 1972** The *Fundación Colegio Universitario San Pablo* becomes the ***Fundación Universitaria San Pablo CEU (FUSP)***

- 1993** *Universidad San Pablo CEU (the University San Pablo CEU)* becomes the first not-for-profit, private university in Spain's democratic period regulated by Royal Decree 557/1991 12 April 1991, on the creation and recognition of Universities and University Centers.
- 2001** The *Escuela Politécnica Superior (Institute of Technology -EPS)*, founded as part of the **University San Pablo CEU**, first offers the Official Qualification as Architect
- 2005** All centers are unified under the name **CEU**. Today, CEU offers programs at all educational levels, from elementary school to postgraduate studies. It includes more than 20 educational centers across Spain, offering more than 200 official degrees to 25,000 students. CEU has approximately 160,000 students and 2,600 faculty members.
- 2006** Initiation of the bilingual adaptation of the 2001 Architecture Program (20% of the curriculum adapted by 2006)
- 2010** Establishment of new curricula within the framework of the European Higher Education Area
- 2012** Completion of the bilingual adaptation of the 2001 Architecture Program

**b. Brief history of the program, its mission, its fundamental principles, and how they pertain to the current context**

The *Escuela Politécnica Superior (EPS)* was established as a dependency of the University San Pablo CEU in 2001. The EPS offers diplomas and degrees in Architecture, Construction Engineering, Telecommunication Systems Engineering, and Information Systems Engineering. In 2012-2013, new degrees in Biomedical Engineering, Landscape Architecture, Advanced Architectural Design, Urban and Interior Design were offered.

Architectural studies at CEU were first offered in 1967. At that time it was affiliated with the Superior Technical School of Architecture, Madrid (ETSAM), part of the Polytechnic University of Madrid (UPM).

While architectural education and practice are different undertakings, there is a particularly close and fertile correspondence between the two in Spain. These are disciplines requiring high professional capacity and academic rigor. The academic programs at EPS offer students all the necessary resources, both material and human, to complete their studies successfully. Our tutoring systems, personalized support, and dedicated faculty are all key to our well-established reputation, earned over the 45 years during which we have been providing technical education.

The best way to understand our learning environment and the results it achieves is a visit to our new Montepíncipe Campus, complete with modern and well-equipped teaching and learning facilities. Moreover, our pride and joy is what hangs along the corridors and on our walls: the work produced by our faculty and students.

### b.1. Program mission.

The program's mission is to train architects for successful professional and academic careers who are capable of serving society, able to work in multidisciplinary teams, to respond to changing circumstances, exercise leadership roles and successfully face the challenges of the 21st century.

**Comprehensive training.** Learning architecture and practicing it are quite different propositions, nevertheless Spain is fortunate in the close link between the two; it is a field which requires a high degree of professionalism and academic rigor. As a result, architects of the School of Madrid have focused on theoretical research, innovative construction methods, social concerns and urban utopias, as can be seen in the great works of Luis Gutiérrez Soto, Francisco Asís Cabrero, Alejandro de la Sota, Francisco Javier Sáenz de Oíza, Fernando Higueras, Miguel Fisac, Rafael Moneo, Enric Miralles, Luis Moreno Mansilla and Andrés Perea.

Architecture at the EPS enables students to integrate all the discipline's fields into their architectural design practice. The future architect must master not only graphic standards and tools, but also have a sound knowledge of humanities and history, an excellent command of construction techniques, an understanding of structures, environmental and mechanical systems, a heightened awareness of social needs and the requirements of sustainability. Graduates acquire not only knowledge but also the skills they will require to practice professionally, such as self criticism, teamwork, problem solving, decision making, work and time planning, and the ability to adapt to new situations, environments and people.

A comprehensive training of this kind enables further specialization in a wide variety of fields and provides students with a solid education enriched by a holistic understanding of architecture.

**Professional qualification.** The Official Degree in Architecture awarded by the University San Pablo CEU entitles the holder to practice in Spain as required by the following regulations:

- European Council Directive 85/384/EC, of June 10 1985, which establishes the conditions for the mutual recognition of diplomas, certificates and other titles in the architectural sector of member countries.
- Royal Decree 314/2006 of March 17 2006, which establishes the *Código Técnico de la Edificación* (the Building Regulations - CTE), in Spain.
- European Council Directive 2005/36/EC of September 7 2005, relative to the recognition of professional competences in the European Community.
- Order ECI/3856/2007 of December 27 2007, the current guidelines in Spain covering the award of diplomas entitling holders to practice as architects.

**Critical thinking and leadership skills.** In addition to fulfilling the minimum contents required by Spanish law, the architectural program at the university seeks to develop critical thinking in its students so that, within the framework of globalization and the latest scientific developments, they are equipped to tackle social and economic problems in diverse cultural and environmental contexts. The importance given to developing autonomous thinking among students centers mainly on workshop and studio assignments (e.g. preparatory graphics, architectural project design, urban planning studies). By developing their independent thinking skills, students broaden their leadership skills and are prepared to face the global challenges of the coming years.

**Interaction between learning and real-life contexts.** The program's teaching strategies include the incorporation of specific problems of varying complexity into our project and urban planning studio. This reinforces the social and environmental commitment of students, as institutions from all tiers of government are involved (e.g. the municipal authorities of Alcorcón, the metropolitan area and the regional government of the Community of Madrid). We currently liaise with other universities to provide our students with a more global and international outlook, running studio sessions and workshops with institutions such as MIT, Syracuse University, Zhejiang University, Columbia University, the Pontificia Universidad Católica de Chile, the TEC de Monterrey and several European universities. All projects aim to train our students to analyze and resolve concrete problems.

**Business training.** The program encourages students to develop prototypes and to present them to companies and entrepreneurship competitions. It extends similar support to former students after graduation

## **b.2. Program vision**

In addition to the changes in course content caused by new regulations from the Spanish government or the European Higher Education Area, the architectural program must rise to the challenges posed by today's international and multicultural climate, in which architects must work in a wide variety of places according to different work systems and environments. Over the past four years, many of our graduates have been notably successfully working all over the globe; they are appreciated because of their holistic, multidisciplinary training, which allows them to adapt easily to different settings. Therefore, the program aims to further improve its pedagogical strategies and to develop different disciplines (scientific, humanistic, technical and project-oriented) in order to produce excellent architects with a broad understanding of the challenges that will emerge over the next 25 years.

The program is ethically committed to the environment, with a particular focus on ecological sustainability and development aid. Both commitments are central to the institution's philosophy.

We also encourage our academic staff to increase their research activities (whether technical, humanistic, urban or project-oriented), to improve their scientific output and expand their contacts with other disciplines within the *Escuela Politécnica Superior*, in order to increase the amount of interdisciplinary work carried out.

## **b.3. Internationalization**

The University San Pablo CEU strongly supports the growing internationalization of our school and program. The bilingual program, studio sessions, the Summer School and our participation in the European Erasmus Mobility Program have all been designed to give more international exposure to our faculty and student body.

The faculty and students are greatly interested in learning from other cultures and methodologies, and in blurring geographic and language boundaries for the sake of the common good.

#### **b.4. Commitment to Sustainability.**

To a greater or lesser extent, all disciplines in our program reflect a strong commitment to sustainability, understood in a broad sense, including social, economic, conceptual, pedagogical, climate and construction issues, which have the potential to transform architectural and planning practices.

The Sustainability Laboratory is an interdepartmental body that aims to advance knowledge and evaluate the annual results of each field of study taught at San Pablo CEU, ensuring the effective training of architects capable of facing future challenges.

We predict that in the coming years the Sustainability Laboratory will raise teacher and student awareness of the importance of sustainability on a variety of levels, simultaneously contributing to a positive change in the contents and strategies of all subjects taught within the degree.

#### **b.5. Commitment to development aid in disadvantaged settings**

In harmony with our institutional philosophy the program is committed to the development of individuals, especially the most disadvantaged. In pursuit of this aim students are required to take part in coordinated projects.

Current initiatives in this area include agreements with the Abomey-Calavi University in Benin and Makeni University in Sierra Leone. These initiatives are designed to encourage students to work across different courses (for example urban planning and design projects) and to gain concrete practical experience of working in specific places and complex social, urban and economic contexts.

Construction has already begun on new buildings on campus. This provides an opportunity for our students to apply what they have learned in different subjects (e.g. urban planning, design projects) in a real social, urban, and economic context, providing them with valuable work experience. Moreover, the university facilitates contacts with financial institutions, promotes research activities in coordination with other programs, and encourages academic staff and students to work on projects together.

### **c. How the program contributes to and benefits from the institutional framework (through discovery activities, teaching, commitment and service)**

#### **c.1. How the architectural program benefits the University**

The program makes the following contributions to the university:

- The internationalization of the program as a pilot center of the FUSP CEU.
- Development of master degrees in collaboration with other centers or faculties at the University San Pablo CEU (e.g. Master en Arquitectura, Organización y Gestión de Infraestructuras Hospitalarias, with the School of Medicine).
- Development of master degrees in collaboration with other Universities (e.g. Master in Urban Design, with Milano Polytechnic)
- Development of research projects financed from external sources such as the Spanish government, business and industry.

- Exploring new territories in Design, in collaboration with other faculties (e.g. School of Humanities and Media Studies) with the introduction of a new Degree in Design (profiles of Visual Communication Design and Interior Design)

Among these projects the following stand out:

- Project: *'Bali': integral design of acoustically efficient systems and buildings in a healthy environment*. Financed by the Ministry of Science and Innovation.
  - Project: *Redeploying convents and other religious buildings to create new urban spaces in Madrid*. Financed by the Ministry of Science and Innovation.
  - Project: *Teaching Spaces*. Financed by the Ministry of Science and Innovation.
  - Project: *Parameters of basic habitability that promote human health. Study of bio-healthy endpoints related to the built environment*. Financed by AIRBUS Military
  - Project: *The moulded new urban space after the disappearance of the monastic buildings in Madrid*. Financed by the Ministry of Economy, Secretary State for Science and Innovation
- Leadership in development projects:
    - Collaboration with Makeni University, Sierra Leone: *Design and implementation of a construction system or experimental prototype for developing countries*. Project carried out by EPS architecture students, Volunteers Office, San Pablo CEU Foundation and Las Rozas City Council (Madrid, Spain) with Makeni University (Sierra Leone), the Deaf Children School of St. Joseph and the municipality of Makeni (Makeni City Council).  
<http://hdlabceu.wordpress.com/proyecto-makeni/>
    - Collaboration with Abomey-Calavi University, Benin: *Prevention of risks related to natural disasters in Benin. Recovery of lake-villages flooded by the Mono river and the ocean currents in the 'Gran Popo' area*. Project carried out with Université d'Abomey-Calavi, Université Polytechnique du Bénin, Gouvernement de la République du Bénin, Consulat du Bénin en Espagne, Commune de Grand Popo (Département du Mono République du Bénin), École d'Architecture, Université Laval (Québec, Canada), School of Humanities and Communication, University San Pablo CEU (Madrid, Spain), Volunteers Office, San Pablo CEU Foundation, Fundebe (Fundación para el desarrollo de Benín) and Humanitarian Projects in Benin.
  - Summer School and Summer School Abroad:
    - Hyperlinks Dual-Core. This course, organized by the EPS and the magazine *Revista Future*, has been financed by the companies Panel Systems and Pecsá and has counted with the participation of eminent external professors such as José González Gallegos, Emilio Tuñón and Carlos Ferrater (of the *Office of Architecture in Barcelona - OAB*). Architects from Chile and across Spain have attended the summer schools.
    - Joint Studio: San Pablo CEU - Zhejiang University. Four studio sessions have been organized, giving students the opportunity to make personal as well as academic contacts that last after the studio has finished. The results are published each year in the *Revista Future*
    - Annual studio with Zhejiang University. The two universities are currently finalizing an agreement whereby a group of recent graduates of San Pablo CEU will carry out their professional practice in Zhejiang University's Institute of Architecture.
  - Consultancy on the development of the San Pablo CEU campus and proposals for adapting existing university buildings. A recently established consultancy office has been linked to the program in order: (a) to assist the management team of the University San Pablo CEU Foundation in planning the future of the campus and in monitoring and repairing already-existing buildings, and (b) to offer a setting in which graduates as well students working on their Final Degree Projects can begin their professional careers.
  - Activities open to students from other university programs: conferences, debates, exhibitions, courses, and seminars on digital production or on building energy assessments.

- Activities open to pre-university students enrolled in centers run by the Foundation, with the aim of: (a) guiding students towards their future vocation, and (b) stimulating them to understand interesting problems related to architecture and engineering and the thinking behind the curriculum offered by the EPS.
- Agreements with public and private institutions to develop study areas and suggest adjustments to the architectural program.
- Agreements with the Colegio Oficial de Arquitectos de Madrid (Official College of Architects of Madrid, COAM, leading professional association in the city) and other professional colleges in Spain

### **c.2. How the University benefits the architectural program**

The University offers the architectural program:

- Participation in the University Council and in the Academic Committee
- The possibility of networking with other centers and departments within the university, thus fostering interdisciplinary collaboration in teaching and research
- Optimization of procedures and administration for new student enrollment
- Complementary courses (e.g. language classes, access to other programs) and extracurricular activities (e.g. cultural activities, sports, volunteering, etc.) for students of all programs
- Student exchange programs with universities in Europe (Erasmus) or across the globe (bilateral agreements), initiated and managed by the International Relations Office
- Internships and work placements initiated and managed by the Centro de Orientación e Información al Empleo (Employment Advice and Information Center)
- Boosting foreign student enrollment and relations with other universities
- Access to research and Ph.D. programs within the university
- Access to academic mobility and exchange programs for academic staff
- La Oficina de Transferencia de Resultados de Investigación (Office for the Transfer of Research Results - OTRI) advises faculty and students concerning participation in research projects and the drafting of patents.

The Foundation offers the architectural program:

- General management.
- Scholarships and loans for undergraduates and postgraduates.
- Support for the internationalization of the program, and optimization of the administration of foreign student intake
- Access to the library network managed by the Foundation (i.e. not only to the libraries within the University San Pablo CEU, but also those of other centers and universities belonging to the Foundation, see Part I, Section 2.5).
- Cultural and leisure activities.

### **d. How the program fosters the integral development of young architects via liberal arts electives and practicum-based learning**

Program 2001 is structured around four categories of subject: core subjects that constitute the nucleus of the course, are obligatory and account for 80% of overall program content, and flexible elective subjects that complement the main course content and that students can choose from lists provided by the program and the university.

Program 2010 was developed to comply with the Spanish government's Order ECI 3856/2007 and the 11 objectives contained in European Council Directive 2005/36/EC, which governs the "the Bologna Process",

established to unify European higher education practice. Order ECI 3856/2007 requires architectural courses to provide introductory, technical and project-based courses with a strong core component and a strong interdisciplinary focus. Course content is very similar to the curriculum of Program 2001, though the elective subjects offered as a part of that qualification are no longer available.

While the 2001 and 2010 programs are organized differently their content and delivery are very similar. The university has prepared a matrix to ensure that students who decide to change from one to the other are able to do so without difficulty.

Both programs are organized around project and urban planning studios, which are the principal method used to consolidate the knowledge gained by students while studying for their degree.

Architectural training in Spain has traditionally been provided by polytechnic universities which focus on technical training designed to guarantee that graduates conform to the professional attributes specified by national legislation.

The University San Pablo CEU's Architecture Program is structured as follows:

- The first two years of the program include introductory technical and graphic design modules with a particular emphasis on drawing, geometry and the analysis of architectural form. The contents taught in these modules are not covered adequately in the Spanish high school system, with the result that students start from a very low knowledge base.
- There is a close connection between the contents of the graphic design modules and project studios. The graphic design modules provide early stimulation of formal and spatial creative processes, which students subsequently apply in the project-studio design studios.
- General humanities modules on anthropology, history and Catholic Social Teaching (central to the Foundation's philosophical principles) are taught during the first four years of the program.
- Course content is organized around the project studio, taught across eight semesters. Training in architectural practice is provided through the project studios which are designed to gradually incorporate the content provided during the rest of the program.
- Project studios are developed in parallel with the theoretical modules and studios and workshops on urban studies, consistent with a multiple scale approach for training new architects.
- Principally during the intermediate years (2nd to 4th), project studios are developed in parallel, with specific humanities modules focused on the history of architecture, art, composition and architectural theory.
- Technical modules are organized around three areas: building structures (taught during the last four years), materials and architectural constructions (also during the last four years), and building systems (taught during the last three years).
- Specific modules are included that focus on the professional skills used by practicing architects that students will need once they have qualified. These modules are taught during the last year of the degree program.
- The fifth year is conceived of as preparatory to the Final Degree Project and involves technical modules designed to consolidate the contents of the project studios in conjunction with other disciplines (structures, systems and construction) important when designing an architectural project.
- Preparation of the Final Degree Project involves focused effort by faculty to enable students to think autonomously and to incorporate the knowledge they have acquired during the program, applying it to a professional exercise that will constitute a platform for their entry into the labor market. Relevant professional associations are involved in evaluating the final degree projects.
- San Pablo CEU has incorporated two modules into Program 2010 that contrast with its strong emphasis on core activities: a workshop on Architectural Innovation (including important topics on sustainability not covered by the core modules) and a workshop on Specialization (in which students may choose two modules from a list of 12 covering different areas of knowledge).

## I.1.2. Learning Culture and Social Equity

### **a. Copies of all policies related to learning culture (including the Learning Culture Policy)**

- Escuela Politécnica Superior website: [www.eps.uspceu.es](http://www.eps.uspceu.es)
- University website: [www.uspceu.es](http://www.uspceu.es)
- Council of Government Decree 31/2011 of 2nd June 2011 , approving the organizational and procedural regulations of the University San Pablo CEU, published in issue 136 of the Official Gazette of the Community of Madrid  
<http://www.uspceu.com/docs/conocenos/normativa-universitaria/1.pdf>
- Postgraduate and Ph.D. programs:  
<http://www.posgrado.uspceu.es/pages/doctorado-presentacion.html>
- “Universitas Senioribus”: [www.universidadmayoresceu.es](http://www.universidadmayoresceu.es)

### **b. Evidence that faculty, students, and staff have access to these policies and understand the purposes for which they were established.**

It is a principle of the University San Pablo CEU to foster a close relationship between instructional faculty and students, as the University believes education provides an excellent opportunity for individuals to develop their intelligence and individual freedom. This conviction is expressed in the University's organizational and procedural regulations, which apply equally to the EPS.

The main priorities of the EPS are to promote the teaching of architecture, and to motivate students to advance continuously in their learning. Following the change of paradigm inspired by the establishment of the European Higher Education Area (EHEA), the EPS has supported student-centered learning, with teachers acting as guides whose mission is to broaden students' horizons, arousing a thirst for architectural knowledge. No less importance is given to fluency in languages: in fact, it is possible to study architecture in English at the EPS.

Another goal of the EPS is to help students gain access to employment. All our architects and engineers receive a qualification in the humanities and a professional training designed to produce well-rounded professionals with high rates of success in the labor market. The Employment Advice and Information Center is responsible for preparing students and graduates to enter the workforce.

The University San Pablo CEU promotes lifelong learning. The importance of incorporating lifelong learning into higher education was stressed in the EHEA's founding Bologna Declaration (1999) which outlines the role played by universities throughout a person's life. It should be noted that lifelong learning includes all levels of education from preschool and elementary levels through high school, vocational training, higher education (not necessarily within a university), and formal or informal adult education. In the European Council meeting held in Feira, Portugal in 2000, lifelong learning was defined as "all learning activity undertaken throughout life with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective."

The University San Pablo CEU contributes to lifelong learning by running *Universitas Senioribus*, an educational center that provides people aged over 40 with opportunities to further their knowledge without

having to sit any exams. To enter *Universitas Senioribus*, only three conditions must be met: to be older than 40, to have finished high school, and to love learning.

San Pablo CEU's learning and study policies are published in the section on *Oferta Académica* on the EPS website:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/por-que-estudiar-en/una-escuela-viva.php>

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/por-que-estudiar-en/tutela.php>

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/por-que-estudiar-en/innovacion-y-calidad-docente.php>

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/por-que-estudiar-en/sinergia-docencia-investigacion.php>

**c. Evidence of plans for implementing policies to promote learning culture and measurable assessment of their effectiveness.**

As set out in the university's organizational and procedural regulations the aim of the teaching offered at San Pablo CEU and the EPS is to provide comprehensive training to students and adequate preparation for their eventual professional practice. It aims to combine the theoretical and practical aspects of every subject and to foster critical thinking and a sense of social responsibility among its students. Within the university, the EPS guarantees teaching quality by ensuring that both instructional and research faculty and students are adequately supervised and evaluated.

San Pablo CEU's Board of Trustees is responsible for approving and modifying curriculums and eliminating those that are no longer being used. Thus, San Pablo CEU has a thorough system for establishing, planning and communicating a learning culture.

The responsibilities of the University's Governing Council include recommending the modification or fusion of faculties, schools, research and teaching institutes or other academic centers belonging to the university. It recommends the adoption or elimination of curriculums and of the teaching methods used to deliver the official and university courses taught by the university. Additionally, it approves policies governing collaboration with other universities, individuals and public and private bodies, establishing plans to strengthen the learning culture the University strives to establish.

**d. Evidence that faculty, staff, and students are able to participate in the development and evolution of these policies.**

According to the University's organizational and procedural regulations the EPS's instructional and research faculty have the right to participate in university governing bodies; they have majority representation on the University's academic decision-making bodies.

For their part, students have the right to participate in the bodies responsible for administration and representation, on terms defined by the relevant regulations.

Similarly, administrative and service personnel are, within existing resource constraints, guaranteed access to professional training in order to improve performance, career development and promotion prospects.

The University's different administrative bodies are also able to assign members to participate in the establishment and diffusion of the institution's learning culture. The functions of the Academic Council (which has both University and external members) include communicating to the university the educational needs of society, to ensure new awards or pedagogical approaches are established and the institution's learning culture strengthened. The universities collegiate bodies include the following:

- The Senate
- University Governing Council
- School Management Board
- Departmental Council

The **University Senate** is the highest representative body. It is composed of the Rector, Vice-Rectors, General Secretary, Faculty Deans, the Directors of the different schools and centers, Faculty Vice-Deans and the Deputy Directors of schools and centers, Directors of Units and Teaching and Research Support Services, former Rectors, Doctors Honoris Causa and representatives of the instructional faculty, students and service personnel (article 23 and ff. of the San Pablo University organizational and procedural regulations).

The **University Governing Council** is the collegiate body responsible for day to day running and academic administration of San Pablo CEU. It is composed of the Rector, Vice-Rectors, General Secretary, Faculty Deans, the Director of the different schools and centers, and by a representative of the Directors of Department of each faculty and school. The Council can be convened by the Rector, the University Ombudsman or other members of the University community (article 27 and ff. of the San Pablo University organizational and procedural regulations).

The **School Management Board** is the collegiate body in which academic staff, students and employees of the EPS (and other schools) are able to contribute directly to policy development. It is composed of the Director of the School, Divisional Directors (including the Director of the Architecture and Construction Divisions), Sub Directors, the Academic Secretary, Departmental Directors and Secretaries (including the Directors and Secretaries of Architecture and Design), and by representatives of instructional faculty from all academic areas, of students and of service personnel (article 31 and ff. of the San Pablo University organizational and procedural regulations).

The **Departmental Councils** are the governance bodies of each department, focusing on teaching and research activities. They are composed of the Departmental Directors and Secretaries (the Department of Architecture and Design is not divided into sections), and representatives of the teaching body (article 34 and ff. of the San Pablo University organizational and procedural regulations).

#### **e. Evidence that the institution has established policies and procedures to deal with harassment and discrimination complaints.**

The EPS has mechanisms to ensure equality between men and women. In response to article 3.5 of Royal Decree 861/2010 of 2 July 2010, modifying Royal Decree 1393/2007 of 29 October 2007 regulating public university education, the University San Pablo CEU adheres to the principles of equality, respect for the fundamental rights of men and women, Human Rights promotion and universal access.

Additionally, San Pablo CEU has adopted plans to ensure that all teaching materials and services comply with current legislation (Law 51/2003 of December 2003, on equal opportunities, freedom from discrimination and universal access for people with disabilities, as well as the regulations covering the creation and recognition of universities and university centers).

The university's organizational and procedural regulations state that instructional and research faculty are required to report any cases that suggest their academic freedoms may have been infringed to the university authorities and the University Ombudsman.

Students have the right to enjoy equal opportunities and freedom from discrimination, respect for their personal or social identity and academic freedom both during the application process and while studying at San Pablo CEU. Students may take complaints to the university authorities and, if necessary, the University Ombudsman if they believe their rights have been infringed. Student services, psychological support and advice and information services are available to ensure students benefit from the broadly-based education, guidance and information they require to develop as scientifically, technically and ethically qualified professionals equipped to succeed in the labor market.

The Student Support Service provides information and clarification on all aspects of the university as well as receiving and dealing with complaints and suggestions.

[http://www.uspceu.es/pages/servicios/atencion\\_estudiante/atencion-estudiante.html](http://www.uspceu.es/pages/servicios/atencion_estudiante/atencion-estudiante.html)

The University's organizational and procedural regulations also stipulate that administrative and service personnel have the right to information on the criteria covering workplace organization and promotion policies.

The University Ombudsman exists to defend the rights of instructional faculty, students and administrative and service personnel alike against infringements committed by the different university bodies and service providers. The University Ombudsman presents annual reports to the Rector. There are two Student Support Offices, one on the Moncloa Campus and the other on the Montepíncipe Campus (where the EPS operates). Since 1 January 2013 the service has received two complaints from parents and 15 from students, of which 13 have been decided in favor of the student, one rejected and the other is still awaiting decision.

#### **f. Evidence of the existence of inclusion policies**

San Pablo CEU's *Sistema de Garantía Interna de la Calidad* (Internal Quality Control System - SGIC) defines the process for the selection of instructional and research faculty and support personnel. The system conforms to the principles of equality and freedom from discrimination set out in Law 3/ 2007 of 22 March 2007 (on equality between men and women) and in Law 51/2003 of 2 December 2003 on equal opportunities, freedom from discrimination and universal access for people with disabilities. The organizational and procedural regulations require that appointments of instructional faculty must comply with article 72 of the Organic University Law, recognizing in particular candidates' teaching and research experience, academic training and professional experience.

The University San Pablo CEU is committed to contributing to all sections of society and runs an efficient system to provide grants and study support services to low income individuals so they may pursue their studies. Criteria for support focus on merit and ability. Special attention is paid to candidates who require assistance and/or are living with a disability.

The organizational and procedural regulations require the University to provide individualized support to students living with a disability, in conjunction with public and private specialist organizations working in the field.

A range of support is available: awards for talent (awarded for high academic achievement); financial support (awarded according to individual academic performance and financial and family situation); and provision of other assistance, from public or private sources, to assist students in their studies.

Complementary to these inclusion policies the EPS establishes an academic and personal tutoring system. At the beginning of the first semester all students are assigned an academic tutor who provides guidance in their studies, supervises their practical work, advises on choice of elective and free configuration assignments and in general, keeps up to date with their students' academic progress, providing advice on any concerns they may have. In fulfillment of the University's philosophy, tutors are bound to respect their students' right to personal development and freedom.

The University has a free Counseling and Psychological service which provides guidance and advice to all students. The service plays an important role in ensuring students are able to settle in well and prosper in their studies and private lives.

**g. Evidence of a plan to maintain or increase diversity on campus.**

San Pablo CEU's organizational and procedural regulations require the university to ensure a balanced representation of men and women on all governance and representative bodies. The Governing Council is responsible for proposing the staffing structure for teaching and research and any modifications to it, as well as specifying relevant selection, evaluation and compensation and promotion procedures. The Governing Council is also responsible by law for establishing policies covering admissions and the students' time at university.

As has been mentioned, the EPS has paid particular attention to the recruitment of female instructional faculty, always taking into account the need for highly qualified individuals when appointing female faculty members. This approach has also been adopted by the school's management and administrative bodies. The success of the diversity policy may be seen from the most recent figures:

Composition of the EPS Governing Council:

- 7 members, of whom 5 are male professors and 2 are women.

Composition of the EPS Governing Council (responsible for the Architecture program):

- 5 members, of whom 3 are male professors and 2 are women.

On the School Management Board:

- 22 posts (11 male, 11 female), of which:
  - o 7 are members of the EPS Governing Council: of whom 5 are male professors and 2 are women.
  - o 7 are elected faculty representatives: 3 of whom are male professors and 4 are women
  - o 8 are elected student representatives: 3 males and 5 female students

On the International Relations delegation:

- 3 posts, all of whom are female professors.

In the Employment Advice and Information:

- 1 post filled by a female professor.

Figures for the student body on the 2013-2014 Degree in Architecture:

- A total of 935 matriculated students:
  - o 423 male (45.2%)
  - o 512 female (54.7%)

**h. Evidence that the institution has established policies covering academic integrity (e.g., cheating, plagiarism).**

The regulations governing student discipline may be found in the Student Code, available at:

<http://www.uspceu.es/pages/conocenos/documents/5.pdf>

In order to maintain academic discipline students may be sanctioned for actions occurring either on the university campus or off it when the act is related to their condition as a student.

The following may lead to the application of sanctions:

- Attitudes that demonstrate a failure to respect the regulations as published by the academic authorities.
- Disrespect shown to the academic authorities, instructional faculty, fellow students or administrative and service personnel.
- Damage caused to university buildings and furnishings, whether intentionally or by negligence.
- Examination fraud.
- Behavior contrary to university standards of decorum.
- Failure to respect the duties of students as set out in article 65 of the University Statutes and article 9 of the Student Code.

Applicable sanctions are as follows:

- Verbal warning.
- Written warning.
- Temporary exclusion from campus, without prejudice to the student's ability to sit for examinations.
- Permanent exclusion from the university. This sanction can only take effect at the end of the course, though the student may be barred entry to campus except to sit for examinations.

## I.1.3. Responses to the Five Perspectives

### a. Architectural Education and the Academic Community

The Architecture Program at the EPS spares no efforts encouraging the development of the intellectual and creative ability of its students, offering an excellent education delivered by a highly qualified faculty, which has earned San Pablo CEU recognition as one of Spain's leading universities.

The structure of the Architecture Program allows students to build up a holistic understanding of the subject over time. The degree is taught over five years, with additional time to prepare their Final Degree Project. There are two postgraduate degrees available: a specialized masters course and a newly designed doctoral program, which is in the approval process and will replace the current doctoral program.

In order to improve results, the Degree in Architecture Program, as well as providing theoretical and practical courses that strengthen its faculty and prepare students to practice within Spain, the University is increasing the support it provides to academic mobility and exchange programs with other universities with which it has signed agreements in Europe – under the Erasmus Program – and in the Americas, Asia and Africa. The EPS strongly encourages its students and staff to gain experience abroad, many students opting each year to study in other countries, and faculty members partaking in teaching opportunities around the globe.

While the EPS focuses principally on the education of its students, it also provides a range of opportunities for them to engage in research. At degree level, students are encouraged to pursue research in their areas of particular interest within the different subjects; they may also engage in more complex research involving coordination between different subjects, which encourages them to work collaboratively. Faculty members are expected to engage in research in the large number of areas in which the EPS is expert. Current research groups are as follows:

- Architecture, restoration and landscape.
- Environmental engineering and technologies for sustainable development.
- Bioengineering Laboratory.
- RE-Activar Arquitecturas (also known as REBirth), created to inspire new thinking about architecture.
- Architectural Contexts.
- Contemporary Spanish Architecture.
- Tendencies in Urban Planning.
- Technical Drawing and Architecture.

The degree program also provides a range of extra-curricular activities designed to develop and strengthen student knowledge, including lectures by leading practitioners on topics of academic and general interest, specialization workshops, study tours to cities around the world, visiting lecturers from foreign universities and the invitation of external juries to evaluate student work for practical assignments and for the Final Degree Project.

Of particular importance among the extra-curricular activities are the national and international summer schools, organized by faculty members.

Also worthy of note are the “laboratories”, which impart a distinctive nature to the degree offered by the EPS. Currently, there are four. The first is the **Sustainability Laboratory**, created to consolidate a coherent approach to the teaching of sustainable architecture, with the certainty that sustainability is a principal challenge facing the profession in the 21st Century and that it should be incorporated into all subjects forming

the curriculum. The Laboratory's vision is based on the belief that education for a sustainable future requires a multidisciplinary approach to architectural studies and a concerted effort to realize all the potential of the discipline in the development of sustainable urban planning and architectural projects.

The second is the **Laboratory on Habitability and Development** (HD-LAB) and focuses on developing specific projects in response to the needs of disadvantaged communities. Currently the HD-LAB is collaborating with Sierra Leone's Makeni University to design buildings for the university and with the city council on the design of a master plan for the city.

Currently, a new interesting project is being developed with the Abomey-Calavi University of Benin. The aim of the project is to foster a participatory reconstruction of a safe and habitable historic urban space for 200 families in the neighborhood of Gbécon, and the establishment of an inter-University framework to strengthen research and knowledge related to the prevention of situations of risk and humanitarian emergencies in Benin.

The third one is the **Laboratory of Digital Fabrication** (FAB LAB Madrid CEU) and focuses on manufacturing processes in Architecture and other disciplines, through the use of digital technologies. Nowadays, the FAB LAB belongs to MIT Fab Lab Network. This laboratory offers courses on Digital Fabrication at the Advanced Diploma on Digital Fabrication for Architecture (60 ECTS). The diploma runs in parallel with the Degree in Architecture and allows students to develop both programs, course by course. The FAB LAB also develops activities with EPS engineering programs. FAB LAB Madrid CEU is qualified to teach Fab Academy Program in collaboration with the Center for Bits and Atoms of the Massachusetts Institute of Technology.

The **Master in Digital Fabrication for Architecture** of CEU San Pablo University was created to take advantage of the high creative potential associated with the combination of the virtual design with CNC (Computer Numeric Control) which is the fourth generation of the application of digital technologies to the field of architecture. This includes the material manufacture of forms designed digitally, using machinery controlled by computer (laser machines, milling machines, 3D printers, etc.) able to directly interpret the digital files for cutting or modeling elements. In our discipline that includes the association of this technology with the development of parametric design tools, through which it is possible to digitally generate models whose forms are defined by parameters which can be modified for each materialization or singular instance.

The fourth one is the **Laboratory of Innovation**, which has begun his activity in 2014-15, to give support to the subject "Architectural Innovation Workshop". This workshop is the platform for the development of the culture of innovation among students. It relies on the collaboration of construction companies and has a room for his classes.

Additionally, diploma programs, masters, and doctoral programs offer specialization in specific professional or research areas or as continuing education for architects or building professionals:

The following Advanced Diploma programs are also offered in 2014-15:

- Diploma in Digital Fabrication for Architecture (in collaboration with the Center for Bits and Atoms of the MIT)
- Diploma in Energy Efficiency and Sustainability in Building Design (in collaboration with the Green Building Council of Spain, GBCe)

The following official and University master degrees in architecture are being offered in 2014-15:

- Master in Hospital Architecture, Organization and Infrastructure
- Master in Landscape Architecture
- Master in Advanced Architectural Projects
- Master in Urban Planning and Land Use

- Master in Prevention of Occupational Risks
- Master in Integrated Quality Management and the Prevention of Occupational Risks
- Master in Urban Interior Design (bilingual, in collaboration with Milan Polytechnic)

The following doctoral programs will be made available in 2014-15:

- “City and Heritage. Restoration and Revitalization of the Urban Fabric and Features”. This program is being discontinued; the last date for students to enroll or to transfer to it is September 2013.
- “Renewable Energies”. This program is also being discontinued; the last date for students to enroll or transfer is September 2014.
- A new doctoral program will be developed during academic year 2014-15 and offered for the first time in September 2015.

During the 2013-2014 course, two initiatives have been established to support the academic and research community:

- In the 2013-2014 course year infrastructure at the EPS has begun collaborating with the scientific and technological community, and the Building Structures Lab (Laboratorio de Estructuras de Edificación e Ingeniería Civil) and Construction Materials Lab (Laboratorio de Mecánica y Reología de Materiales) have joined the Laboratory Network of the Madrid Region.  
<http://www.madrimasd.org/Laboratorios/busquedas/Laboratorios/LabEnsayos/ficha.asp?Clabo=357>  
<http://www.madrimasd.org/Laboratorios/busquedas/Laboratorios/LabEnsayos/ficha.asp?Clabo=354>
- **Constelaciones/Constellations** is the architectural magazine of the Institute of Technology of CEU San Pablo University. With an international character, the magazine is annually published, bilingual (Spanish-English) and designed under the editorial quality criteria required for its future indexing (protocols of Latindex and CSIC –Consejo Superior de Investigaciones Científicas, Ministerio de Economía y Competitividad, Gobierno de España-, quality criteria, external evaluators, and so on). Although the printed edition is sent to the main architectural libraries and universities all around the world, it is intended for digital distribution which facilitates the dissemination of the magazine content.  
It includes research articles, scientific papers from different areas of knowledge and original works related to the fields of Architecture and Art, which are the main body of the magazine. It also includes critical reviews of architectural works, exhibitions and recently published books.  
<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/investigacion/revista-constelaciones.php>

## **b. Architectural Education and the Students**

Graduates of the Degree in Architecture are equipped to face the professional demands of a globalized world. This is achieved by providing high quality training not only in the technical aspects of architecture but also in a broad humanities curriculum. This combination produces professionals who are ethically committed to the society in which they will live and work. Students have numerous opportunities to participate in projects that serve the community, including our collaborations with Makeni University, Sierra Leone, and the Abomey-Calavi University, Benin.

The greatest strength of the degree program resides in its students, who are dedicated to their studies, their fellow students and their professors, within a dynamic network of relationships. The teaching model focuses on team work, which creates relationships that frequently last beyond graduation. The program prioritizes the development of critical thinking, leadership capabilities and consensual decision-making.

The school's vision is to produce new generations of architects whose training has prepared them to take on leadership roles when developing their ideas and projects in Spain and abroad. Its success is demonstrated by the large number of graduates currently working abroad.

Opportunities to show initiative are also made available to scholarship holders. Every year the EPS offers a number of places for students to work as teaching and research assistants or to get involved in the school administration.

Additionally, students may gain professional experience by taking part in competitions. The number of competitions won by its degree seeking students is a source of great pride for the EPS, demonstrating the quality of its students and of the training they receive. Students are supported in their endeavors by the well-stocked library and its highly qualified staff (see Part I, Section 2.5) and by the laboratories that they are able to use while developing their proposals.

Finally, in the spirit of the Bologna Declaration, the EPS's general objective is to create an environment that encourages students to work to the best of their abilities in pursuit of excellence. In other words, the EPS endeavors to encourage students to take responsibility for their education and results.

The three fundamental aspects that characterize the training offered by the EPS are summarized below:

- **Excellence:** the school is committed to academic and professional excellence and providing comprehensive training for our students. We are committed to quality teaching, innovation, research, professional work experience, 100% employment for graduates and an increasingly international curriculum and student body.
- **Innovation:** *for more than eight years the school has been developing and applying new and effective pedagogical methods based on increased interaction between instructional faculty and students. The adaptation of the principles of the EHEA will ensure that the school responds adequately to the training needs of the student body.*
- **International Presence:** at the university we believe that academic excellence is linked to the international exposure available to our students. Consequently, we offer a range of opportunities including bilingual degree courses, the option of studying and gaining work experience abroad and summer schools, all of which offer students the opportunity to gain international academic experience that will equip them to live and work in multicultural environments.

### **c. Architectural Education and the Regulatory Environment**

The Degree in Architecture is designed to provide students with the overall technical and conceptual skills required to practice professionally. Masters students receive training in specific areas (landscape, special projects or urban design) while the doctoral programs encourage scientific creativity by requiring students to pursue research in different fields of knowledge. The degree courses are designed to offer the objectives specified in Order ECI/3856/ 2007, of 27 December 2007, as follows:

- Obj 1. Ability to create architectural projects of high esthetic and technical quality;
- Obj 2. Adequate knowledge of the history and theoretical underpinnings of architecture and relevant aspects of art, technology and human sciences;
- Obj 3. Knowledge of the fine arts as a factor influencing the quality of students' architectural concepts
- Obj 4. Adequate knowledge of planning and planning techniques, including urban planning;

- Obj 5. Ability to understand the relationship between people and buildings, between buildings and their surroundings, as well as the need to ensure buildings and their surrounding spaces function effectively at a human scale;
- Obj 6. Ability to understand the architectural profession and its function in society, in particular through the design of projects that take social factors into account;
- Obj 7. Knowledge of the methods used in research and to prepare construction projects;
- Obj 8. Understanding of the challenges associated with envisioning the structural, construction and engineering needs of building projects;
- Obj 9. Adequate knowledge of physical and technological problems and the functioning of buildings in order to ensure the comfort of users, including temperature control and building systems;
- Obj10. Ability to satisfy the requirements of a building's users, within the limits imposed by budgets and planning regulations;
- Obj11. Adequate knowledge of industry sectors, organizations, regulations and procedures to be able to carry out projects and make use of architectural drawings in the planning process.

Order ECI ECI/3856/ 2007 also defines the general areas of competence expected of students in order for the education they receive to be considered excellent.

- CG1. Analytical and synthetic ability
- CG2. Organizational and planning ability
- CG3. Oral and written communication in the mother tongue
- CG4. Knowledge of a second language
- CG5. Knowledge of information technology as it applies to the student's field of study
- CG6. Ability to manage information
- CG7. Problem solving
- CG8. Decision-making
- CG9. Team work
- CG10. Interdisciplinary team work
- CG11. Working in international environments
- CG12. Interpersonal skills
- CG13. Respect for diversity and multiculturalism
- CG14. Critical thinking
- CG15. Ethical commitment
- CG16. Independent learning
- CG17. Adaptability to new circumstances
- CG18. Creativity
- CG19. Leadership
- CG20. Knowledge of other cultures and customs
- CG21. Enterprising initiative and spirit
- CG22. Commitment to quality
- CG23. Commitment to environmental issues
- CG24. Collaborative working with shared responsibilities
- CG25. General ability in graphic arts
- CG26. Imagination
- CG27. Spatial ability
- CG28. Numeracy
- CG29. Mechanical intuition
- CG30. Esthetic sensitivity
- CG31. Manual dexterity
- CG32. Historical understanding
- CG33. Desire to follow standards of good practice

Program content has been approved by the competent authority as stipulated by Royal Decree 1393/2007 of 29 October 2007, and is structured as follows (see V. Appendix. Table 1\_ **Modules, Fields of Studies: Brief Description**):

#### **Introductory Module**

1. Scientific basis of architecture: principles of mathematics, physics and solid mechanics.
2. Technical drawing: analysis of architectural form, descriptive geometry, architectural drawing and applied geometry

#### **Technical Module**

1. Architectural constructions: construction materials, construction systems, analysis; construction project
2. Building structures: structural systems, structural analysis, dimensions of building structures, building foundations; building structures project
3. Building systems: techniques for air conditioning, electrical and lighting technology, telephone and data systems; general systems project

#### **Project Module**

1. Theory and history of architecture: introduction to architecture, history of architecture and architectural composition
2. Urban planning: introduction to urban planning and design, and land-use projects.
3. Management in construction and in urban planning, the role of the architect
4. Architectural projects
5. Workshop/studio on architectural innovation; urban and architectural sustainability

#### **Humanities Module**

1. Anthropology
2. History and society
3. Catholic Social Teaching
4. Great Books

#### **Modern Language Module**

1. English, German or French

#### **Specialization Workshop Module**

1. Technical drawing
2. Architectural construction
3. Building structures
4. Building systems
5. Urban planning
6. Architectural projects

#### **Final Degree Project Module**

1. Final Degree Project

The degree seeks to achieve a balance between theory and practice, providing students with the tools they need to demonstrate their technical competence and put into play the interconnecting levels of knowledge required to complete their professional training that permits them to develop architectural and urban planning projects in the future. A fundamental objective of the program is to provide students with all the intellectual and practical tools they require to become excellent practitioners.

#### **d. Architectural Education and the Profession**

The central objective of the Degree in Architecture at the EPS is to produce architects with a broad vision of the possibilities and responsibilities of the profession, with the ability to:

- Work in a diverse and complex world.
- Plan for sustainability.
- Respond to the changing demands of contemporary society.
- Work in multi-disciplinary teams.
- Assume leadership roles and lead complex processes.
- Recognize financial, political and social opportunities.
- Produce flexible projects that can respond to changing circumstances.
- Champion socially responsible solutions.

To achieve these goals the role of local and national institutions is especially important: for example we work with practitioners, municipal authorities, regional government, local administrations, private companies, foundations and the College of Architects of Madrid and other architectural associations across the country. Many individuals from these bodies participate regularly in the numerous activities organized throughout the year by the EPS, including special classes, assessment of work, juries, conferences, competitions and offering work experience in established practices. In some cases they offer the financing or equipment needed to ensure the activities can be carried out.

As the degree granted by the EPS is an official qualification that permits graduates to practice as architects, the school believes that students' Final Degree Projects should be examined by qualified professionals. To this end the College of Architects of Madrid represents the professional architecture associations on the examining tribunals for the Final Degree Project.

Even when the projects students develop during the program reflect their own experiences, the opinions expressed by these external bodies permit them to acquire new perspectives, skills and technical insights and, above all, to understand the fields that they may wish to pursue in their professional practice. The contribution of expertise from within the university and from professional life is an important guaranty of the quality of the training provided by the school.

The EPS believes it is important to continue supporting the education of its students after graduation and offers professional development courses that enable graduates to remain up to date in their knowledge. Of particular importance in this connection is the Universidad San Pablo CEU's Summer School program, which, in 2012-13 and 2013-14, offered the following courses:

- Discovering Architecture: Madrid, A Journey Through Today's Architectural Landmarks.
- Learning to Draw Architecture (introductory course for pre-university students)
- Strategies for a Post-Speculative City.
- Urban Workshop: Visions and Reflections on Madrid's Historical Center. The Influence of Monastic Architecture.
- Applied Computer Tools: Structural Calculation for a Conventional Building.
- Introducción a la Acústica Arquitectónica. Teoría y práctica. (Introduction to Architectural Acoustics. Theory and Practice of Current Building Regulations).
- Business Innovation Boot Camp.
- Expert in Industrial Cyber Security.
- Course on Cyber Security and Cyber Defense.
- Making Landscape / Making Architecture: Building, Garden, Street and Land Use.
- "Hyperlinks and the City" Dual-Core Madrid.
- Taller de Arquitectura en Madera (Wooden Architecture Workshop)

- Designing with Fabrics (International Workshop, Como)
- We Own the Night (International Workshop, Paris)

### **e. Architectural Education and the Public Good**

The education offered by the EPS seeks to produce socially committed architects who are aware of the impact of their practice on the environment and motivated to work sustainably. The school hopes that its students' decisions and actions will be informed by an ethical approach and that graduates will be capable of running inclusive, participatory teams.

Students have an opportunity to develop their practice in the different assignments that constitute the program. They are encouraged to defend their positions in contrast with the opposing interests of: land owners, constructors, clients, public authorities, etc. Assignments are implicitly designed to strengthen students' ability to respond to the demands of society, developing their leadership skills and their ability to direct projects and other processes effectively.

Projects in which the EPS has worked to achieve these objectives include the following:

- Workshop series: part of a rural development agreement between the EPS and Arabarri, a public-private company created to preserve the built heritage of the Álava region of the Basque country.
- The Valdebebas Project: an agreement between the EPS and the Valdebebas Consortium, Madrid, to develop land-use plans for an urban sector near Barajas International Airport.
- The Sustainability Laboratory, whose objectives are as follows:
  - o Demonstrate the school's commitment to sustainability and its capacity to transform architectural and urban planning practice by influencing teaching, research and the profession as a whole.
  - o Develop a cross-cutting approach to sustainability that enables the different architectural disciplines to deepen their understanding of the paradigm of sustainability and to share teaching ideas.
  - o Bring together a wide range of experiences and research in knowledge centers, contributing to enriching teaching programs.
  - o Equip architects to engage in well-informed inter-disciplinary dialogue on issues of sustainability.
  - o Awaken an interest in sustainability amongst students that they go on to develop in their careers.
  - o Build an eclectic collection of bibliographical experiential, pedagogical and heuristic materials available for the use of the university community.
- The Laboratory on Habitability and Development (HD –LAB).
  - o The EPS has fully adopted the goals established by the Founding Statutes of the Fundación Universitaria San Pablo CEU: to work for the common good by contributing to the construction of a fairer more fraternal society.
  - o Students of the different educational centers at San Pablo CEU receive training that equips them to participate actively in community activities and projects, demonstrating commitment, creativity, tolerance and a spirit of dialogue and social commitment in all their activities. The laboratory was developed as a part of the EPS's core responsibilities as a dependency of the university.
  - o More details can be found at the following link:  
<http://www.uspceu.com/es/vida-campus/aula-voluntariado/presentacion.php>

## I.1.4. Long Range Planning

### Objectives

The long range plan for the Degree in Architecture establishes the following objectives of the next six years to be coordinated by the USPCEU and the FUSP.

1. Find and implement financial resources (tuition, research results, international students, others) for the program to ensure and improve its continuity and quality, in the context of the FUSP.
2. Consolidate the student financial aid program to mitigate the economic crisis in the sector and the decrease in demand for this type of Program.
3. Reinforce the tutorial system advising students from the start, including their decision to study architecture, and intensify tutoring the first years to improve academic performance.
4. Intensify the international education of our students with agreements with other universities, translating into foreign study and joint-studios.
5. Promote architectural education as an innovator, capable of playing a leading role in multidisciplinary teams.
6. Improve the employability of graduates and follow up on their professional activity.
7. Complete the process of integrating sustainability in all courses in the Degree in Architecture.
8. Consolidate the new course devoted to Innovation through the collaboration with companies in the sector.
9. Seek to enrich the program through strategic alliances with other University Degrees.
10. Intensify Teaching mobility.
11. Improve external recognition of publications by the EPS, as a media for promoting the investigations undertaken by professors and students.
12. Increase relations with prestigious and well known practicing architects and with professional associations.
13. Improve the environment, neighborhood and campus where the EPS faculty is located.
14. Increase the presence and activity of the EPS in NGO development projects like the ones currently underway for Sierra Leona or Benin.

### a. A description of the process by which the program identifies its objectives for continuous improvement.

San Pablo CEU's Internal Quality Control System (SGIC, see Part I, Section 1.2) is adapted to the nature and needs of its faculties, schools and centers. The current system, as defined by the SGIC-2012 rules, has evolved to improve the procedures covering quality control in compliance with the requirements of Royal Decrees (1393/2007 and 861/2010), subsequent legislation and the stipulations of the Monitoring Framework of University Qualifications that govern official university instruction in Spain. The University's Internal Quality Commissions (CIC- Comisiones Internas de Calidad) are responsible for administering quality control at the EPS and San Pablo CEU's other faculties, schools and centers. The CIC proposes procedures to implement the planning, monitoring and performance evaluation goals established by the SGIC for the qualifications offered by the faculty, school or center to the appropriate dean or director. Thus, the SGIC acts as one of the

mechanisms available to the University to analyze its policy proposals, constituting a key mechanism of the quality control system, ensuring oversight of the University's policies, objectives, plans, programs, responsibilities and achievements.

### **a.1 Structure of the CIC**

The CIC is chaired by the dean of the faculty or director of the school or center in question; the Secretary, responsible for quality control at the school, provides technical advice. Other members of the CIC are drawn from representatives of undergraduate and postgraduate instructional faculty (at least three), a minimum of at least one representative of the administrative and service personnel and one or more representatives of the student body. In addition to the chair and secretary, CICs have no fewer than five members, of whom at least three are drawn from faculty.

### **a.2 CIC Procedures**

The CIC bases its decisions on the Provisional Monitoring Reports prepared by the faculty members responsible for degrees (directors of the masters program and coordinators of degrees), which have been made available previously to the dean of faculty or the director of the school or center within the timescales stipulated by the relevant regulations. The dean or director makes the reports available to the other members of the CIC. The CIC's decisions are recorded in the Degree Quality Monitoring Report, which identifies strengths, weaknesses and recommendations for improvement and forms the basis of the Degree Quality Report.

Suggestions for improvement are required to specify responsibilities for taking the recommended measures and the estimated timescale for completion. The CIC's recommendations can be adopted by a simple majority of attendees. The chair has the decisive vote if there is no majority.

The Secretary of the CIC keeps a documentary record of discussions concerning each award, while the dean or the director of the school or center is responsible for overseeing the decisions taken as a result of the monitoring process and suggesting improvements, as well as verifying that the measures are put in place and recorded in a Quality Memorandum for each award. A cross-cutting analysis of the strengths, weaknesses and suggestions for improvement of the awards offered by the school, duly ranked and evaluated, is published in the School Quality Report. The deans or directors of schools or centers prepare the Quality Improvement Plan for each faculty, school or center, which specifies the measures required for improvement and the individuals responsible for ensuring they are carried out.

The proposals are examined by the Permanent Commission of the Governing Board which ensures that the Quality Improvement Plans are published on the Quality Portal. The individuals responsible for each action (Vice Rectors, General Secretary, Management Team, Dean or Director) are responsible for communicating decisions to the relevant parties who then inform the individuals responsible for quality control, guaranteeing that the recommendations are passed to subsequent meetings of the CIC. This procedure ensures that each school's CIC continues to monitor improvement in the future.

The chair should call a meeting of the CIC at least once every semester. One of these meetings should take place during the final three months of the academic year, once all necessary information on that year's program is available.

<http://www.uspceu.com/es/conocenos/sistema-interno-garantia-calidad/index.php>

The review is conducted by means of an internal self-assessment procedure regulated under the SIGC, following the AUDIT program run by the National Spanish Agency for Quality and Accreditation (ANECA). It involves the following processes defined in the SIGC:

- Strategic Processes: PE01 and PE02
- Key Processes: PC01 to PC10
- Support Processes: PA01 to PA05

All these procedures designed by the EPS provide the necessary INDICATORS for the review and efficiency of the self-assessment and quality improvement processes, and also cover degree accreditation and financing for degree programs. With the guarantee of the University's Information Integrated System (SIIU), the main indicators are:

. PERFORMANCE RATE: Percentage ratio between the number of credits passed by the student in a course and the total number of credits enrolled in that course (recognized and transferred credits not included). According to April 2014's report, the evolution of this indicator throughout the last three courses shows for the Architecture Degree an increase of 3.93 %. As indicated in the referred website: 61.07 % for the course 2010/11 and 65.00 % for the course 2012/13.

. SUCCESS RATE: Percentage ratio between the number of credits passed by the student in a course and the total number of credits sat for exam in that course (recognized and transferred credits not included). According to April 2014's report, the evolution of this indicator throughout the last three courses shows for the Architecture Degree an increase of 3.82 %. As indicated in the referred website: 67.13 % for the course 2010/11 and 70.95 % for the course 2012/13.

. EVALUATION RATE: Percentage ratio between the number of credits sat for exam by the student in a course and the total number of credits enrolled in that course (recognized and transferred credits not included). According to April 2014's report, the evolution of this indicator throughout the last three courses shows for the Architecture Degree an increase of 0.64 %. As indicated in the referred website: 90.97 % for the course 2010/11 and 91.61 % for the course 2012/13.

Within this long-range planning framework, after designing the contents of each subject in the curriculum and establishing the teaching and assessment methods associated to each subject, the departmental areas are requested to provide the academic performance forecasts for each one of their subjects.

The use of the SGIC for internal review of quality is summarized at the end of each academic course year, in the Center's Quality Report (Memoria de Calidad del Centro), encompassing the evaluation, follow up and improvements introduced both in that course and all degree, in addition to modifications to be introduced in the coming course year to assure general improvement.

As an example, the principal long range improvements implemented in 2011-2012, for the Degree in Architecture (GARQ), and published on the EPS webpage, were the following:

1. Encourage students to use web mailbox for suggestions, complaints, etc, explaining how information compiled is used to monitor and improve the degree program. (Internal Follow-up Reports and Center and Degree Quality Report, Informes de Seguimiento Interno y Memoria de Calidad del Título y del Centro).
2. Revision of degree information to make it relevant to the needs of all interested users: especially students and agencies of evaluation and quality control. (Course guides, learning activities, evaluation criteria, levels to be reached, languages for courses, etc.).

3. Implementation of a system to evaluate satisfaction of the different collectives: including not only students but also the professors, non-teaching staff and external participants. An explanation of how this information obtained is used to monitor and improve the degree is also included. (Internal Follow-up Reports and Center and Degree Quality Report, Informes de Seguimiento Interno y Memoria de Calidad del Título y del Centro).

4. Rationalization and full implementation of mechanisms and academic indicators and the SGIC (Sistema de Garantía Interna de Calidad) in relation to the needs of Teaching Coordination, Teaching Quality, Job Placement and Satisfaction with the Education Received, and External Internships.

#### **b. Description of the data and information sources used to fulfill these objectives:**

Full details of all the measures carried out in response to the CIC's proposals, are provided in the section I.1.5. Self-Assessment, of this report . These measures may be summarized as follows:

- Establishment of a system for evaluating satisfaction levels of instructional and research faculty
- Establishment of a system for evaluating satisfaction levels of support staff.
- Establishment of a system for evaluating the satisfaction of external participants, to be implemented during the 2012-2013 academic year.
- Establishment of a system for evaluating student satisfaction with teaching
- Establishment of a system for evaluating recruitment processes.

#### **c. Description of the role of long-range planning in other programmatic and institutional planning initiatives:**

The EPS adheres to San Pablo CEU's global teaching strategy. The Architecture Program plays a leading role within the university when it comes to displaying the work of students, exchanges with international universities and the academic courses offered by the Summer School.

#### **d. Description of the role the five perspectives play in long-range planning:**

##### **d.1 Architectural Education and the Academic Community**

The architecture program and its faculty have developed and maintain connections with other disciplines in the University since its creation, to the benefit of both students and faculty, and the University's Internal Quality Commissions has increased collaboration with other programs in the University.

This perspective guides the school's approach to teaching, which varies year by year according to current needs by today's public. 18 EPS professors taking part in teaching innovation projects demonstrates this focus.

New research areas have recently been established in Architecture, Restoration and Landscape; Environmental Engineering and Technologies for Sustainable Development; RE-Activar Arquitecturas (see I.1.3., A); Architectural Contexts; Contemporary Spanish Architecture; Tendencies in Urban Design; Technical Drawing and Architecture. Faculty members play an important role in the provision of professional development (training, research, innovation, etc.) for internal and external programs.

Numerous summer courses are offered; including courses intended for future degree students, serving as a genuine introductory program for prospective students.

## **d.2 Architectural Education and the Student Body**

The school's admission policies and the approach to student participation in its decision-making bodies are guided by the principle of participation. The student body is represented on the CIC and in the school management board; student opinions are taken into account when it comes to improving teaching or the physical environment of campus.

Curriculum adjustments have taken place as well as the addition of other opportunities to create specific tutorials and coaching for those enrolling in the first year courses.

## **d.3 Architectural Education and the Regulatory Environment**

The regulatory environment covering teaching quality guides the school's policy in this area. 30% of instructional faculty hold doctorates and a further 20% of faculty are accredited. The school places more emphasis on faculty members having experience as practicing architects than on academic qualifications; this is particularly the case when it comes to technical and project-based courses, which account for about 75% of credits in the degree program.

It is projected that the percentage of accredited staff with doctorates will increase over time. The school has sufficient numbers of qualified academic staff involved in planning the teaching load offered.

## **d.4 Architectural Education and the Profession**

Given the nature of a degree such as architecture, links with practitioners are very important to the training of students; the presence of faculty members with extensive professional experience serves to enrich the classroom experience.

A strong connection to the profession is also maintained through visiting professorships that include some of Madrid's best practitioners. Current legislation entitles graduates of the substantially equivalent program to practice the architectural profession. Thus, subjects included in the program must be up to date with all technical and administrative standards that will affect professional practice. Long-range planning includes an ongoing review of these standards and covers the relationships between them, the program and the profession.

## **d.5 Architectural Education and the Public Good**

All the processes involved in the Long-range plan are designed to offer students an integral education steered through the preparation for professional leadership, especially in regard to the professional's role as advocate in topics of critical need such as global warming, sustainability and new client groups such as non-profit developers or disadvantaged communities.

The following two initiatives show evidence of this Long-range process (see description in I.3.1. Responses to five perspectives, e. Architectural education and the Public Good, p.27):

- The **Sustainability Laboratory**
- The **Laboratory on Habitability and Development (HD –LAB)**

## I.1.5 Self-Assessment

### a. Description of the school's self-assessment procedures, specifically with regard to ongoing evaluation of the program's mission statement, its multi-year objectives and how it relates to the five perspectives

The EPS employs both formal and informal self-evaluation methods. The latter involve daily interactions between students, management, faculty and administrators, which can be adopted and lead to changes being made in the program.

The formal methods are defined in the EPS's Internal Quality Control System Manual (latest edition, 2011), which provides guidelines on the training provided by the school, the quality of academic, administrative and support staff and instructions for implementation.

<p><b>Guideline 1 POLICY AND OBJECTIVES ON TRAINING QUALITY</b>          Covering the processes and mechanisms used by the university to establish systems for defining, reviewing, approving and publicizing its quality control policy and objectives</p>	<p><b>Guideline 4 GUARANTEEING THE QUALITY OF ACADEMIC, ADMINISTRATIVE AND SUPPORT STAFF</b>          Covering the processes and mechanisms that enable the university to ensure that recruitment, management and training of academic staff and academic support staff ensure they fulfill their responsibilities.</p>
<p><b>Guideline 2 GUARANTEEING THE QUALITY OF TRAINING PROGRAMS</b>          Covering the processes and mechanisms that enable the university to maintain and renew the training it offers, developing methodologies for the regular approval, monitoring and review of its programs.</p>	<p><b>Guideline 5 GUARANTEEING THE QUALITY OF MATERIAL RESOURCES AND SERVICES.</b>          Covering the processes and mechanisms that enable the university to design, manage and improve the services and material resources offered to ensure satisfactory student progress.</p>
<p><b>Guideline 3 DEVELOPMENT OF TRAINING PROGRAMS : FAVORING STUDENT LEARNING</b>          Covering the processes and mechanisms that enable the university to demonstrate that its teaching ensures student progress.</p>	<p><b>Guideline 6 COLLECTION AND ANALYSIS OF RESULTS IN ORDER TO IMPROVE TRAINING PROGRAMS.</b>          Covering the processes and mechanisms that enable the university to guarantee that the necessary decisions are taken to improve the quality of teaching and results (learning, graduate employment and student, staff and external actor satisfaction).</p>
<p><b>Guideline 7 PUBLICATION OF INFORMATION ON TRAINING PROGRAMS, AND ACCOUNTABILITY.</b>          Covering the processes and mechanisms that enable the university to guarantee that regular reports are compiled and published on awards, programs, equipment, installations (auditoriums, study rooms, IT suites, laboratories, meeting rooms, reading areas in the library) and scientific, technical, support and art supplies.</p>	

Additionally, the CIC of every faculty, school or center at the University San Pablo CEU has quality control systems in place to ensure the quality of education offered. The EPS's self-evaluation mechanisms for each of the five perspectives are described below:

## a.1. Architectural Education and the Academic Community

### a.1.1. Mechanisms for the coordination of teaching

The **dean of faculty or director of the school or center** has overall academic responsibility for coordinating teaching. He or she works with a team made up of the following people: the Program Administrator (responsible for degree courses), the Director of the Masters Program; Group Coordinators; the Teaching Unit Administrator and Module/Subject Coordinators.

The **Teaching Unit Administrators** are responsible for coordinating all the assignments taught in each teaching unit and for developing the Teaching Guides used in each one. The following Teaching Units are available within the Architecture Program: Form Analysis, Geometry, Architectural Drawing, Architectural Projects, Urban Planning and Land-use, Architectural Constructions, Building Systems, Construction Management, Mechanics of Continuous Media and the Theory of Structures.

**Group Coordinators** are jointly responsible with the instructional faculty for coordinating student activities, work assignments and evaluations.

**Module/Subject Coordinators** ensure coordination between faculty members who are responsible for teaching the same subject on master courses.

The **Program Administrator** (for degree programs) and the **Director of the Masters Program** receive suggestions for improvement, which they transmit to the relevant CIC for possible inclusion in the Quality Improvement Plan.

### a.1.2. Evidence of the success of these self-evaluation measures:

**Teaching Guides.** These contain: objectives, methodology and content, activities, credits, instructional faculty, tutoring arrangements, program of assignments, bibliography and on-line resources, evaluation criteria, course outline and suggested schedule. Guides are revised annually.

**Minutes of the Course Evaluation Committee.** The Course Evaluation Committees meet at the end of each semester. All faculty involved in each Group participate in meetings to share feedback on the course. Meetings take place before the evaluations are made public.

**Minutes of the School Management Board.** The School Management Board meets twice a year, after the student evaluations have been published.

**Reports of the Directors of Department and of the Masters Programs.** These reports are produced annually, at the end of the academic year.

The methods employed to compile the evaluations of teaching quality involve:

- The **Vice-Rector for Instructional Faculty**, responsible for establishing the qualifications required of faculty members and designing the professional training available to them.
- The **Dean or Director of the school**, responsible for ensuring faculty members are equipped to deliver the required levels of teaching, in order to guarantee minimum levels of student satisfaction.
- **Instructional faculty**, responsible for implementing the recommendations emerging from the Teaching Satisfaction Surveys completed by students.
- **Representatives of the Student Body**, who provide their feedback to the Program Administrator and, if necessary, to the Vice-Rector for Students.

The information on teaching quality is obtained principally from:

- Teaching satisfaction surveys completed on line by students.

- Information taken from the teaching arrangements plan and the teaching profiles of tenured instructional faculty on the degree program.
- Meetings between the Program Administrator / Director of the Masters Program with instructional faculty and students.
- Evaluation Committees.

## **a.2. Architectural Education and the Student Body**

Student satisfaction is gauged by examining both the Teaching Satisfaction Surveys mentioned in the previous section and the results of the Satisfaction Surveys on University Services and Infrastructure. These on-line surveys are carried out annually.

The quality of internships are also assessed.

The Vice-Rector for Instructional Faculty, working with the Employment Advice and Information Center (COIE) is responsible for planning, reviewing, up dating and improving the quality of compulsory (curricular) and voluntary work placements/internships.

Work placements are agreed with the organization, company or institution offering them. Details of the placements and of information sessions are made available to students on line.

Curricular work placements are assigned using the information contained in student files; the institution offering the placement may also carry out a selection process.

Work placements are monitored from the start, by the student's personal tutor and by the entity offering the placement, which compiles a report on the student's contribution. The academic tutor is responsible for evaluating the placement, as set out in Royal Decree 1707/2011 of 18 November 2011, which regulates external academic placements.

All this information is collected by each school's COIE. The Vice-Rector for Instructional Faculty acts as Coordinating Director of the COIE and is responsible for processing the evaluations and making them available to the CIC of the degree program, which considers whether to action them within the Quality Improvement Plan.

### **Data and indicators**

- Number of matriculated students on external work placements, by assignment.
- Number of places offered on external work placements, by assignment.
- Number of academic tutors supervising external work placements.
- Number of academic administrators monitoring external work placements.
- Tutor to student ratios.
- Average grades awarded per assignment for external work placements.
- Level of satisfaction with external work placements, by degree course.

The **quality of academic mobility programs** is evaluated using two principal sources of information: the **Survey of Student Satisfaction with Mobility Programs**, which measures satisfaction levels of students who go to other universities and of students who come to the University San Pablo CEU, and **meetings between Academic Coordinators and students**. The information obtained is analyzed by the CIC, which may decide to include them within the Quality Improvement Plan.

### **a.3. Architectural Education and the Regulatory Environment**

The CIC of each faculty, school or center is responsible for evaluating the quality of teaching, basing its analysis on the Provisional Monitoring Reports prepared by the **Program Administrators** and **Directors of Masters Programs** that it has received from the appropriate dean or director. The most important documents produced during the evaluation process are:

- The school's Degrees Quality Report (prepared by the CIC).
- The school's Quality Improvement Plan (prepared by the Director of the School).
- Implementation Plan resulting from the results of the Instructional and research faculty Satisfaction Survey
- Implementation Plan deriving from the results of the Support Staff Satisfaction Survey
- Document setting out the System to Evaluate the Satisfaction of External Actors
- Implementation Plan for the evaluation system of student satisfaction with teaching
- Implementation Plan for the evaluation system of graduate employment levels

In conformity with the legal requirements specified by Law 31/1995, information on the levels of satisfaction of instructional and research faculty and administrative and services personnel is obtained using a questionnaire devised by the *Instituto Nacional de Seguridad e Higiene en el Trabajo* (National Institute for Health and Safety in the Workplace – INSHT) that examines the perceptions of the workforce concerning psycho-social risks in the workplace (the FPSICO 3.0 Method). Factors examined include workload, levels of autonomy and engagement.

Satisfaction levels of external actors are ascertained on the basis of reports compiled by the Coordinators of External Work Experience Placements, which approximate the views of the entities and companies that host San Pablo CEU students during curricular and voluntary placements. This procedure was initiated in academic year 2012 – 2013, in response to Royal Decree 1707/2011 of 18 November 2011, which regulates external work placements of university students.

#### **Evidence and indicators**

- Satisfaction levels of students with university services.
- Satisfaction levels of students by faculty or school.
- Level of psycho-social risk of instructional and research faculty.
- Level of psycho-social risk of administrative and service personnel.
- Satisfaction levels with the degree program by external participants.

### **a.4. Architectural Education and the Profession:**

A tribunal made up of a representative of the College of Architects of Madrid, non-advisor faculty and guest architects evaluates the Final Degree Projects of all students. Evaluation of the Final Degree Projects by an external tribunal whose members include active practitioners provides the best possible evidence that San Pablo CEU provides excellent preparation for its students.

### **a.5. Architectural Education and the Public Good:**

Participants have reported back positively on the work of students and faculty members involved in cooperation for development projects. In September 2013 a satisfaction survey was carried out of students and faculty members who had participated in the cooperation Project with Makeni University in Sierra Leone.

**b. A description of the results of faculty, students', and graduates' assessments of the accredited degree program's curriculum and learning context as outlined in the five perspectives.**

**b.1. Architectural Education and the Academic Community**

The Evaluation Committees: as the evaluation committees meet at the end of each semester they are able to evaluate student progress very closely.

Two kinds of academic staff play a particularly important role:

- Tutors: especially during the first year of the degree, when the advice given to students is key. The tutors play a particularly important role providing support, for example helping students to plan their studies according to their individual needs and interests.
- The Academic Secretary plays a vital role coordinating all aspects of planning, programming, coordination, implementation and evaluation of the degree program.

Regular complementary activities, such as courses, lectures and exhibitions are arranged for students.

Numerous summer courses are offered, including courses intended for future degree students, which serve as a genuine introduction to the program.

Students and instructional faculty alike make ample use of the specific webpages (Portals) set up for instructional faculty and students. Students and staff are able to upload documents to the portals, facilitating the work of all. Staff and students value the real-time availability of information on student performance and progress available immediately each assignment has been completed.

San Pablo CEU demonstrates its commitment to the EHEA by organizing regular training courses for faculty members.

**b.2. Architectural Education and the Students**

Student satisfaction with teaching is high.

Description and extend of implementation of the student complaints and claims system.

- In order to ensure that a wide range of information is gathered and used effectively to make improvements, questions, suggestions, complaints and claims may be made using the "Suggestions" link on the university homepage: <http://www.uspceu.com/es/general/buzon-sugerencias/index.php>
- All suggestions or complaints received through the Suggestions link are registered in the BSQR System (Buzón de Sugerencias Quejas y Reclamos – Suggestions and Complaints Mailbox), which assigns a reference number and generates an automated email confirming receipt and providing information on the next steps and calendar. Requests are processed by the Vice-Rectorate for Students, which decides what action, if any, is required.
- When a decision is made it is logged in the BSQR System and communicated to the complainant. Although many complaints are resolved immediately, at the end of each academic year the Vice-Rectorate for Students prepares a report including all cases received by the system. This information is passed on to the CIC, which evaluates the merits of including complaints in the Improvement Plan, indicating responsibilities as appropriate.
- Where the proposed remedy refers to the school's own management processes the director of the school is responsible for its implementation. Where it concerns an entity or service whose actions affect various faculties, schools or services, implementation is the responsibility of the Vice-Rectorate for Instructional Faculty or the General Secretary. Implementation of the Improvement Plan is

monitored by the CIC, which is responsible for ensuring the recommendations it has made are carried out.

- Communication between students and school management is smooth, ensuring that complaints, suggestions and incident reports are well managed, whether they are made through the Course Delegates or individually. A review of the principal incidents reported in the EPS during academic years 2010-2011 and 2011-2012 found there had been eight requests for passwords to access the Student Portal or for technical support and two for course-related information. The small number of suggestions and complaints received were handled satisfactorily.

### **b.3. Architectural Education and the Regulatory Environment.**

During 2011-2012 the following suggestions were incorporated into the university's regulations:

- A table of assignments for each course has been prepared specifying the development of each subject during each semester course.
- External work placements and internships have been incorporated into the program of studies. Under the terms of an ad-hoc decision of the University's Board of Trustees, students are able to gain up to six academic credits towards the total available for each module if they participate in cultural, sporting, representational, community or development cooperation activities.
- A table has been included in the teaching plan detailing the areas of specialization, professional experience and research interests of faculty members.

The procedure for closure of a degree is specified in the Internal Quality Control System under the heading "Process for suspending or closing a degree", assigning responsibility to the following governance bodies:

- The dean or director, responsible for preparing the proposal.
- The University Governing Council, responsible for approving the proposal.

### **b.4. Architectural Education and the Profession:**

For disciplines that are closely connected with the world of professional practice academic staff with broad practical experience guarantee that teaching objectives will be met.

The EPS has signed a range of cooperation agreements with public authorities and businesses covering the planning, implementation and monitoring of work placements. The COIE organizes courses to support students in their efforts to find employment.

There are several mechanisms to support student mobility: institutional and bilateral agreements and the Erasmus Program. Financial support is available to students to help with transport and the planning and monitoring of exchanges. Orientation sessions are also organized for students who want to find out more about mobility options available to them.

Description and extent of implementation of graduate employment plans and teaching satisfaction:

- Systems have been established for all degrees. These are the responsibility of the Vice-Rectorate, through the COIE's Observatorio Ocupacional (Employment Monitoring Center), which coordinates the process, gathers and tabulates information by administering a graduate employment and teaching satisfaction survey and identifies indicators. The faculties, schools and centers, and the Graduate Services Office, provide support and documentation on a yearly basis that the Employment Monitoring Center requires to function and to define the sample.

- The Employment Monitoring Center rates programs (masters courses) whose graduates have been in the labor market for at least two years. Telephone interviews have been used to gauge satisfaction levels among masters students with a margin of error of 5%. The Vice-Rectorate for Students prepares a report setting out the different indicators employed, which are analyzed by the relevant CIC. The new degree programs will not start until 2013, with the result that the first graduate employment and student satisfaction survey will not be available until 2015.
- The reflections and proposals for change are incorporated into the school's Improvement Plan, permitting the school and the Graduate Services Office to enrich their procedures, including by reviewing the school's teaching objectives in the former case and systems to monitor graduate fidelity in the latter. The CIC monitors the Improvement Plan, ensuring that the suggestions for improvement are carried out.

### **b.5. Architectural Education and the Public Good:**

The comments by student representatives demonstrate high levels of satisfaction with the activities developed in the areas of cooperation for development. Several students have volunteered to take part in these activities.

For the first time in 2012-2013, students have been required to include a sustainability study in their Final Degree Project, including a plan to manage construction waste. In the fall of 2013 an exhibition has been organized of all student assignments carried out during the previous academic year, demonstrating fulfillment of the criteria of sustainable construction.

Other activities developed in the 2013-2014 course year:

#### **a. Promoting cooperation and development.**

Students and professors have collaborated in different workshops in urban design and studio design courses to analyze existing conditions in Makeni (Sierra Leone) in collaboration with the city's government to develop the campus of the University of Makeni. During the 2013-2014 course only the project phase was developed given the difficulties imposed by Ebola epidemic.

During the academic year 2013-2014, a new strategy has been implemented with the creation of a "PRC Care Centre" for the prevention of floods and disasters in Benin, in the Mono River Area. The centre works as well as a tool for managing risk in humanitarian emergency situations and as an activator for the economy of Grand Popo. The aim of this project is to reduce poverty among families who were already poor before they lost their homes with the floods, strengthening their resilience to cope with disaster. The creation of a multidisciplinary university research framework will help establish the main guidelines for prevention and action in risk situations and humanitarian emergencies by implementing action and social policies.

#### **b. Promoting architecture, in Madrid Society, amongst youth and pre-university students**

During the 2013-2014 course year various activities were implemented:

- Exposition TransForMad, in collaboration with Madrid's Centro-Centro (an exhibition space in Madrid's City Hall), to show the Architectural Program's student work specifically related to new proposals for the city of Madrid. During the show, students organized different workshops to promote architecture and the architect's work. The show enlisted the participation of the COAM (Colegio Oficial de Arquitectos de Madrid) and various companies related to architecture, design and construction.
- Technology for Pre-university Students. The 2013-2014 course was the 4<sup>th</sup> edition of this open course, oriented to high school students from different schools. A series of seminars related to the

fields of architecture, building construction, new technologies and design, help students orient their interests for future studies. The activities are carried out in studio/workshops and laboratories and are design to awaken interest in technical fields, especially in light of the lack of interest for scientific and technical fields in Spain.

The first conclusions drawn from this initiative have been publicly presented (*de Isidro et al., Encouraging Pre-University Students in Science and Technology, INTED 2014*)

**c. Promoting a culture of innovation.**

Coinciding with the new 5<sup>th</sup> year course in the Program 2010, "Innovation Studio", and in collaboration with Sustainability Laboratory, a studio has been established to specifically focus on the architect's responsibility to innovate and initiate change. The studio explores other possibilities for professional practice and is a framework for investigation based on sustainability and respect for the environment. Collaborations with companies from the building and construction sectors will be established.

**d. Promoting research.**

In the architectural program, several projects of basic and applied research are being developed. Of special importance is the project dedicated to basic habitability in the development of emergency housing in collaboration with the company Airbus Military, which is currently underway and producing the first prototypes.

**c. A description, if applicable, of institutional requirements for self-assessment:**

The results of these self-evaluation procedures are compiled in regular evaluation reports which detail activities, tendencies, difficulties and opportunities, providing extrapolation information that is used to maintain, adjust or re-design policy over the long term.

Name of Record	Body Responsible
Teaching Evaluation Report (analysis of the results of the teaching quality survey)	Director of the School
Report on student satisfaction with exchange programs	International Relations Office
Report on Student Satisfaction with Mobility Programs	Vice-Dean, Deputy director, Program Administrator, Coordinators of External Work Experience Placements, Coordinator of the COIE, faculty, school or center
Report on satisfaction with voluntary mobility experiences	Coordinator of the school's COIE
Report on graduate satisfaction (graduate employment and quality of teaching in relation to degree requirements)	Coordinator of the school's COIE
Report on employer satisfaction	Coordinator of the school's COIE
Report on instructional faculty satisfaction	Dean or director of the School , Program Administrator
Report on administrative and service personnel satisfaction	Human Resources Department, Fundación San Pablo CEU
Minutes of the meetings of the school's CIC (including analyses of current process and suggestions for improvement)	School's Quality Control Coordinator
Awards Quality Monitoring Report	Dean or director of the School
Indicators and tables	Dean or director of the School and of the Department of New Technology
Indicator sheets	School's Quality Control Coordinator and Department of New Technology

**d. Description of the manner in which results from self-assessment activities are used to inform long-range planning, curriculum development, learning culture, and responses to external pressures or challenges to institutions.**

Annually, the School compiles a summary report that gathers together the different reviews by the student body, instructional faculty, and administrative and service personnel. The report includes an analysis of the strengths and weaknesses detected in the different surveys. The governmental *Agencia de Calidad, Acreditación y Prospectiva de las Universidades de Madrid* (Quality Control, Accreditation and Forward Planning Agency of the Universities of Madrid – ACAP) evaluates this report.

About curriculum development and responses to the challenges faced by the program, detection mechanisms and ordinary internal procedures are included in section II.3.1 “Curriculum Review and Development.”

## I.2 Resources

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

#### **a. Human resources dedicated to teaching**

The breakdown of EPS faculty members and other staff engaged in teaching the Degree in Architecture is as follows:

- a. 100 faculty, permitting a staff to student ratio of 1:7.
- b. 31 faculty members have PhDs.
- c. 19 professors have received a positive evaluation from one of the legally recognized organizations to assess academic instructional faculty, the Agencia Nacional de Evaluación de la Calidad y Acreditación or the Agencia de Calidad, Acreditación y Prospectiva de las Universidades de Madrid.
- d. 73 professors are qualified architects or engineers, members of their respective professional associations.

FULL PROFESSOR	2
AGGREGATE PROFESSORS	7
ADJUNCT PROFESSORS	11
TENURED PROFESSORS	1
POST-DOCTORAL TEACHING ASSISTANTS	6
TEACHING ASSISTANTS	58
TEACHING ASSISTANTS ON DIPLOMA COURSES	1
ASSOCIATE PROFESSORS	14
EMÉRITUS PROFESSORS AND SIMILAR	-
PRE-DOCTORAL SCHOLARSHIP OR CONTRACT HOLDERS	3
POST-DOCTORAL SCHOLARSHIP OR CONTRACT HOLDERS	1

#### **b. Other available human resources (management, administrative and services personnel).**

The EPS's management, administrative and services personnel, responsible for overseeing all the programs are all well qualified, as may be seen from the following table.

Area	Support staff
Secretary's office	1 Coordinator of Administration 5 Administrative Assistant (shared with the School of Medicine and the Faculty of Chemistry)
COIE	1 Director 1 Administrative Assistant (shared with International Relations)
Advice Services	1 Psychologist
International Relations	1 Coordinator 1 Administrative Assistant (shared with COIE)
Administration	1 Administration manager 2 Administration staff (+ 2 externally contracted support staff)
Maintenance	1 Service technician 1 Maintenance assistant
Secretary to the Directorate	1 Secretary to the Directorate 1 Secretary to the Sub-directorate
Campus Management	1 Management technician
Health Center	2 Nurses
Library	1 Director 3 Library assistants
New Technologies	1 Director 9 Technicians

**c. Matrix for 2 academic school years and Faculty descriptions**

(Description is in the following pages)





COURSE 2013-2014	FIRST COURSE (PLAN 2010)												SECOND COURSE (PLAN 2010)												THIRD COURSE (PLAN 2010)												FOURTH COURSE (PLAN 2010)												FIFTH COURSE (PLAN 2001)												PFC
	SEMESTER 1						SEMESTER 2						SEMESTER 3						SEMESTER 4						SEMESTER 5						SEMESTER 6						SEMESTER 7						SEMESTER 8						SEMESTER 9						SEMESTER 10						
	A101 (AF1)	A102 (GD1)	A103 (IAR)	A104 (FM1)	A105 (FF1)	A106 (ANT)	A107 (AF2)	A108 (GD2)	A109 (DA1)	A110 (FM2)	A111 (FF2)	A112 (HYS)	A201 (PR1)	A202 (DA2)	A203 (MEC)	A204 (MCO)	A205 (IU1)	A206 (HA1)	A207 (PR2)	A208 (DGA)	A209 (FM3)	A210 (SES)	A211 (IU2)	A212 (HA2)	A301 (PR3)	A302 (SC1)	A303 (AE1)	A304 (TEC)	A305 (DU1)	A306 (LIB)	A307 (PR4)	A308 (SC2)	A309 (AE2)	A310 (ELE)	A311 (DU2)	A312 (HA3)	A401 (PR5)	A402 (DES)	A403 (IST)	A404 (PL1)	A405 (HA4)	A406 (DSI)	A407 (PR6)	A408 (ACO)	A409 (CIM)	A410 (PL2)	A411 (COM)	A412 (LMO)	A501 (PR7)	A502 (PC1)	A503 (PU1)	A504 (OF1)	A505 (TIA)	A506 (TES)	A507 (PR8)	A508 (PC2)	A509 (PES)	A510 (PIN)	A511 (PU2)	A512 (OF2)	
<b>HERMIDA RODRÍGUEZ, BELÉN</b>	Registered Architect. Massachusetts Institute of Technology, USA. Master of Architecture. Co-Director Master in Urban Interior Design.																																																												
<b>HERRERA GÓMEZ, AURORA</b>	PhD in Architecture. Registered Architect. Assistant Professor. Articles in Architectural Design. Expert in designing exhibitions.																																																												
<b>HEVIA OCHOA DE ECHAGÚEN, JUAN</b>	Registered architect in Spain. More than 10 years professional experience.																																																												
<b>HORCAJADA DÍAZ, DANIEL</b>	Registered architect in Spain. More than 10 years professional experience.																																																												
<b>IGLESIAS SANZ, CARLOS MIGUEL</b>	Architect. Architect Planner for the Architectural Project + Facilities + Key in hand. co.META Architect Office. Forensic Architect. Member of the Group of Expert and Forensic Architects of the COAM, Madrid																																																												
<b>ISIDRO GORDEJUELA, FEDERICO DE</b>	PhD in Architecture. Registered Architect. Director of Architecture School San Pablo University. Member of Eurocode no.6 Comitee: Masonry Structures. Articles in Building Materials.																																																												
<b>IZQUIERDO ESTEBAN, SONIA</b>	PhD in Architecture. Recent Publication "Nuestros pabellones ganadores en las recientes Exposiciones Internacionales" (2012). Researcher of Drawing and Architecture Research Group. University CEU San Pablo.																																																												
<b>JIMÉNEZ ALCALÁ, BENITO</b>	PhD in Architecture. Registered Architect. Recent Publication: Environmental Aspects of Hispano-Islamic Architecture. Technical Assistance for the Arts Sector of Madrid's City Council.																																																												
<b>LAHOZ PALACIO, CARLOS</b>	Registered Architect. Madrid THINK TANK Director. Member of ARCHITECTURE FOUNDATION. OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Trustee. Municipality of Madrid.																																																												
<b>LÓPEZ FERNÁNDEZ, EDUARDO JOSÉ</b>	PhD in Civil Engineering. Licensed Civil Engineer. Expert in Life Cycle Analysis and Topography.																																																												
<b>LÓPEZ GORRIA, MARTA</b>	Registered Architect. Legal Expert in Architecture. Spain. Member of the Investigation Team for "Ingeniería ambiental y tecnologías para el desarrollo sostenible".																																																												
<b>LÓPEZ RODRÍGUEZ, BEGOÑA</b>	Architect. Member of Research Group Spaces for Learning.																																																												
<b>LORENZO CUEVA, COVADONGA</b>	Architect. Articles in Architectural Drawing . Master in Architectural Design (MAD). Member of the Architectural Association (Alumni).																																																												
<b>MACHÍN HAMALAINEN, CARLOS</b>	Registered Architect. Registered Architectural Engineer. Expert in Building Management in Historical Buildings.																																																												
<b>MACÍA TORREGROSA, Mª EUGENIA</b>	PhD in Architecture. Assistant Professor. Coordinator of the Horizontal Group for Fire, for the Technical Standards Committee AEN/CTN 140 "Structural Eurocodes", AENOR.																																																												
<b>MAESTRE GALINDO, CLARA EUGENIA</b>	Registered architect in Spain. More than 20 years professional experience. Articles in Architectural Drawing.																																																												
<b>MARSÁ GONZÁLEZ, JOSÉ MARÍA</b>	Registered architect in Spain. More than 30 years professional experience. Articles in Architectural Drawing.																																																												
<b>MARTÍN BARANDA, JUAN CARLOS</b>	Registered architect in Spain. More than 30 years professional experience.																																																												
<b>MARTÍN ESCUDERO, ANTONIO</b>	Registered architect in Spain. More than 10 years professional experience. Expert in Building Structures.																																																												







**d. Description of policies and procedures of the University with regard to issues of equity and diversity.**

The University San Pablo CEU fully respects the principle of equal opportunities for men and women in the public and private sector workplace, in fulfillment of Law 3/2007 and Law 51/2003, which guarantees professional advancement irrespective of race or gender.

San Pablo CEU has worked consistently to ensure that it respects the principles of gender equality in all its activities and that its projects and programs promote an understanding of mixed education, the principles of equality and women's roles throughout history. For example, San Pablo CEU's well-established Gender Monitoring Unit works in close collaboration with the Institute for Women at the Ministry of Labor and Social Affairs, carrying out research and producing publications in line with the spirit of the equalities legislation.

All the intellectual work produced by faculty or distributed by the university adheres to the principles of gender equality, and equal opportunities have been put into practice across the institution.

Furthermore, in compliance with current legislation, measures have been put in place to guarantee equal opportunities and access to the curriculum for people with disabilities. Equality is understood to include the absence of any form of discrimination, whether direct or indirect, based on a person's disability. It also requires the adoption of positive measures to prevent or circumvent barriers that prevent people living with disabilities from participating fully in political, social or economic life or – in the case of the university – in the cultural sphere. Special mention should be made of article 24 section 2 subsection a) of Law 3/2007 which expressly indicates that educational authorities have a duty to pay special attention to the curricula they offer.

The EPS provides grants to enable low-income students to study for a degree:

<http://www.uspceu.com/es/estudios/becas-y-ayudas/presentacion.php>

**e. Description of tutoring policies.**

The tutoring system lies at the heart of the EPS's approach to teaching. The relevant guidelines, approved by the Governing Council on 7 March 2012, may be accessed on line at: *Portal del Profesor / Normas y procedimientos / Sección A Normas Generales de la Universidad / A.4. Normas sobre las tutorías académicas en la Universidad San Pablo CEU.*

The principal objective of the academic tutoring system is to provide help and advice to students, providing support to them in their studies and for their eventual entry into the labor market, encouraging them to participate in university life and in their individual and social development. The system involves two kinds of tutoring arrangements: academic and personal. All degree students are assigned a personal tutor. All faculty members with teaching responsibilities act as academic tutors.

The overall objectives of the tutoring system are to provide the following:

- General academic advice and support during all assignments.
- Guidance on all programs and curriculum areas and in particular on the teaching methodologies employed.
- Guidance on personal, social and professional matters and on postgraduate study.
- Advice on university guidelines, grants and support, and external work placements.
- Support to help students maximize their potential.
- Provide additional support to help students, especially during the first year, to help compensate for any gaps in their previous education.
- Help students face difficulties and develop a sense of responsibility.
- Support students to both learn from and resolve situations that emerge at the university and elsewhere.
- Encourage students' integration by fomenting participation in university extension activities.
- Encourage students' overall formation in the humanities and values.
- Support students' understanding of the university as a whole and, in particular, the section in which they are studying.

**f. Mechanisms to provide opportunities for all faculty and staff to pursue professional development that contributes to program improvement.**

The organizational and procedural regulations relevant to instructional faculty are available at the following link:

<https://servicios.ceu.es/calidad/SistemaIntegradoInformaciónyGestión.aspx>

**University procedures for continuing professional development for administrative and support staff (San Pablo CEU AUDIT)**

**1. Objective:** In accordance with the Center's strategic objectives, define the procedures and measures governing continuing professional training for administrative and support staff.

**2. Scope:** The process covers the initial assessment phase and the elaboration, dissemination, implementation and evaluation of continuing professional training for administrative and support staff at the University San Pablo CEU.

**3. Responsibility:** The Human Resources Department

**4. Inputs:**

- Strategic Plan of the Fundación Universitaria San Pablo CEU
- Development plans produced by the University San Pablo CEU 's Directors of Unit
- Current employment legislation
- Applicable collective agreement (covering education and research centers)
- National Agreement on Continuing Professional Development Plans
- The University San Pablo CEU 's organizational and procedural regulations

**5. Outputs**

- Training Plan
- Certificate of newly-acquired or developed professional competence
- Efficient financial management of the Training Plan reflected in the accounts.

**6. Client:**

- Administrative and support staff the University San Pablo CEU

**7. Provider:**

- Human Resources Department
- Internal trainers
- External trainers

**8. Starting Point:** Assessment and analysis of the university's strategic requirements and human resources policies in order to establish priorities for staff development and promotion through continuing professional training.

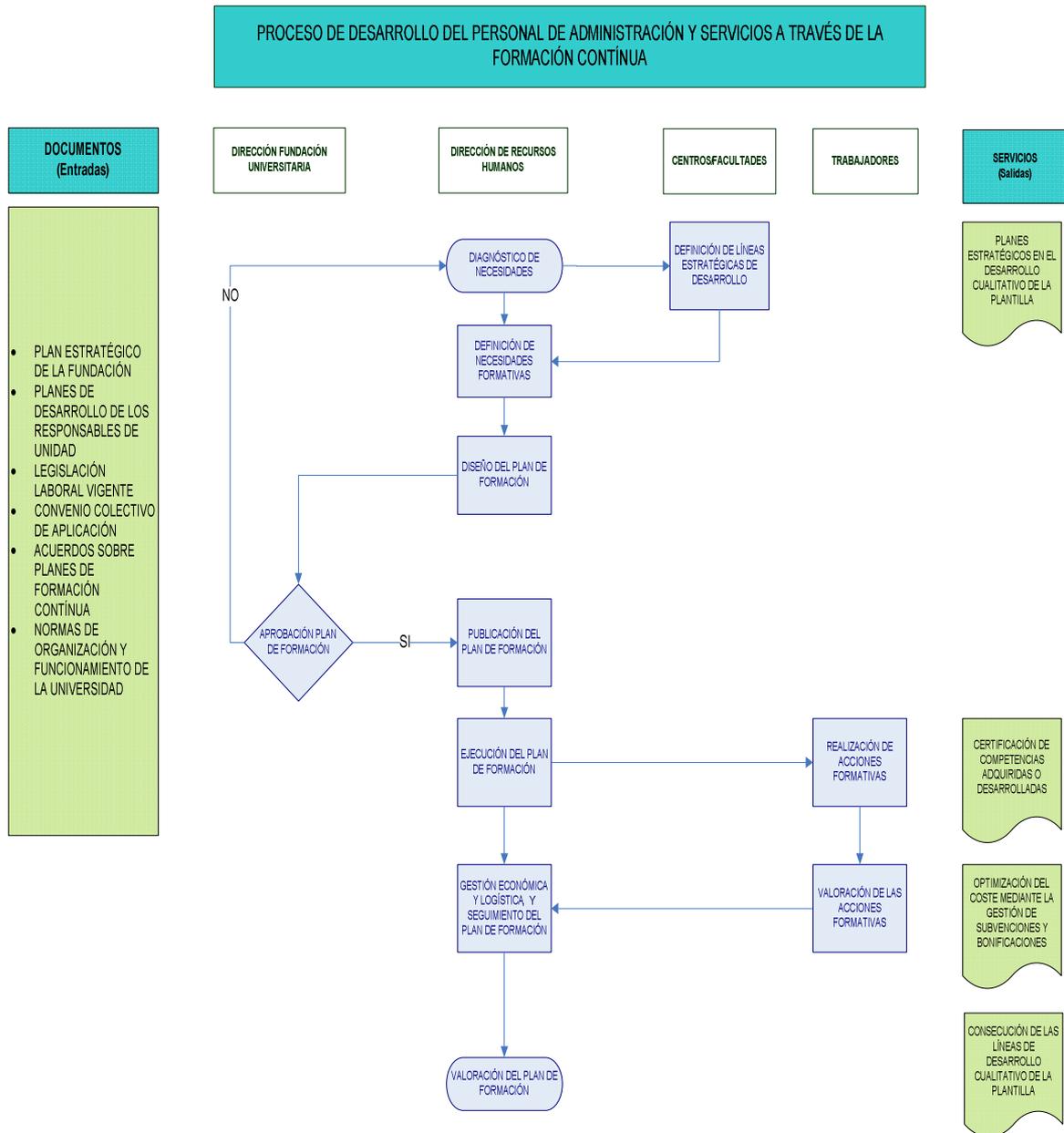
**9. End:** Qualitative and quantitative evaluation of the Training Plan.

**10. Stages:**

1. Assessment of requirements.
2. Identification of training needs.
3. Design of Training Plan.
4. Approval of Training Plan.
5. Publication of Training Plan.
6. Implementation of Training Plan:
  - a. Implementation of training activities
  - b. Evaluation of training activities.
  - c. Financial and logistical management of Training Plan.
7. Evaluation of Training Plan.

**11. Monitoring indicators**

**f.2. Flow chart of the continuing professional development process for administrative and support staff (AUDIT San Pablo CEU)**



**g. Policies, procedures, and criteria for faculty appointment and promotion.**

All permanent instructional faculty at the university belong to one of the following categories:

- Full Professor of the University San Pablo CEU
- Professor of the University San Pablo CEU
- Tenured Professor of the University San Pablo CEU
- Aggregate Professor of the University San Pablo CEU
- Adjunct Professor of the University San Pablo CEU
- Collaborating Doctor of the University San Pablo CEU
- Collaborating Professor of the University San Pablo CEU

The regulations governing promotion and benefits available to faculty members for teaching, research and contributions to the university may be accessed on line through the *Portal del Profesor / Normas and procedimientos / Sección B: Promoción Académica del Profesorado*.

**Regulations governing faculty promotion and benefits at the University San Pablo CEU for teaching, research and other contributions to the university. (See: *Capítulo 1, Complementos Docentes III.3.7. (February 2005)*).**

**g.1. Internal regulations governing promotions at the University San Pablo CEU. Procedures.**

**a. Promotion to Full Professor:**

- i. Be an Aggregate Professor at the University San Pablo CEU .
- ii. Be in receipt of a positive evaluation of his or her research record emitted by the appropriate public authority or equivalent, demonstrating at least six years research experience and twelve years' teaching, of which nine years (75%) should have been evaluated positively (over 70%).
- iii. Fulfill the established promotion criteria, as assessed by three professors of recognized status in the same (or a closely allied) field and of the same, equivalent or higher academic rank to the post the candidate is applying for.
- iv. Be in possession of a positive report from the Permanent Commission of the Governing Council, taking into account the recommendations of the coordinator of the curriculum area and the appropriate Department Directors and deans of faculty.
- v. Have experience teaching or researching in Spanish or foreign institutions for a minimum of one academic year or, if teaching has not been continuous, the equivalent.
- vi. Advised at least three doctoral theses awarded *cum laude* or above.

**b. Promotion to Aggregate Professor:**

- i. Be an Adjunct Professor at the University San Pablo CEU .
- ii. Be in receipt of a positive evaluation of his or her research record emitted by the appropriate public authority or equivalent, or fulfill the established promotion criteria, as assessed by three professors of recognized status in the same (or a closely allied) field and of the same, equivalent or higher academic rank to the post the candidate is applying for.
- iii. Have taught for at least seven years of which in at least five years (75%) should have been evaluated positively (over 70%).
- iv. Be in possession of a positive report from the Permanent Commission of the Governing Council, taking into account the recommendations of the coordinator of the curriculum area and the appropriate Department directors and deans.
- v. Have experience teaching or researching in Spanish or foreign institutions for a minimum of one academic semester, either continuously or not.

**c. Promotion to Adjunct Professor:**

Post-Doctoral Teaching Assistants at the University San Pablo CEU who have received accreditation from an official national or regional accreditation agency will be automatically promoted to Adjunct Professor.

**Note:**

The requirement in points 13.a.iii and 13.b.ii that candidates should have fulfilled the promotion criteria shall be waived for faculty members who have been recognized as Full or Tenured Professors in the same area of study by other institutions or having sat the tests established by the *Consejo de Coordinación Universitaria para las Universidades españolas* (the Spanish Universities Coordination Council).

## **g.2. Course Outlines**

Candidates for Aggregate Professor are required to prepare two course outlines (known as “exercises”), and for Full Professor, three. Before presenting the first exercise candidates must present five copies each of their resume, the course outline they have prepared, and an explanation of the conceptual approach, methodology and bibliography they have chosen. If appropriate, they should present a copy of the selection criteria, duly endorsed by the Permanent Commission, to which they should also make available an example of their publications.

## **g.3. Assessment of Candidates**

Applications for Aggregate or Full Professorships are assessed by a committee of five professors of recognized status, of equivalent or higher academic rank to the post the candidate is applying for, of whom at least three shall be external. In the case of candidates for Aggregate Professor at least one of the committee members shall be a Full Professor.

## **h. How faculty members remain current in their knowledge of the changing demands of practice and licensure.**

Most faculty members at the EPS work professionally as architects and engineers, and are members of their respective professional associations. The work of the architects who work at the school has appeared in a variety of publications and exhibitions, including the following:

Work of faculty has been included in the international Venice Biennale, the Spanish Bienal and faculty members' work has received prestigious design awards including the FAD design awards, Saloni Prize, FAP Stone Award, Colegio Oficial de Arquitectos Award, and the EUROPAN housing competition. Faculty has been awarded prizes and commissions both in Spain and abroad through design competitions. Their work is included in a long list of international and national publications and exhibitions.

Some examples follow below:

*“Viviendas de Protección Pública Sostenibles. Innovadoras, Económicas y de Calidad”.* (Sustainable, innovative, low cost, high quality public housing) January 2013. Published by Habitat Futura – EMVS Depósito Legal: B-15.368-2006 pp. 22, 118-119

*“Guía de Estudios de Arquitectura 2012-2013”* (Guide to Architecture Offices) October 2012. Published by Editorial Protiendas S.L. – ISSN: 1888-8410

*“Cultura y Parque, entre Cubiertas y Patios”.* (Culture and the Park: Between Covered Spaces and the Open Patio) Revista: Detail nº 02/12, June 2012. Published by GmbH&Co.KG – ISSN: 1578-5769

*“YAS- Young Architects of Spain”.* (Exhibition of architectural projects and finished buildings). Carleton University, Ottawa, Canada. 25 April – 15 May 2013

Centro Cultural Español (CCEMiami), Miami, Florida, USA.

Texas A&M University's College of Architecture, College Station, Texas, USA. 6 November – 10 December 2012.

Instituto Cervantes New York 211 E 49th Street (Bet. 2nd & 3rd Avenues) New York. 5 September – 18 September 2012

### **i. Resources enabling academic mobility**

The regulations covering mobility for teaching and non-instructional faculty and students are available on line at the *Portal del Profesor / Normas and procedimientos / Sección F: Estancias and movilidad*.

During academic year 2012-2013 two faculty members have requested a leave of absence to enable them to teach at foreign universities: the American University of Sharjah, United Arab Emirates and the University of Idaho.

The EPS's bilingual program, the increasingly well-established studio sessions, the potential for establishing an international group at San Pablo CEU and exchange programs involving faculty and students are contributing to the consolidation of the institution's international profile.

Additionally the EPS is preparing the signature of an agreement with the Institute of Architecture at Zhejiang University, under whose terms every year a group of former EPS students will have the opportunity to work for nine months in the Chinese university.

Faculty member travel costs are included in the school's annual budget. Travel to foreign universities or research centers is justified for the following reasons:

- Participation in academic conferences by faculty members
- Participation in international congresses by faculty members.
- Participation in research project meetings.
- Participation in studio sessions by faculty members and students.

### **j. Facilitation of faculty research, sabbatical leave and unpaid leaves of absence, opportunities for the acquisition of new skills and knowledge, and support of attendance at conferences.**

The following support was provided during academic years 2012-2013 and 2013-2014.

#### **j.1. Academic mobility**

Academic mobility program **2012-2013**. EPS Professor: 3 weeks at each of:

- The Pontifical Catholic University of Peru (PUCP), Lima, Peru
- Santa María la Antigua Catholic University (USMA), Panama

Academic mobility program **2012-2013**. EPS Professor: 1 week at each of:

- Chung Yuan Christian University, Chung Li, Taiwan
- National Cheng Kung University, Tainan, Taiwan
- The Architecture Faculty, University of Kaiserslautern, Germany
- School of Architecture, Syracuse University, Syracuse, New York

Academic mobility program **2012-2013**. EPS Professor: 3 weeks at each of:

- Central Connecticut State University, New Britain, USA

Academic mobility program **2012-2013**. 2 EPS Professor: 3 weeks at each of:

- School of Architecture and Design at the Tecnológico de Monterrey (ITESM), Queretaro Campus, Mexico
- Faculty of Architecture, National Autonomous University of Mexico (UNAM), Mexico City, Mexico

Academic mobility program **2013-2014**. EPS Professor: 1 month at each of:

- Politecnico di Milano. Dipartimento di Architettura e Studi Urbani. Milano.
- The University of Edinburgh, Edinburgh College of Art. Landscape Architecture. Edinburgh

Academic mobility program **2013-2014**. EPS Professor: 3 weeks at each of:

- University of Makeni. Sierra Leone
- Universidad Técnica de Loja. Ecuador.

Academic mobility program **2013-2014**. EPS Professor: 1 semester at each of:

- Architectural Engineering Department. College of Engineering. Alfaisal University, Riyadh, KSA.

Academic mobility program **2013-2014**. EPS Professor: 1 week at each of:

- Royal Danish Academy of Fine Arts. Copenhagen, Denmark.

Academic mobility program **2013-2014**. EPS Professor: 1 week at each of:

- Scuola del Design. Politecnico di Milano.
- Politecnico di Milano + Ecole Spéciale d'Architecture + Ecole Camondo + CEU (1 week workshop in Como).

Academic mobility program **2013-2014**. EPS Professor: 1 week at each of:

- Instituto Superior Técnico. Universidad de Lisboa.
- Universidad de Málaga. Escuela de Arquitectura.
- Facultad de Ingeniería y Arquitectura. Universidad degli Studi dei Cagliari, Italia.
- Universidad de Extremadura.
- Universidad de Nacional de Educación. Ministerio de Educación, Ecuador.

## **j.2. List of lectures and papers given by EPS faculty**

List of some lectures and papers given by EPS faculty during the academic year 2013-2014:

Title: "*Incorporación de la Ecología y el Paisaje en el Proyecto Arquitectónico para Alumnos Internacionales*".  
(The Incorporation of Ecology and Landscape in Project Design for Foreign Students)

Presentation of a communication

Congress: Congreso Internacional de la Sociedad Española de Estudios de la Comunicación Iberoamericana 2014

Title: "*Rasguños de Viaje. Julio Cano Lasso*". (Trip Scratches. Julio Cano Lasso)

Presentation of a communication

Congress: XV Congreso Internacional de Expresión Gráfica Arquitectónica

Title: "*Sustainable Development as theoretical framework to understand the birth of the Life Cycle Analysis (LCA) techniques*"

Presentation of a communication

Congress: II International Congress of Chemical Engineering of ANQUE

Title: "*Life Cycle Analysis (LCA) application for ferritic stainless steels with coating protective study*"

Presentation of a communication

Congress: II International Congress of Chemical Engineering of ANQUE

Title: "*2020 skyscrapers: challenge or mistake?*"

Communication

Congress: IABSE International Congress September 2014

Title: "*La Tecnología Digital y su Aplicación en el Proceso de Diseño*" (Digital Technology applied to the Design Process)

Communication

Congress: Jornadas Replicage Fest 2014, Manufactura Digital y Diseño

Title: "*Digital Fabrication in Architectural Design*"

Communication

Congress: Conferencia Internacional de Laboratorios de Fabricación Digital FAB 10

Title: "*El Dibujo de Viaje de los Arquitectos*" (The Trip Drawing of Architects)

Communication

Congress: XV Congreso Internacional de Expresión Gráfica Arquitectónica

Title: *"Participatory and Sustainable Emergency Settlements"*

Presentation of a communication

Congress: Ninth International Conference on Technology, Knowledge and Society, Vancouver, Canada, 2013

Title: *"El Viaje del Arquitecto Diego Menéndez a Marruecos"* (Architect Diego Menéndez's Trip to Morocco)

Communication

Congress: 15 Congreso Internacional de Expresión Gráfica Arquitectónica EGA. El dibujo del viaje de los arquitectos.

Title: *"Water Visibility, Convents, Monasteries and Madrid Urban Development"*

Communication

Congress: VI AISU Congress (Asociación italiana de historia urbana)

Title: *"Interpretation of the Urban Area around the Convent of San Francisco el Grande in Madrid"*

Communication

Congress: IV International Conference on Heritage and Sustainable Development

Title: *"Variación de las propiedades mecánicas de morteros de cemento ligeros con poliestireno expandido reciclado sometido a altas temperaturas"*.

Presentation of a communication

Congress: I Congreso Internacional sobre investigación en Construcción y Tecnología Arquitectónicas

Title: *"Parametric trusses", an android app to understand structural design"*

Communication and poster

Congress: INTED2014 (8th International Technology, Education and Development Conference)

Title: *"Encouraging pre-university students in science and technology"*

Communication and poster

Congress: INTED 2014 (8th International Technology, Education and Development Conference)

Title: *"Development and implementation of a virtual laboratory for training process improvement in the mechanics of continuous media"*

Communication

Congress: ICERI 2013: 6th International Conference of Education, Research and Innovation

#### **k. Visiting lecturers and critics**

Below, the most important critics, lecturers and visiting professors between 2011-2012 and 2013-2014:

**Daniel Navas Delgado.** Lecture: "The process of building restoration".

**Rafael de la Hoz** (Rafael de la Hoz Arquitectos) Architect, Lecture on "Recent projects".

**Belén Martín-Granizo López** and **Daniel Díaz Font:** Critics Session on Installation Project with DMG Architecture.

**Miguel Lasso de la Vega Zamora** (UEM), **Alberto Sanz** (COAM), **Ana Luengo** (UEM) and **Carmen Ariza** (UPM). Lecture: "Gardens, Squares and Convents in Madrid: the City Breathes".

**Javier Alonso.** Architect and BIM expert. Seminar on Revit Structures.

**Mike Schlaich** (Schlaich, Bergemann und Partners). Inaugural lecture for exhibition: “Lightweight Structures”.

**Charles Waldheim** (Harvard University). Director, Department of Architecture and Landscape.

**John Barton** (Stanford University). Director, Stanford Architectural Design Program

**Renate Fruchter** (Stanford University). Lecturer, Director of PBL Lab.

**Antti Ahlava** (Aalto University). Head of the Department of Architecture

**Mark Robbins** (Syracuse University). Dean of the School of Architecture.

**Lawrence Davis** (Syracuse University). Associate Professor

**Daniel de la Riva** (Syracuse University). Assistant Professor

**Marissa Tirone** (Syracuse University). Assistant Professor

**Richard Bissel Garlock** (Princeton University). Visiting Lecturer, Department of Civil Engineering

**Marco Brizzi** (Image Archive, Florence). Architect, owner of Image Archive Collection

**Paola Giaconia** (Image Archive, Florence). Architect, owner of Image Archive Collection

**Trevor Boddy** (Vancouver Sun, Toronto Globe, Architectural Record, Architectural Review). Architect, journalist

**Chris Lowry** (University of Edinburgh, ESALA). Lecturer in Architecture

**Lisa Moffitt** (University of Edinburgh, ESALA). Lecturer in Architectural Design

**Soledad García Ferrari** (University of Edinburgh, Edinburgh College of Art). Lecturer in Architecture

**Luo Qingping** (Zhejiang University), Director, Department of Architecture

**He Yong** (Zhejiang University), Lecturer, Department of Architecture

**Jin Fang** (Zhejiang University), Lecturer, Department of Architecture

**Lin Tao** (Zhejiang University), Lecturer, Department of Architecture

**Randall Korman** (Syracuse University), Dean. Department of Architecture

**Marcos Cruz** (Barlett School of Architecture, University College London), Dean, Department of Architecture

**Pierre Côté** (Université Laval, Quebec), Dean, Department of Architecture

**Paul Venable Turner** (Stanford University), Professor, Department of Art and Architecture

**Izabella Micronowich** (Wroclaw University), Associate Professor, Department of Urban planning

**Judith Ryser** (Wroclaw University), Associate Professor, Department of Urban planning

**Mark Brussati** (Università Carlo Cattaneo), Professor

**Pedro Ressano** (Universidade Lusófona) Associate Professor

**Carlos Pedreira** (Leicester University), Associate Professor

**Madah Desai** (Indian Institute of Technology), Associate Professor

**Emilio Tuñon** (Universidad Politécnica de Madrid), Associate Professor

**José María Churtichaga** (IE University, Segovia), Associate Dean

**Carlos Asensio Wandossell** (Universidad Castilla la Mancha), Lecturer, Department of Architecture

**Juan Antonio Mancebo** (Universidad Politécnica de Madrid), Assistant Professor

**Julián Salas Serrano** (Universidad Politécnica de Madrid), Associate Professor

**Giusseppe Amoruso** (Politecnico di Milano) Associate Professor

**Vita Firenze** (Politecnico di Milano) Associate Professor

**Jose Miguel De Prada Poole** (Universidad Politécnica de Madrid), Associate Professor

**Alberto Campo Baeza** (Universidad Politécnica de Madrid), Full Professor

**Gines Garrido** (Universidad Politécnica de Madrid), Assistant Professor

**Ignacio Alcalde** (Fundación Metrópoli, Madrid), Vice President. Architect. Lecture: “Beyond Smart Cities”

**Emiliano Aguirre** (Universidad Complutense, Madrid), Professor. Paleoanthropologist

**Juan Ignacio del Cueto** (Universidad Nacional Autónoma de México), Professor. Lecture: “Félix Candela, el constructor prodigioso”

**Aranha Muñoz Criado**, Ex-Director of the Territorial and Landscape Department, Valencia

**Fernando Porras-Isla**, Porras & La Casta Studio. Lecture: “Urbanismo e infraestructuras en Madrid Río”

**Federico Soriano** (Universidad Politécnica de Madrid), Architect, Professor  
**Luis Úrculo** (Luis Úrculo Studio), Architect  
**Ge Jiang** (Zhejiang University), Lecturer, Department of Architecture  
**Richard Plunz** (Columbia University), Director. Lecture: "Urban Design Program Urban Design as Urban Infrastructure. Next evolution"  
**Juan Bordes** (Real Academia de Bellas Artes de San Fernando). Sculptor. Lecture: "La infancia de las vanguardias"  
**Jorge Martín** (Telefónica) Lecturer, Senior Transformation Consultant. Lecture: "Ciudad y Sociedad Digital (City and Digital Society)"  
**Gilberto Ruiz Lopes** (Gilberto Ruiz Lopez Studio) Lecturer, Model maker  
**Diébédo Francis Kéré** (Kéré Architecture, Academia di Architetura di Mendrisio) Lecturer. Architect. Lecture: "Recent Work"  
**Santiago Fajardo** (ESF Estudio de Arquitectura). Lecturer. Architect.  
**César Lanza Suárez** Lecturer. Civil Engineer. Lecture: "Las formas del agua"  
**Victor Moreno** (VMoreno Arquitectura). Lecturer. Architect. Lecture: "El Edificio España"  
**Miguel Ángel Baldellou** (ETSAM, Universidad Politécnica, Madrid). Full Professor, Architect. Lecture: "Alejandro de la Sota: Orden, Razón y Utopía"  
**Roberto Alonso Martínez** and **Javier Blanco García-Castañón** (Niemeyer Centre directors), Architects. Lecture: "El Centro Niemeyer en Avilés: su construcción"  
**Michael Jakob** (GSD, Harvard University), Professor, Architect. Lecture: "The Swiss Touch in Landscape Architecture"  
**José Antonio Granero** (Dean of COAM, Colegio Oficial de Arquitectos de Madrid), Architect  
**Pedro Corral** (Área de Gobierno de Las Artes, Deportes y Turismo, City of Madrid)  
**José Francisco García** (Director General de Patrimonio Cultural y Calidad del Paisaje Urbano, City of Madrid).  
**Pierluigi Nicolini** (Presidente della Commissione per il Paesaggio del Comune di Milano), Architect  
**Xavier Olivella** (OM Arquitectura). Architect  
**Francisco Pol** (Universidade da Coruña). Professor, Architect, Landscape Architect  
**Carmelo Rodríguez** (PKMN Architectures), Architect  
**Juan Roldan** (American University of Sharjah), Professor, Architect  
**Boamistura** (Urban Art Group)  
**Freddy Massad** (BIArch, ABC), Lecturer and journalist, Architect. Lecture: "Crítica y Arquitectura"  
**Enrique Sobejano y Fuensanta Nieto** (ETSAM, Universidad Politécnica de Madrid), Professors, Architects. Lecture: "Del Concurso a la Obra"  
**Atxu Amman, Andrés Cánovas y Nicolás Maruri** (ETSAM, Universidad Politécnica de Madrid), Professors, Architects. Lecture: "Temperaturas extremas"  
**Ignacio Vicens** (ETSAM, Universidad Politécnica de Madrid), Full Professor, Architect. Lecture: "Citar" en Arquitectura"  
**Justo García Rubio** (Justo García Rubio Architects), Architect

## I.2.1. Human Resources, Students:

### a. Description of the admissions process

#### **a.1. National Requirements**

All national and international applicants must comply with Spanish regulations (Royal Decree 861/2010 of 2 July 2010 and Royal Decree 1618/2011 of 14 November 2011). Prospective students should present an original or certified copy of the "Selectivity Card" (PAU - which provides information on a student's academic record), credentials from the UNED (National Distance Education University) or, for candidates from abroad, an official school or university diploma. They may then register to sit the San Pablo CEU admission tests.

#### **a.2. Profile of incoming students**

It is recommended that applicants who have studied in Spain should have graduated from a Science and Technology High School (or equivalent at time of admission).

Following receipt of the documentation the school takes the following aspects into consideration:

- Basic knowledge of mathematics, physics and art history.
- Ability in technical and free hand drawing.
- An interest in art and design.
- Willingness to work hard and improve.
- Appropriate attitudes and self-discipline for systematic study
- Capacity for analysis and synthesis, creativity and logical reasoning.
- Willingness to pursue independent learning.
- Openness to coordinated and joint work.
- Oral and written competence.
- Appropriate level of English.
- Social and ethical commitment to society and the environment.
- Sense of responsibility, commitment to service and tolerance.

#### **a.3. Specific Admission Requirements for Architecture**

Applicants are interviewed and required to take a basic skills test.

##### **- Personal interview**

The interview lasts approximately 20 minutes. It is conducted by the Architecture Faculty, following a standardized procedure employed across all departments of the university. The interviewer provides applicants with essential information firsthand on the nature, characteristics and purpose of the degree, career outcomes and the university in general.

##### **- Tests**

The entrance exams consist of an English assessment and three subject-related tests. The English test assesses students' knowledge of the language. The specific tests measured their basic knowledge of mathematics, physics, drawing and geometry.

##### **- Specific Admission Requirements for the Bilingual Program in Architecture**

The Degree in Architecture is also taught in English. The personal interview for the bilingual program is conducted entirely in English. Students take an advanced language proficiency test, in addition to the knowledge-related tests described above.

#### **a.4. Admission Process**

A. Students are admitted if they successfully complete the tests.

B. Once admitted, students pre-register for their degree and a place is reserved for them pending delivery of their PAU test grades (or equivalent).

B.1. If students fail the PAU (or equivalent) they must withdraw from the admissions process.

B.2. If students pass the PAU (or equivalent), they may proceed to registration, once the Admissions Service has confirmed that they meet the academic requirements stipulated by law for enrollment in courses such as the Architecture Program that lead to official qualifications.

#### **a.5. Recognition of credits and transfer from other courses**

In the section on recognition and transfer of credits the university rules state that resident students wishing to have prior credits recognized and/or to transfer from another course are required to provide the following documentation to the Admissions Service (for non-residents, see Part II, Section 3):

- Plan of studies followed by the center where they have been studying
- Certificate of qualifications
- Program of assignments stamped by university of origin
- Photocopy of ID card (DNI).

The Admissions Service passes the documentation to the corresponding faculty, school or center, which prepares a preliminary report containing its recommendations on whether to recognize and/or transfer the credits. The contents of the report are communicated to the applicant, preferably in a face-to-face interview. If students accept the report they may proceed to matriculation, pending official recognition and/or transfer of credits by the Academic Secretary.

#### **b. Description of support available to students (academic and personal advice, professional guidance, support in finding work placements)**

At the start of the academic year the EPS organizes an **Orientation and Welcoming Event for new students** which provide important information including the following:

- Principal university services: library, languages center, sporting and cultural activities, etc.
- Introduction to the Student Portal
- Mission and principal activities of the Employment Advice and Information Center and the International Relations Office.

#### **b.1. Provision of information and advice to students during their studies.**

The responsibility for providing information and advice to students lies with the **Tutor** and the **Course Coordinator**, working closely with the **Student Representatives**, who convey the concerns of the student body. The **Program Administrator's** responsibilities include coordinating the analysis of feedback on the degree conducted by the center's management team.

##### **b.1.1. Tutors**

Tutors possess up-to-date information on the progress and learning of all the students for whom they have responsibility. They meet their students regularly in order to assess their individual and academic progress and suggest ways to continue with their progress.

The aim of the tutoring system is to provide advice and support to students in any way that might facilitate their participation in university life and contribute to their academic, professional individual and social development.

In particular, the system is designed to respond to the difficulties that students frequently experience at three key moments in their university lives: when they first arrive, when it comes to choosing options (in-program and elective assignments, options, etc.) and at the end of their degree, when they are preparing for entry into the labor market.

Students have two kinds of tutor:

- The **Personal tutor** is a professor who is assigned to support individual students when they first arrive at the school. Personal tutors are specially chosen from among instructional faculty. They are usually practicing architects, responsible for teaching the initial classes in the first year. Tutors are responsible for the following specific **tasks**:
  1. General academic advice and support
  2. Guidance on all programs and curriculum areas and in particular on the teaching methodologies used in the degree program.
  3. Guidance on different curriculum options
  4. Personal and social advice.
  5. Guidance on professional matters and on postgraduate study.
  6. Advice on university guidelines, grants and support, and external work placements.
  7. Support to help students reach their full potential.
  8. Encouragement to help students face difficulties and develop a sense of responsibility.
  9. Guidance to help students resolve situations that occur at university or elsewhere
  10. Encouragement to help student integration by encouraging participation in university extension activities.
  11. Support to students' overall training in the humanities and values.
  12. Support to help students to understand the university as a whole and, in particular, the center in which they are studying.
  
- The **Academic Tutor** has teaching responsibilities. Professional tutors are committed to their students and are available outside teaching hours. They carry out the following specific tasks:
  1. Advice on the contents of each assignment
  2. Personalized study support and help preparing assignments
  3. Personalized support for academic work and research.
  4. Support on assessment procedures
  5. Especially during the first year, additional support to help students make up for any gaps in their prior education.

#### b.1.2. Course Coordinator

The **Course Coordinator** has the following responsibilities:

1. Provide students with all the academic and university extension information they require.
2. Facilitate relations between the center's management team and student representatives, mediating if necessary.
3. Work with the Program Administrator to resolve conflicts and respond to suggestions

#### b.1.3. Program Administrator:

The responsibilities of the Program Administrator are defined in the Regulations covering Program Administrators.

They include:

1. Meeting regularly with student representatives in order to improve the functioning of the degree program.
2. Working with the Vice-Rectorate for International Relations to organize academic mobility for faculty and students by seeking and signing agreements with national and international centers.

3. Collaborating with the COIE to identify work placements and employment for students on the program.
4. In collaboration with other departments, ensuring coordination between academic and non-academic activities and the assignments taught as a part of the degree.
5. Attending meetings of the Degree Committee (made up of the Course Coordinators) and applying its recommendations and decisions.
6. Proposing the membership of the evaluation tribunals for the Final Degree Projects to the center's management team.
7. Coordinating adjustments required to bring the degree program into line with the EHEA: proposing such modifications to the program of studies and to complementary academic activities as they see fit to the center's management team, in order to improve the overall quality of the education offered.
8. Coordinating surveys of student views on faculty and on the services offered by the degree program.
9. Chairing meetings between the Group Coordinators, paying particular attention to continuous assessment.
10. Participating actively in the Award Evaluation Committees
11. As required, preparing reports for the center's management team on students' academic results.

## **b.2. On-line support: the Student Portal.**

The Student Portal provides information and allows students to access services in the following areas:

### **- General Information**

- Personal information
- Academic qualifications: admissions
- Transcripts of grades
- Updating credits
- Compliance with academic requirements
- Unaccredited humanities or professional qualifications
- Processing accredited qualifications

### **- Student Requests**

- Requests for modification of personal information
- Requests to renew university places
- On-Line matriculation
- On-Line registration for activities
- Requests to change appointment times
- Requests for tutorials
- Requests to send qualifications
- Requests to review examination results
- Requests for certificates and reports
- General requests to the Secretary's Office
- Inquiry about existing requests

### **- Course timetabling matters**

- Academic Program
- Registered assignments
- Class timetables
- Tutorial timetables
- Continuing assessment tests
- Timetables of official examinations
- Publication and revision of Degrees granted

### **- Documents**

- Teaching materials
- Sending documents to instructional faculty
- Regulations and important information

- Academic results of the course
  - Attendance reports
  - Reports on evaluations
  - Reports on progress in learning
  - Reports on official qualifications
  - Overall report
- Notifications
  - Notifications from instructional faculty
  - Notifications from Tutors
  - Notifications from the Secretary's Office
  - Reminder notes of activities
  - General notices

### **b.3. Employment Advice and Information Center (COIE)**

The Employment Advice and Information Center provides support to students who are seeking work. It provides the following services:

- Training for students and graduates hoping to enter the labor market.
- Professional information and advice to assist students in their choices.
- Facilitation of access to the labor market.

General information about the COIE can be found in the next link:

[http://servicios.ceu.es/coie\\_web/PresentacionQueEsCOIE.aspx](http://servicios.ceu.es/coie_web/PresentacionQueEsCOIE.aspx)

EPS students can access information on work experience placements at:

[http://servicios.ceu.es/coie\\_web/PracticasOfertasPracticasOfertas.aspx?q1=6](http://servicios.ceu.es/coie_web/PracticasOfertasPracticasOfertas.aspx?q1=6)

University work experience placements are regulated by Royal Decree 1707/2011 of 18 November 2011.

#### **Duration of work experience placements.**

Work placements should not interfere with students' ability to dedicate themselves to study and should therefore not take up more than 50% of the academic year.

Students who finish their studies during June (that is, who do not have to do re-sits) are able to carry out work placements until 15 September (when the academic year finishes, coinciding with the date of re-sits). Placements cannot be continued beyond this date.

#### **Work placements abroad**

Royal Decree 1707/2011 of 18 November 2011 permits universities to enter into educational cooperation agreements with companies abroad, allowing students to carry out placements outside Spain.

#### **Erasmus students**

Erasmus students wishing to carry out work placements should apply to the university's International Relations Office

### **Academic recognition of work placements**

The university regulations state that academic credits may be gained on work placements carried out for any degree course. As long as the work placement fulfills the criteria established by the COIE, participation in the International Work Placements Program will be incorporated into the European Supplement to the Award.

During the 2012– 2013 academic year:

- 90 new framework work placement agreements were signed.
- 238 companies offered work placements.
- 328 individual work placements were offered
- 229 students were registered in the EPS's COIE.
- 192 specific work place agreements were signed

During the 2013– 2014 academic year:

- 127 new framework work placement agreements were signed.
- 284 companies offered work placements.
- 355 individual work placements were offered
- 347 students were registered in the EPS's COIE.
- 290 specific work place agreements were signed

Every year the COIE organizes a **Course on Job Seeking Techniques**, jointly with Ernst & Young and the Fundación *Universidad Empresa* (University Business Foundation-FUE) (<http://www.fue.es/>). Students work in groups on concrete situations, acquiring tools that will help them maximize success in the labor market.

### **Training days on professional opportunities and employability**

These activities, organized every year, are available to final year students. The training days are intended to inform students of the different career opportunities available to them on graduation, helping participants to identify their career goals and map out their individual paths.

The training days are conducted by practicing professionals and companies expert in the different fields of architecture, in conjunction with the San Pablo CEU Foundation's Business School - which itself offers a wide range of masters programs – its *División de Oposiciones* (Division for Competitive Examinations) and the Institute of European Studies.

### **VI National Intercampus competition JA-YE STARTUP PROGRAMME 2013/2014**

The Project GPMA & CO, developed by students from Architecture was selected by the University CEU San Pablo among more than 19 proposals from different career students to represent the University in the National final event held in Madrid.

### **Trip to Brussels**

Every academic year, students from the Entrepreneurs Club selected by their interest in self-employment travel to Brussels visit European Institutions and business incubators.

### **Startup Mentor Programme**

8 session's workshop where the students learn by practical activities how to launch a Start-up. Every session consists in a three hour class where the students training is completed by a "networking time" and a "pitch practice"

During the last week end the students work with their prototype with the support and advice that will ensure that the objectives are achieved in practice.

### **Entrepreneurs Salon**

The Entrepreneurs Salon offers support to students interested in self-employment and entrepreneurial approaches within the architectural profession.

For these purposes the EPS participates in:

- Entrepreneurs Days, organized by the FUE and the Madrid Chamber of Commerce
- EMPRENDEBUS (a mobile entrepreneurship resource): organized by the FUE and the Instituto Madrileño de Desarrollo (Madrid Development Institute - IMADE)

### **b.4. Grants from the Banco de Santander**

These grants are offered as part of the Banco de Santander's *Santander CRUE CEPYME* program that finances work experience in SMEs. 22 grants are offered to the University San Pablo CEU across all degree courses, of which the EPS received seven in academic year 2011-2012, all of which were awarded to architecture students.

### **b.5. Language Center**

San Pablo CEU's Language Center offers language classes in German, Spanish for foreigners, French and English, preparing students for official examinations, specialist modern language courses, training seminars and complementary courses.

These institutional responses to the competitive international environment, and commitment to multi-language learning, are key to San Pablo CEU's strategy to the requirements of academic excellence required by the EHEA.

### **b.6. The Center for European Documentation**

The *Centro de Documentación Europea* (Center for European Documentation – CDE) encourages cooperation with other centers and institutions, and participates in the following networks:

**Europe Direct:** European Commission information network

**REIMAD:** European information network run by the Community of Madrid.

**CEUNET:** Library network run by the Fundación Universitaria San Pablo CEU.

## **c. Evidence of support provided for student learning trips and other off-campus activities**

### **c.1. Student Learning Trips**

The EPS regards student learning trips, which vary in nature, as extremely important to the professional training of its architecture students. Trips are believed to constitute a fundamental complement to the education offered by the school; they may be included as part of the program of studies or as forming part of an assignment and are consequently linked to other complementary activities that enrich the learning

experience such as opportunities to engage in real projects, to enter competitions, participate in exhibitions, publications, etc.

Trips are organized at the initiative of interested faculty, either because they believe them to be of general educational interest or because of tie-ins with the particular subjects they teach. Trips may be local, national or international and of varying duration, and must be approved by the EPS management team. A joint session is organized at the start of each academic year to provide information on each trip that has been planned, the dates and times of additional information sessions and registration deadlines.

Study trips may take place at any point outside term-time. They are most commonly organized at the end of January or between the Fall and Spring semesters. Sometimes they take place in conjunction with programmed studio sessions in which case they occur at the end of the semester, organized to coincide with the final critique sessions. In order to illustrate EPS practice in regard to study trips, details of are given below of some of the most important trips organized during 2012-13 and 2013-14 academic years:

January 2013:	Singapore-Dubai (Architectural Design VII & VIII, 5 <sup>th</sup> year) Hong Kong (Architectural Design I & II, 2 <sup>nd</sup> year) France-Switzerland-Italy. (Design of Systems and Design of Building Structures, 5 <sup>th</sup> year) Benin (cooperation project) (Architectural Design III & IV, 3 <sup>rd</sup> year) Stockholm-Copenhagen (Introduction to Architecture, 1 <sup>st</sup> year) London (Architectural Design VII & VIII, 5 <sup>th</sup> year)
June 2013:	Shanghai-Hangzhou [studio project with Zhejiang University] (Architectural Design VII & VIII)
July 2013:	Makeni, Sierra Leone [cooperation project] (Urban planning and design, 3 <sup>rd</sup> & 4 <sup>th</sup> years)
January 2014:	California (Architectural Design VII & VIII, Design of Systems, 5 <sup>th</sup> year) Sierra Leone [cooperation project] (Urban Planning and Design, 3 <sup>rd</sup> & 4 <sup>th</sup> years) Netherlands (Introduction to Architecture, 1 <sup>st</sup> year)
June 2014:	Shanghai-Hangzhou [studio project with Zhejiang University] (Architectural Design VII & VIII)

## c.2. Summer School

The Summer School is a memorable experience for anyone with an interest in international affairs, in developing their talent and/or continuing their learning throughout the year. The EPS provides an opportunity to build on existing knowledge, improve language skills and live extraordinary experiences. The School is an initiative of the University San Pablo CEU and provides an opportunity to study different branches of scientific, economic, cultural, social and legal knowledge.

The school represents an eminently practical response to the challenges posed by globalization. In the case of all the universities taking part in the Summer School, credits are transferable to regular courses, in accordance with the internal regulations of each one.

The Summer School offers courses to students interested in consolidating their knowledge in given areas in a cosmopolitan academic environment. Courses are designed and delivered by faculty members from the University San Pablo CEU and foreign higher education centers, institutions and businesses.

An example of the courses offered at the Summer School is provided below:

2011-2012 academic year:

- Workshop: Drawing Genius: 3D Mapping, ICT and design for places.
- Learning to Draw Architecture (introductory course for pre-university students).
- Building Structures (specialization course for final year students)
- Intensive Program: Erasmus Kaiserslautern (for European Union scholarship students)

2012-2013 academic year:

- We Own the Night (International Workshop, Paris). In collaboration with Politecnico di Milano, École Camondo (Paris) and École Spéciale d'Architecture (Paris).
- Applied Computer Tools: Structural Calculation for a Conventional Building.
- Introduction to Architectural Acoustics. Theory and Practice of Current Building Regulations.
- Urban Workshop: Visions and Reflections on Madrid's Historical Center. The Influence of Monastic Architecture.
- Discovering Architecture: Madrid, A Journey Through Today's Architectural Landmarks.
- "Hyperlinks and the City" Dual-Core Madrid.

2013-2014 academic year:

- Making Landscape / Making Architecture: Building, Garden, Street and Land Use
- Strategies for a Post-speculative City
- Taller de Arquitectura en Madera
- Designing with Fabrics (International Workshop Archimede, Como). In collaboration with Politecnico di Milano, École Camondo (Paris) and École Spéciale d'Architecture (Paris).

### **c.3. Science Week**

Science Week provides an opportunity to communicate the scientific and technological world inhabited by our researchers to the general public. The event is organized by the Community of Madrid, which encourages universities and research centers to take part. The EPS organizes activities which are aimed both at the public and at students of its architecture and engineering programs.

### **c.4. Architecture Week**

Architecture Week provides an opportunity to share Spain's architectural heritage with the public. The week is organized by Madrid City Council and the College of Architects of Madrid, which encourage all the architecture schools operating in the Community of Madrid to take part. The EPS organizes activities, exhibitions and lectures aimed at the general public and our students.

## **d. Evidence of ways in which the EPS encourages student academic mobility and internationalization**

### **d.1. Student mobility.**

The EPS recognizes all the academic qualifications awarded by participating universities to students taking part in the **Socrates/Erasmus International Mobility Program**. It also offers students the possibility of participating in **Bilateral Programs** with other universities that participate in the Erasmus Program.

Academic recognition is to a maximum of 60 European Credit Transfer and Accumulation System (ECTS) credits for a full academic year and 30 for a semester. The terms of academic recognition for studies in the receiving universities are set out in the students' Bilateral Learning Agreements.

During 2013-14 there were **49** Erasmus outgoing students at the EPS and **26** bilateral agreements.

The **Study Abroad Program**, aimed at foreign students studying at San Pablo CEU from universities with which there is no cooperation agreement, allows them to spend a semester or a whole academic year of a degree or doctoral course in any of the EPS's faculties.

During 2013-14 there were **96** foreign incoming students at the EPS from both Erasmus and bilateral programs.

List of universities with Erasmus or bilateral/specific agreements:

### Specific Agreements

Massachusetts Institute of Technology, Boston	(USA)
Universidad de Zhejiang, Hangzhou	(China)
Syracuse University	(USA)
Pontificia Universidad Católica de Chile	(Chile)

### Bilateral Agreements

Universidad de Buenos Aires	(Argentina)
Centennial College	(Canada)
Université Laval	(Canada)
Universidad del Desarrollo	(Chile)
Universidad Diego Portales	(Chile)
Universidad Santo Tomás	(Colombia)
Aalto University School of Art Design and Architecture	(Finland)
Helsinki University of Technology	(Finland)
Bauhaus Universität Weimar	(Germany)
Tecnológico de Monterrey	(México)
Universidad de Guanajuato	(México)
Universidad Nacional Autónoma de Mexico (UNAM)	(México)
Universidad Mayor de San Marcos	(Perú)
Chuang Yuan Christian University	(Taiwan)
National Cheng Kung University	(Taiwan)
National Taiwan University of Technology Taipei	(Taiwan)
Tamkang University	(Taiwan)
Tunghai University	(Taiwan)
Architectural Association (AA)	(United Kingdom)
Syracuse University	(USA)
Universidad de la República de Montevideo	(Uruguay)

### Erasmus Agreements

Carinthia University of Applied Sciences	(Austria)
Université Vrijeje	(Belgium)
Université Catholique de Louvain	(Belgium)
Université Catholique de Lille	(France)
École Nationale Supérieure d'Architecture de Marseille	(France)
Institut Catholique de Paris	(France)
Université Pierre et Madame Curie	(France)
Ecole Spéciale d'Architecture Paris	(France)
Ecole Camondo Paris	(France)
Freie Universität Berlin	(Germany)
Hochschule Nürnberg	(Germany)
Münster University of Applied Sciences	(Germany)
Technische Universität Dresden	(Germany)
Technische Universität Ilmenau	(Germany)
Technische Universität Kaiserslautern	(Germany)
Technische Universität Karlsruhe	(Germany)
Dundalk Institute of Technology	(Ireland)
La Sapienza - Ludovico Quaroni	(Italy)
Politecnico di Milano	(Italy)
Politecnico di Torino	(Italy)
Prima Università di Napoli	(Italy)
Seconda Università di Napoli	(Italy)
Università degli studi di Palermo	(Italy)
Università di Firenze	(Italy)

Università di Roma - Tor Vergata	(Italy)
Università di Venezia	(Italy)
Wroclaw University of Technology	(Poland)
Instituto Superior de Ciencias do Trabalho e da Empresa	(Portugal)
Universidade Católica de Portugal	(Portugal)
Universidade Lusíada	(Portugal)
Universidade Lusófona	(Portugal)
University of Edinburgh	(United Kingdom)

## d.2. Bilingual Degrees

The bilingual programs are further evidence of the EPS's commitment to internationalization and to respond to the challenges posed by the EHEA.

Since 2006-2007, the Bilingual Program in Architecture offers 30% credits in English plus one semester abroad to choose from a list of destinations. 250 students have already passed through our classrooms and workshops (MIT, Syracuse University, Zhejiang University) and enjoyed a semester at Syracuse University (Syracuse, NYC, London, Florence), Aalto University, Bauhaus, Politecnico di Milano, University of Edinburgh, among others.

Starting 2013-2014, San Pablo CUE University will offer the **Degree in Architecture 100% in English**, implanted progressively over the next three years. The contents of this degree are identical to those of the Degree in Architecture in Spanish. The Degree also enables for the full experience of the profession of Architecture in Spain and Europe.

## e. Evidence of ways in which the EPS facilitates access to research

The following units are dedicated to academic research:

### e.1. Office for the Transfer of Research Results

The *Oficina de Transferencia de Resultados de Investigación* (Office for the Transfer of Research Results - OTRI) is a dependency of the Vice-Rectorate for Research which is responsible for promoting and managing cooperation in research and innovation between the university and the business sector; it Works in close collaboration with the *Unidad de Gestión de la Investigación* (Research Management Unit – UGI).

The OTRI was created in 1996 and is affiliated with the *Red de Oficinas de Transferencia de Resultados de Investigación de las Universidades Españolas* (Spanish Universities' Network for the Transfer of Research Results - RedOTRI).

### e.2. Research Management Unit (UGI)

The *Unidad de Gestión de la Investigación* (Research Management Unit - UGI) operates within the Vice-Rectorate for Research and is responsible, working closely with the OTRI, for ensuring efficient management of research projects. Currently, it manages 138 internal and external research projects across the university.

The UGI was created in 2007; it forms part of the *Red de Unidades de Gestión de la Investigación de las Universidades Españolas* (Spanish Universities' Network for Research Management - RedUGI). Its objectives are to:

- Support researchers to manage and defend their research projects and agreements as well as the grants and other forms of support they receive
- Establish systems to guarantee transparency and rigor in the management of research projects
- Advise researchers on fund-raising for research projects.

### **e.3. Office for International Research and Innovation Projects**

Research, or the creation of new knowledge, is of central importance to the University San Pablo. *The Oficina de Proyectos Internacionales de Investigación e Innovación* (Office for International Research and Innovation Projects) was created to promote and support researchers at San Pablo CEU to identify funding that would enable them to pursue quality research, develop creative responses to current national and global needs and share their results in scientific journals and through socially responsible initiatives designed to benefit the international community.

### **e.4. Grants for the Training of Research Faculty**

The university makes grants available to graduates to help research faculty pursue and defend doctorates at San Pablo CEU. These grants are administered according to university regulations. Grants are paid in two stages. The first, available from the start of the research period, have a maximum duration of 12 months and are renewable annually for up to four years.

The second stage has a maximum duration of two years and is formalized in a training contract. Recipients are expected to complete their doctorate during this second stage.

### **e.5. Support to mobility of research staff: agreement between San Pablo CEU and Banco Santander**

The program provides support for pre- and post-doctoral students pursuing placements and is intended to finance their stay in Spanish or foreign research centers where they will be able to enhance their research experience; the program funds periods abroad of between three and six months.

## **f. Evidence of efforts to develop links between students and professional and academic associations.**

### **f.1. Cooperation with Makeni Catholic University: “Project to Strengthen Educational Capacity at Makeni University, Sierra Leone”**

The Makeni Project is one of San Pablo CEU’s development cooperation projects; its execution is entirely the responsibility of the EPS; the Architecture Program in particular is involved. The objectives of the project include the construction of a Great Hall, faculty offices, laboratories, and water and electricity supplies and the purchase of computer equipment for Makeni University.

The project is ongoing and has been financed since 2010 by the town council of Las Rozas (Community of Madrid) and the Fundación Universitaria San Pablo CEU.

### **f.2. Cooperation agreement with the *Fundación Universidad Empresa***

The FUE is a joint initiative of Spain’s public and private universities that was created to promote and develop mechanisms to advance mutual understanding, dialogue and collaboration between the university and business sectors. The University San Pablo CEU participated in the *Primer Congreso Nacional de Jóvenes APD. El Camino a la empresa* (First National APD Youth Congress: the Road to Business)<sup>1</sup> held in Madrid on 5 June 2013.

The FUE arranges work experience for students and graduates through the Citius, Optimus, Gaia and Start programs.

---

<sup>1</sup> APD stands for the *Asociación para el Progreso de la Dirección* (Association for the Advancement of Management)

**f.3. Cooperation agreement with the *Secretaría General de Instituciones Penitenciarias* (Directorate General of Penal Institutions)**

Under the terms of this agreement the university works with the prisons in the Community of Madrid to develop courses, seminars, study days and other academic and cultural cooperation agreements aimed at prisoners and penitentiary staff alike.

**f.4. Cooperation agreement with the Official College of Architects of Madrid (COAM) and the COAM Architecture Foundation**

Under the terms of this agreement the university collaborates with the COAM, organizing courses, seminars, lectures and round tables.

Students on the Architecture Program work with the COAM and the *Fundación Arquitectura* (Architecture Foundation, a creation of the COAM) providing guided tours of Madrid's most iconic buildings during Architecture Week. Students also have the opportunity to gain experience in the COAM's library, Historical Architecture Service, information department and paper-free submission service.

**f.5. Cooperation agreement with the online magazine *Somos Arquitectura***

*Somos Arquitectura* is a digital magazine published by the company Somos Arquitectura, Diseño y Arte C.B. The magazine concentrates on architecture, art and design, reflecting the interests of the architectural profession.

Under the terms of the agreement Somos Arquitectura, Diseño y Arte C.B. commits to reserving a regular section in the magazine in which it will publish Final Degree Projects chosen by the EPS.

**g. Evidence that students are encouraged to engage in other activities**

The EPS encourages students to participate in non-academic activities in several ways:

**g.1. Volunteering**

The volunteering program is intended to promote, channel and coordinate socially-oriented volunteer initiatives involving members of the academic community to offer support to socially and economically marginalized sectors of society. The program responds to one of the institutional goals set out in the by-laws of the *Fundación Universitaria San Pablo CEU*: to contribute to a fairer, more fraternal society that, while not perfect, is at least more human.

Of particular note in this regard was the workshop held in the EPS between 29 January and 5 February 2013, involving 15 students and that focused on questions of basic habitability in Makeni,.

The EPS Architecture Program has also established the Laboratory on Habitability and Development (see Part I. Section 1.3. A), principally to study and research into habitability and development as they apply to all aspects of the Architecture Program.

**g.2. Cultural Activities**

The School's cultural activities are summarized at the following link:

<http://www.antiguosceu.com/Publico/Actividades/Actividades.aspx?q=1>

## 1.2.2. Administrative Structure and Governance

### a. Administrative Structure of the Program within the Institution.

The Degree in Architecture is taught at the *Escuela Politécnica Superior (EPS)*, which belongs to the *Universidad San Pablo CEU (USP-CEU)* and which in turn is a dependency of the *Fundación San Pablo CEU (FUSP-CEU)*, an organization established by the *Asociación Católica de Propagandistas (ACdP)* to pursue its charitable aims. The following tables are included to make it easier to understand the administrative structure:

- Table 1: Works of the Asociación Católica de Propagandistas ([www.ceu.es](http://www.ceu.es))
- Table 2: Organogram of the Fundación Universitaria San Pablo CEU ([www.ceu.es](http://www.ceu.es))
- Table 3: Faculties at the University San Pablo CEU and courses offered by the Escuela Politécnica Superior ([www.uspceu.es](http://www.uspceu.es))
- Table 4: Organogram of the University San Pablo CEU ([www.uspceu.es](http://www.uspceu.es))

Table 1: Works of the Asociación Católica de Propagandistas (ACdP)

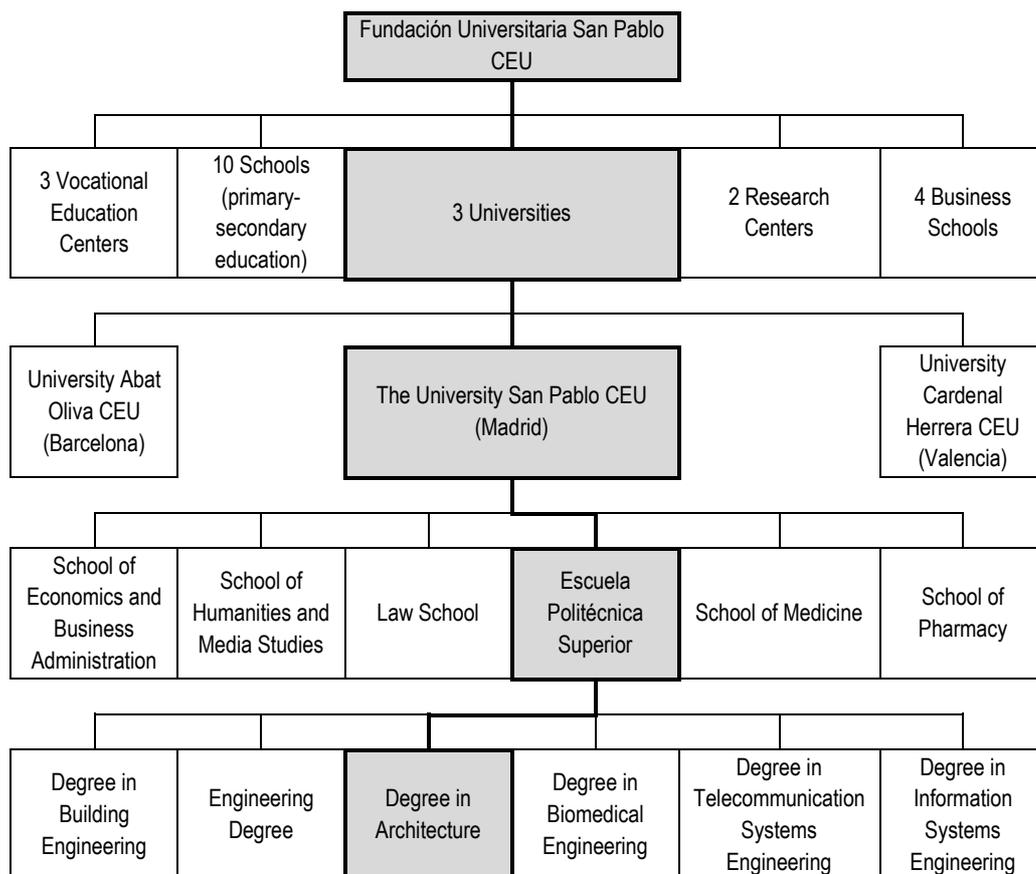


Table 2: Organogram of the *Fundación Universitaria San Pablo CEU (FUSP-CEU)*

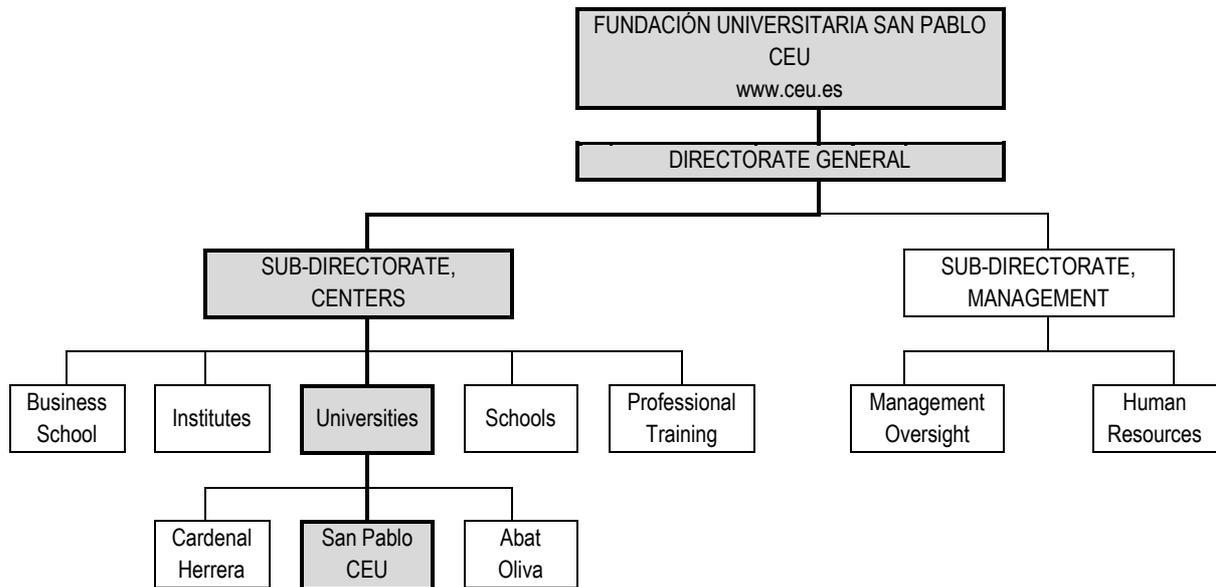


Table 3: Faculties at the *University San Pablo CEU (USP-CEU)* and courses offered by the *Escuela Politécnica Superior (EPS)*

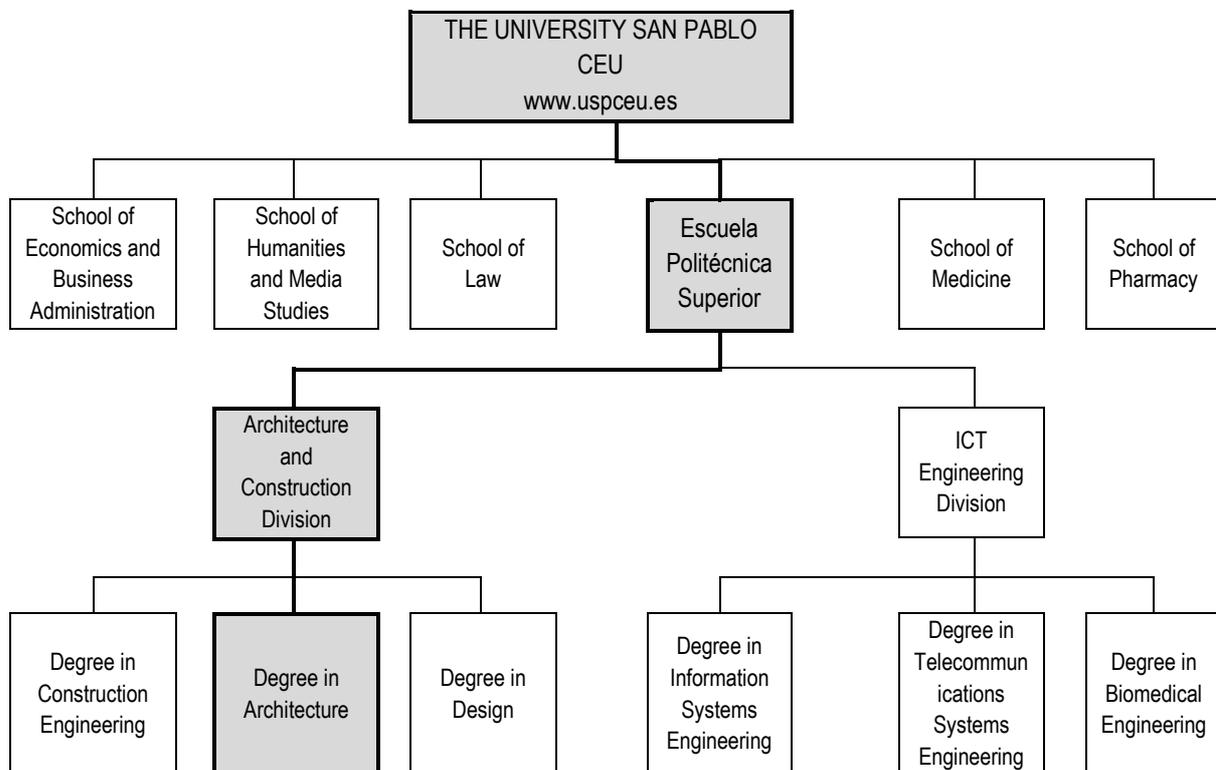
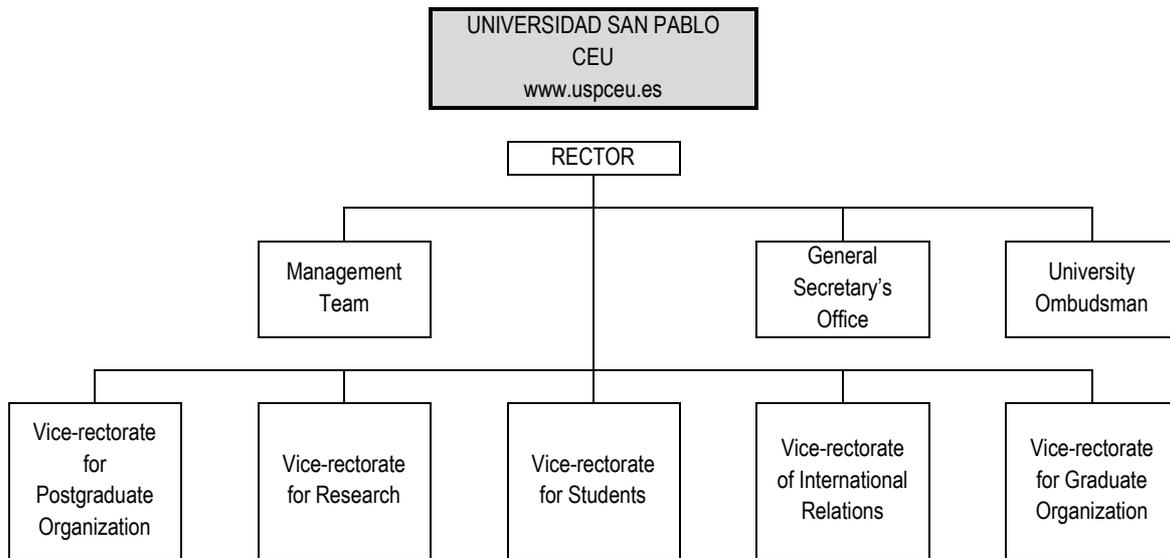


Table 4: Organogram of the *University San Pablo CEU (USP-CEU)*



**b. Description of the administrative structure of the program**

The EPS is divided into two major divisions: “Architecture and Construction” and “Information Systems Engineering”. The International Relations Office, the COIE, Academic Resources and the Secretary’s Office service both divisions.

The relationship between the Architecture Program and the administrative structure of the EPS is explained in the following tables:

- Table 5: Organogram of the Escuela Politécnica Superior ([www.eps.uspceu.es](http://www.eps.uspceu.es))
- Table 6: Organization of Teaching Units, Architecture Program

Table 5: Organogram of the *Escuela Politécnica Superior (EPS)*

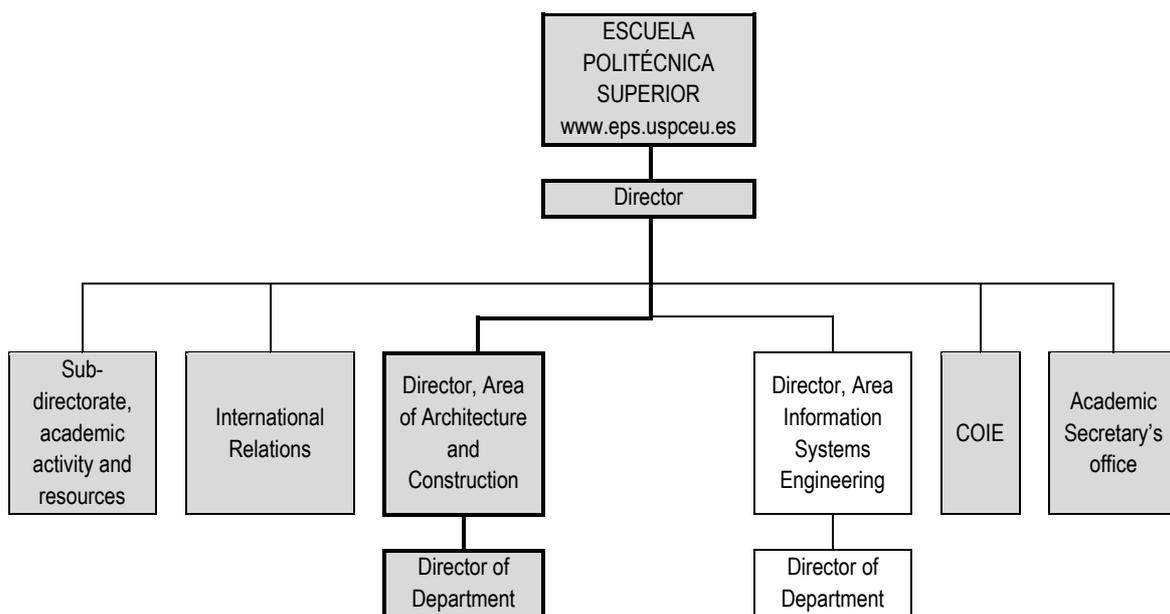
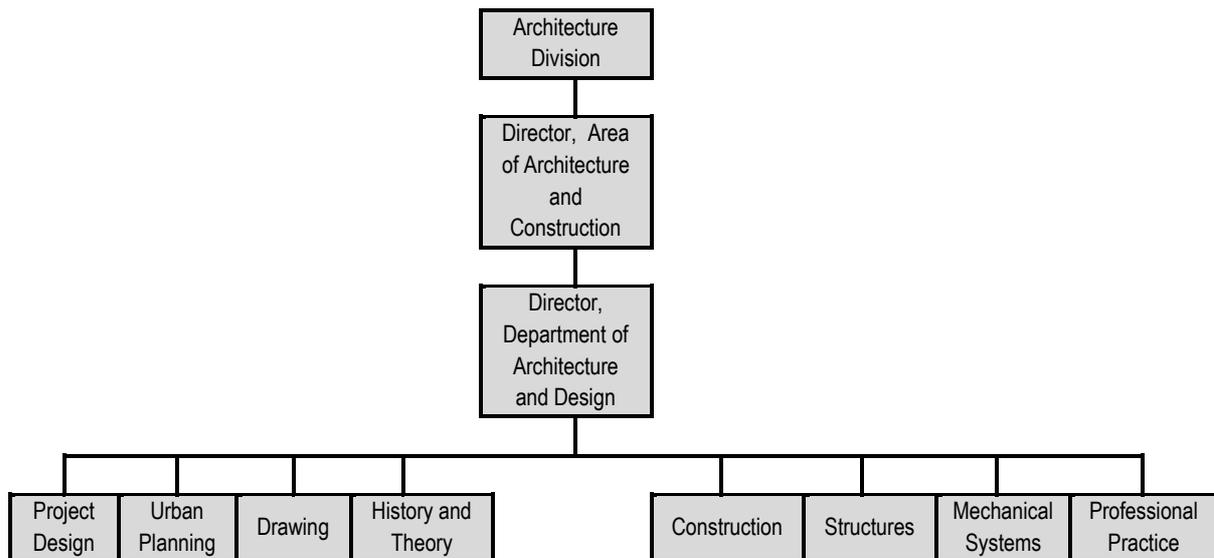


Table 6: Organization of Teaching Units, Architecture Program



**c. Opportunities for students, faculty and other staff to participate in governance of the School.**

The collegiate body responsible for governance of the EPS is the Board of the School, which operationalizes decisions of the Board of Trustees, the Governing Council and resolutions emitted by the Rector.

The Board of the School is made up of ex officio and elected members, as described in article 31 of the university's organizational and procedural regulations. The ex officio members are: the School Director, who chairs the meetings; the Directors and Deputy Directors; the Academic Secretary, responsible for minute-taking; and the Heads of Department. Elected members are chosen by the instructional faculty and students, as set out in the regulations.

**Student representatives on the Board of the School**

**Each cohort of students elects a representative and an alternate.**

The representatives and alternates then elect two people from among their number to represent them on the Board of the School. Subsequently, the student representatives on the boards of all the schools, faculties or centers elect representatives to sit on the University Senate.

**Representatives of instructional and research faculty on the Board of the School:**

The Board of the School meets at least twice per academic year. Two staff representatives are elected by their peers for each category of the instructional and research faculty: two teaching assistants, two adjunct professors, two aggregate professors and two full professors. Faculty representatives serve for two academic years.

**Other opportunities for student participation:**

Students complete faculty surveys every six months; results are fed into decision-making (see Part II. Section 2.3).

Students have the right to contact the University Ombudsman (see Part I. Section 1.2. d, whose role is defined in the organizational and procedural regulations).

Students have the right to contact the Student Support Service (see Part I. Section 1.2. d.), which are independent of the university authorities

[http://uspceu.es/pages/servicios/atencion\\_estudiante/atencion-estudiante.html](http://uspceu.es/pages/servicios/atencion_estudiante/atencion-estudiante.html)

The university's **governance bodies** are as follows:

1. Collegiate bodies (see Part I. Section 1.2):

- a) University Senate.
- b) Governing Council
- c) Faculty, School or Center Boards
- d) Departmental and University Research and Teaching Institute Councils

2. Single member bodies:

- a) The Rector.
- b) Vice-Rectors.
- c) General Secretary.
- d) University Manager
- e) Deans of Faculty and Directors of Schools or Centers.
- f) Directors of Departments and University Research and Teaching Institutes

As stipulated in the Organic University Law and the university's current organizational and procedural regulations, instructional and research faculty have majority representation on the bodies that take strictly academic decisions. The University San Pablo CEU ensures that membership of its governance and representative bodies is balanced between men and women.

The rights and duties of students, instructional and research faculty and administrative and service personnel are described in San Pablo CEU's organizational and procedural regulations.

**d. List of other programs offered by the EPS.**

Advanced Diploma programs:

- Diploma in Digital Fabrication for Architecture (in collaboration with the Center for Bits and Atoms of the MIT)
- Diploma in Energy Efficiency and Sustainability in Building Design (in collaboration with the Green Building Council of Spain, GBCe)

Official Degree Programs:

- Degree in Architecture (formerly known simply as Architecture)
- Degree in Building Construction Engineering (formerly known as Technical Architecture)
- Degree in Telecommunications Systems Engineering (formerly known as Telecommunications Engineering)
- Degree in Computer Engineering
- Degree in Biomedical Engineering
- Double Degree in Telecommunications Systems Engineering + Biomedical Engineering
- Double Degree in Computer Engineering + Management and Business Administration

Masters Programs:

- Master in Prevention of Occupational Risks
- Master in Integrated Quality Management and Prevention of Occupational Risks
- Master in Landscape Architecture
- Master in Advanced Architectural Projects
- Master in Urban Planning and Land Use
- Master in Hospital Architecture, Organization and Infrastructure (jointly with the School of Medicine, USPCEU)
- Masters in Urban Interior Design (bilingual, in collaboration with Milan Polytechnic)

## I.2.3. Physical Resources

### **a. General description, together with plans of the building.**

The School covers an area of approximately 35,000 m<sup>2</sup> and has the following specific facilities for students:

- 1 hall (525 seats). 2 conference rooms (144 seats) and 1 lecture hall (288 seats)
- 24 lecture rooms (25 to 60 seats)
- 1 room (180 seats) and two workshops (2x50 seats) for evaluation and testing.
- 2 computer-aided design labs for CAD, GIS and digital image processing
- 2 double-height classrooms for life drawing and form analysis and drawing of architectural models, with adjacent dedicated work storage and review rooms.
- 6 large workshops for architectural design, each one with adjacent work storage and review rooms.
- 2 laboratories for researching and teaching building materials and construction procedures, equipped with machinery for material testing (computer controlled tension and compression machines, 1t to 200t, and bending, 1t to 5t; machinery for rheological analysis of ceramic and stone materials; mortar mixers; ovens; muffle furnaces; autoclaves; a curing chamber; dryers; kettles; comparators, etc.)
- 1 laboratory for researching and teaching building structures, machinery testing (60t tension-compression machine, 50t gantry testing); models for teaching civil engineering and construction
- 1 laboratory for research and teaching environmental and technical systems.
- 1 workshop for students preparing their Final Degree Project, with an area for critiques and work reviews, printing, scanning, storage, lockers, computers.
- 1 model workshop with dedicated equipment, CNC machinery and laser cutters, equipped to facilitate the work of students in design, planning and construction.
- 1 free-access computer room for easy printing and plotting work; plotters and printers equipped with color and B/W cameras and scanners, software licenses for calculation, drawing and image manipulation, database, high-capacity data packages, etc.
- 1 Digital Fabrication laboratory (Fab Lab Madrid CEU) with dedicated equipment, a Makerbot Cup Cake, a Replicator 2, a Roland Modela MDX20, a Roland GX 24, an i Modela, a Tec Cam 1100, a Laser Cut 9268 and a Laser Cut 9540.

In addition to the facilities and teaching areas mentioned above, students have free access to the following services: open Wi-Fi, to provide network access to laptops and mobile devices from anywhere in the building

- 4 areas prepared for independent working (essential to the teaching model pursued by the EPS)
- 1 room for temporary exhibitions, media and public exhibition of student work
- 26 faculty offices for individual tutoring work
- 8 seminar rooms for group tutoring work
- 1 office for student representatives
- Architecture library, with video and newspaper library, group study rooms and reading areas
- Students also have access to the supplies shop, photocopying services, cafeteria and dining services.

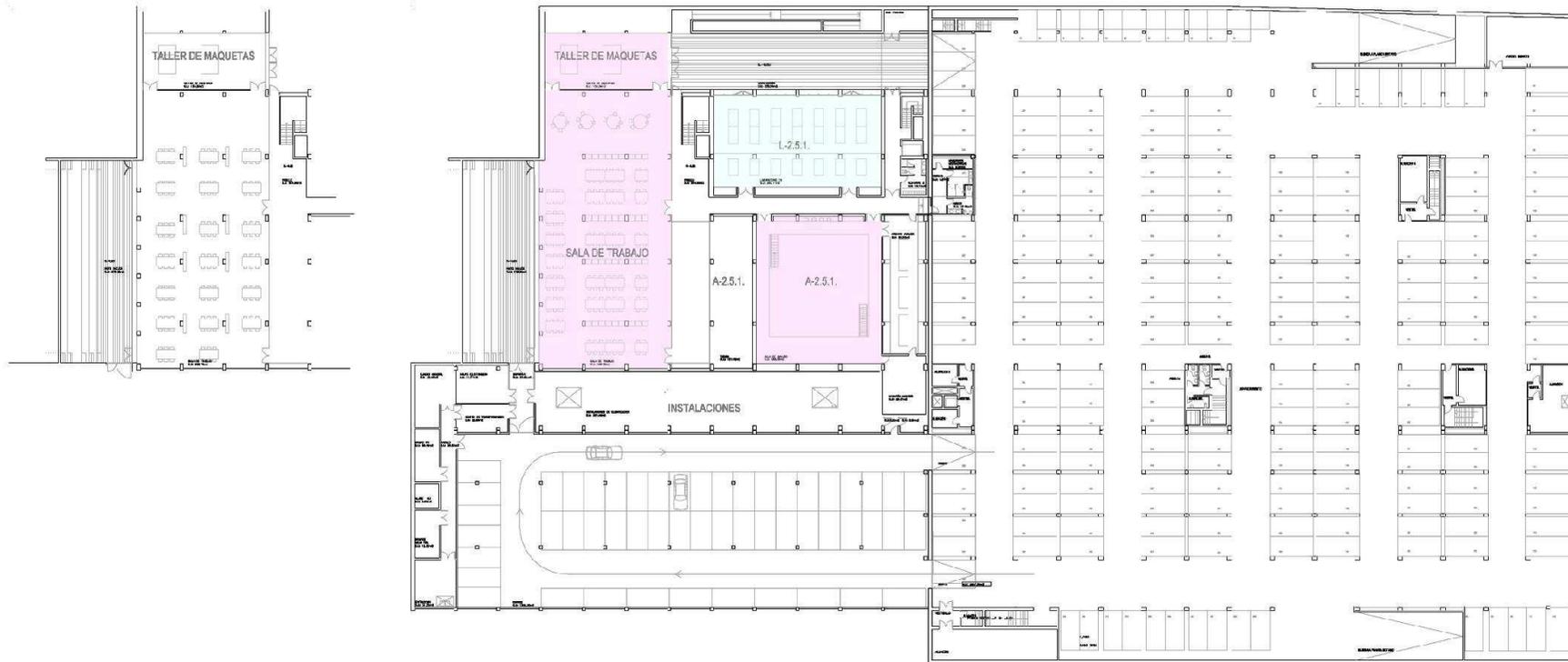
Additionally, students may use the general services provided by the University (Secretary, International Relations Office and the Information Center for Professional Practice in Spain and Abroad)

### **b. Changes to facilities since the last visit and plans for addressing these changes.**

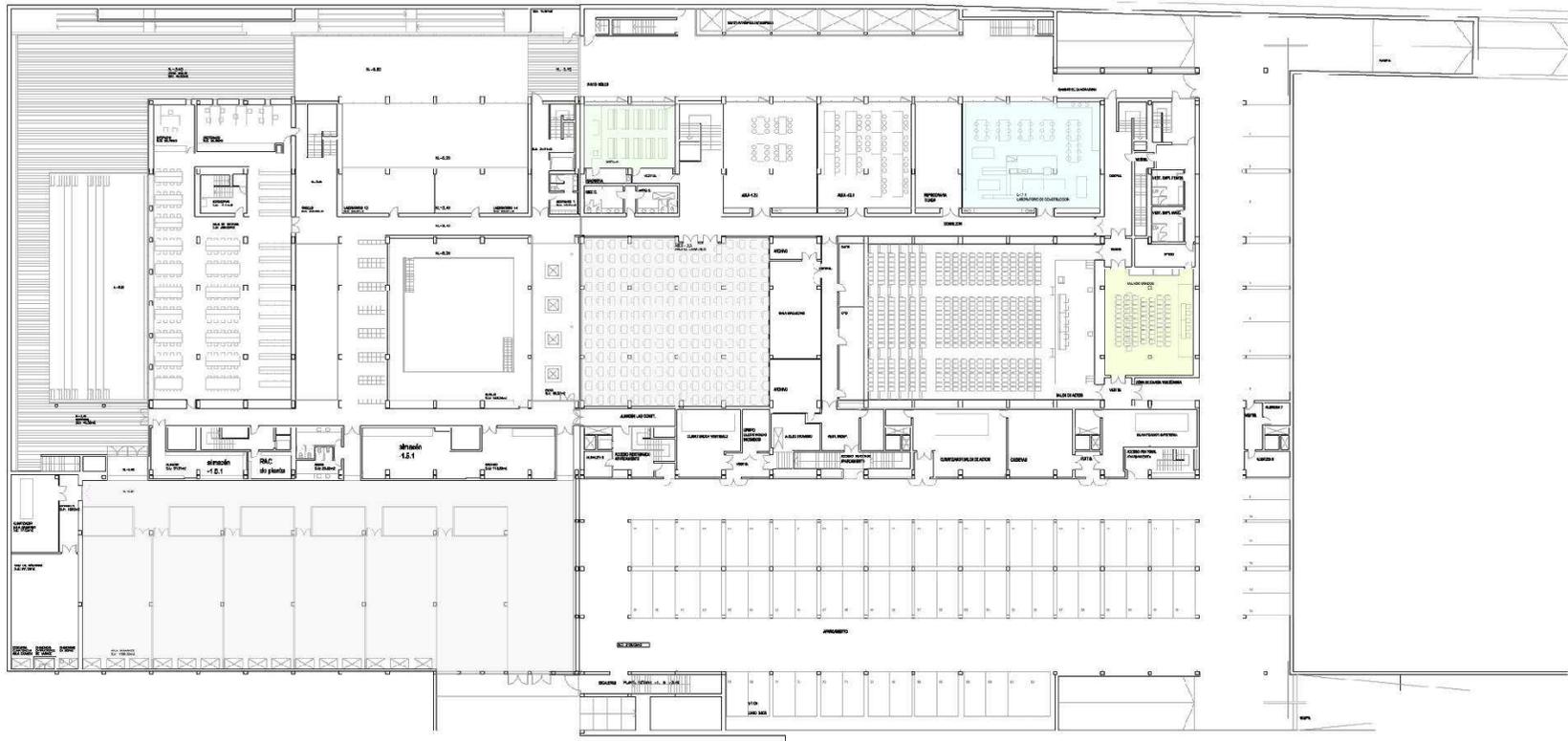
- 1 Innovation Lab Room, for students interested in developing projects or research or start-up initiatives (to be prepared for the 2014-2015 course year in Room A.1.6.7)

Plans of the building (from Basement Floor Plan to Second Floor Plan) are included below.

1. 2<sup>nd</sup> Basement Floor Plan

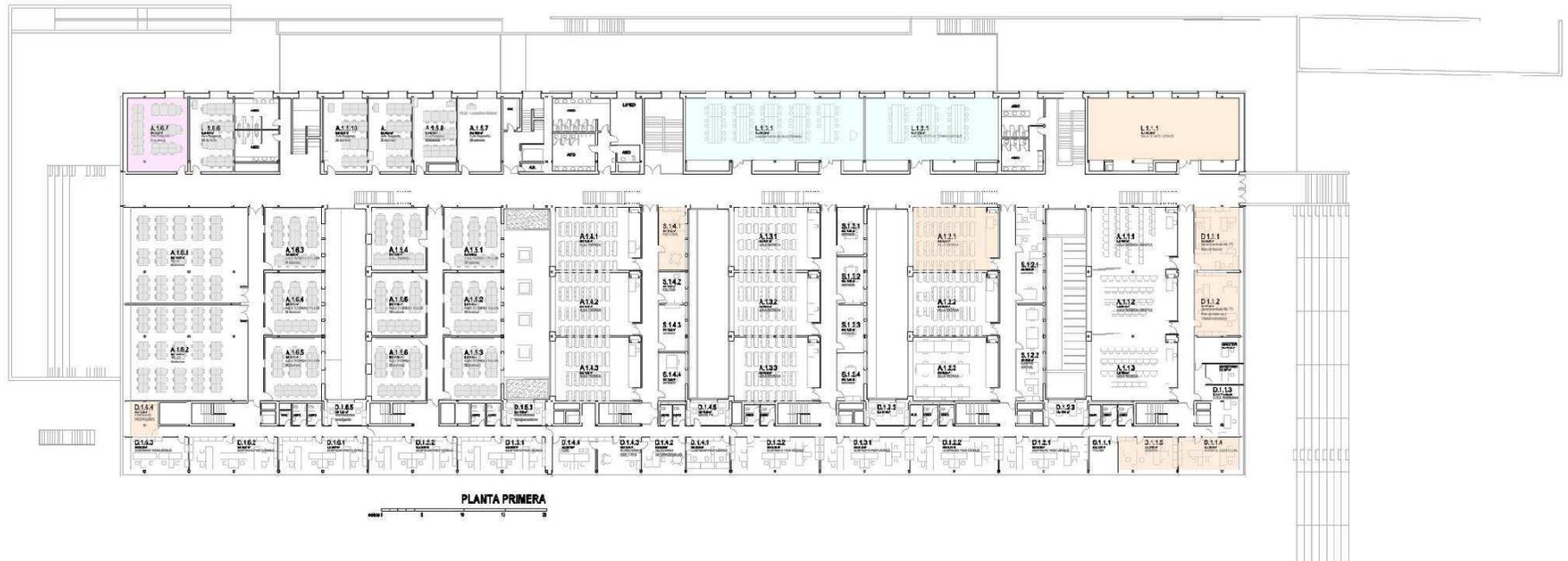


2. 1st Basement Floor Plan

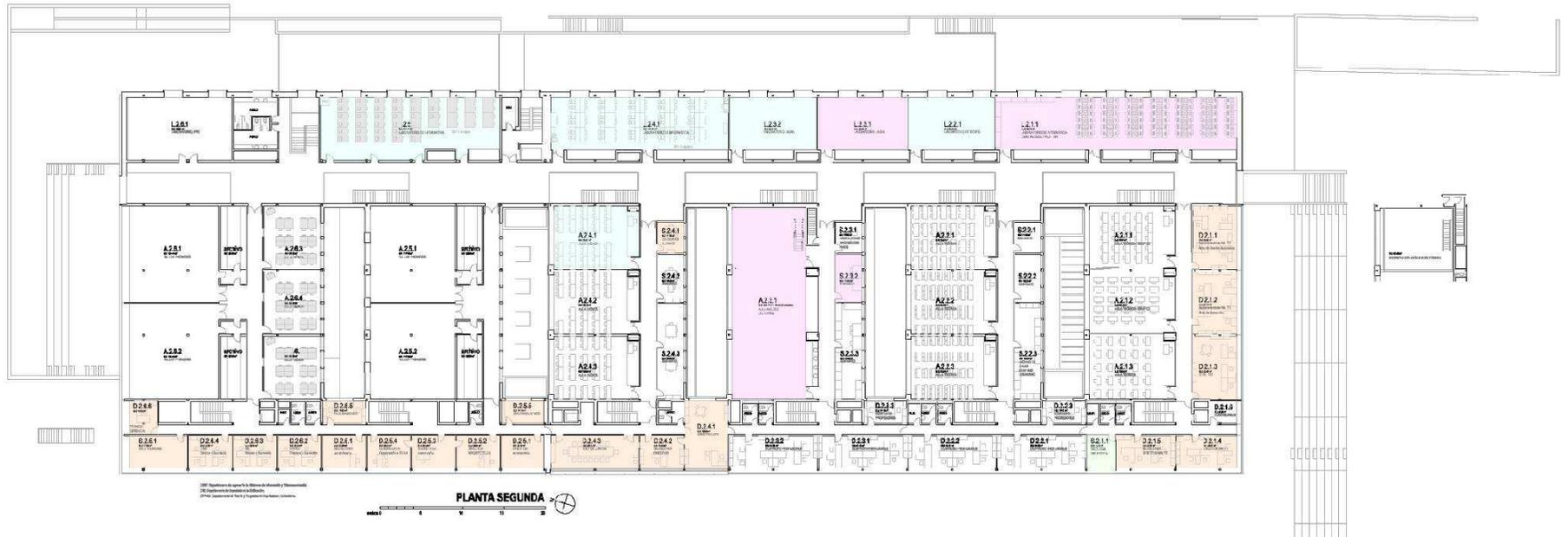




4. 1st Floor Plan



5. 2<sup>nd</sup> Floor Plan



## **c. Computer Resources**

### **c.1. Data processing center**

The university's data processing center, located in the EPS, serves the whole of the institution. It has 160 servers and a central storage capacity of 115 terabytes, replicated in another data processing center on the Moncloa campus. It has redundant power supply systems, air conditioning, fire detection and extinguishing systems and a tape library for backup.

### **c.2. Networks and Communication**

All EPS installations have category 5 and 6 structured UTP cabling with implementation in subnets geared to user profiles.

In addition there is a 43 access-point Wi-Fi array available in several networks. Access points are available for instructional faculty wishing to make Wi-Fi available in classrooms, and there is also a free access zone with cable or Wi-Fi connections. This access-point has a 80211 a/b/g/n technology, under different SSID in function Vlans, for example, the eduroam network.

### **c.3. Computer equipment**

The EPS has a total of 317 PCs, 901 laptops, 53 printers, 13 plotters, 22 scanners, 4 video/photographic cameras, 67 projectors, the equipment of the Model workshop and the equipment of the FabLab.

### **c.4. Software**

#### **Architecture-specific:**

Students and faculty are covered by multiple-use licenses for specialized software in the following areas: design, structural analysis, construction detail, air conditioning systems, electrical isolation, gas supply, water distribution and sewerage networks, power supply, lighting, acoustics, measurement and budgeting, technical records, security studies, health etc.

#### **Academic administration**

The Secretary's office has a centralized administration system. Additionally, faculty has its own portal, while students have access to a dedicated portal and mobile app, with the following features:

- Access to academic records
- On-line matriculation
- Personalized timetables for classes, tutorials, evaluation tests, activities
- Teaching support materials
- Administration of personal and group notices
- Attendance registers
- Tutorial actions
- Continuing assessment planning and marks
- Electronic versions of assignments and exercises
- Official qualifications and examination reviews
- Reports and comparative statistics
- Applications for certificates
- Satisfaction surveys: teaching and services
- Regulations and information

### **c.5. Computer Support**

The university's Computer and Technology Support Services are located in the EPS, with 20 members of staff dedicated to software, systems and telecommunications development and technical support.

## 1.2.4. Financial Resources

### a. Program budgets

Current fiscal year report(s) showing revenue and expenses from all sources and for at least two years beyond the current fiscal year (see tables below):

#### a.1. Budget years 2011/2012, 2012/2013 and 2013-2014

C.	U.	Ctr.	Cost Code	ceco	cu	Account	Description	Budget 11/12	Budget 12/13	Budget 13/14
01	01	M02	3500	M023500	60	6020100	Supplies	7,000.00	7,000.00	6,000.00
01	01	M02	3500	M023500	60	6020300	Audiovisual Materials	2,000.00	2,000.00	2,000.00
01	01	M02	3500	M023500	60	6020500	Material for Laboratories	5,000.00	5,000.00	4,000.00
01	01	M02	3500	M023500	60	6020700	Teaching Materials	1,200.00	1,200.00	1,200.00
01	01	M02	3500	M023500	60	6020900	Other Teaching Materials	10,000.00	10,000.00	9,000.00
01	01	M02	3500	M023500	60	6022000	Maintenance Materials	10,200.00	6,000.00	6,000.00
01	01	M02	3500	M023500	60	6022400	Cleaning Materials	6,000.00	4,000.00	4,000.00
01	01	M02	3500	M023500	60	6025000	Purchases	4,000.00	2,000.00	2,000.00
01	01	M02	3500	M023500	60	6028000	Office Supply Items	4,100.00	5,000.00	5,000.00
01	01	M02	3500	M023500	60	6028100	Computer Office Supply Items	6,000.00	10,000.00	9,000.00
01	01	M02	3500	M023500	62	6220000	Building Repairs and Conservation	3,000.00	3,000.00	3,000.00
01	01	M02	3500	M023500	62	6220001	Gardening	28,000.00	20,000.00	20,000.00
01	01	M02	3500	M023500	62	6221000	Maintenance of Mechanical Systems	38,000.00	30,000.00	30,000.00
01	01	M02	3500	M023500	62	6221100	Mechanical Systems Contracts	52,000.00	45,000.00	45,000.00
01	01	M02	3500	M023500	62	6223000	Maintenance of Equipment	3,000.00	3,000.00	3,000.00
01	01	M02	3500	M023500	62	6223100	Equipment Contracts	3,000.00	3,000.00	3,000.00
01	01	M02	3500	M023500	62	6224000	Maintenance of Computer Supplies	6,000.00	4,000.00	4,000.00
01	01	M02	3500	M023500	62	6231000	Independent Educational Services	3,000.00	3,000.00	3,000.00
01	01	M02	3500	M023500	62	6240000	School Bus	105,000.00	105,000.00	105,000.00
01	01	M02	3500	M023500	62	6241000	Cargo Transport	600.00	600.00	600.00
01	01	M02	3500	M023500	62	6251000	Life Insurance C11/12	7,000.00	7,000.00	7,000.00
01	01	M02	3500	M023500	62	6252000	Health Insurance	73,736.00	74,800.00	74,800.00
01	01	M02	3500	M023500	62	6252000	Health Insurance (new students)	8,700.00	9,426.00	9,426.00
01	01	M02	3500	M023500	62	6253000	Theft Insurance	37,500.00	56,600.00	56,600.00
01	01	M02	3500	M023500	62	6255000	Civil Liability	2,040.00	3,200.00	3,200.00
01	01	M02	3500	M023500	62	6256000	Health Insurance	76,500.00	75,000.00	75,000.00
01	01	M02	3500	M023500	62	6271000	Public Relations	1,500.00	1,500.00	1,500.00
01	01	M02	3500	M023500	62	6280000	Lighting	274,000.00	274,000.00	274,000.00
01	01	M02	3500	M023500	62	6281000	Water Supply	51,000.00	52,500.00	52,500.00
01	01	M02	3500	M023500	62	6282000	Telephone	12,500.00	13,000.00	13,000.00
01	01	M02	3500	M023500	62	6282100	Mobile Phone	300.00	300.00	300.00
01	01	M02	3500	M023500	62	6284000	Heating	55,000.00	56,600.00	56,600.00
01	01	M02	3500	M023500	62	6285000	Internet Connections	3,600.00	3,600.00	3,600.00
01	01	M02	3500	M023500	62	6290000	Cleaning	257,000.00		265,000.00
01	01	M02	3500	M023500	62	6291000	Photocopies	16,000.00	16,000.00	16,000.00
01	01	M02	3500	M023500	62	6292000	Meals	27,000.00	32,000.00	32,000.00
01	01	M02	3500	M023500	62	6293000	Cultural Activities	2,000.00	2,000.00	2,000.00
01	01	M02	3500	M023500	62	6293100	EPS Activities	50,000.00	60,000.00	60,000.00
01	01	M02	3500	M023500	62	6294000	Learning Tools	6,000.00	4,000.00	4,000.00
01	01	M02	3500	M023500	62	6294000	Masters in Architecture and Infrastructure	12,500.00	13,000.00	13,000.00
01	01	M02	3500	M023500	62	6294010	Academic	24,000.00	18,000.00	18,000.00
01	01	M02	3500	M023500	62	6294030	Professors (Master Program)	1,150,411.00	1,150,411.00	1,150,411.00
01	01	M02	3500	M023500	62	6294030	Masters in Architecture and Infrastructure	26,920.00	26,920.00	26,920.00
01	01	M02	3500	M023500	62	6295000	Security	125,000.00		128,000.00
01	01	M02	3500	M023500	62	6296000	Postal Services	1,500.00	1,000.00	1,000.00
01	01	M02	3500	M023500	62	6296100	Courier Services	2,000.00	1,000.00	1,000.00
01	01	M02	3500	M023500	62	6297000	Taxi	1,000.00	1,000.00	1,000.00
01	01	M02	3500	M023500	62	6297100	Director	5,000.00	5,000.00	5,000.00
01	01	M02	3500	M023500	62	6298000	Purchases	2,000.00	2,000.00	2,000.00
01	01	M02	3500	M023500	62	6298100	Meetings	1,500.00	1,500.00	1,500.00
01	01	M02	3500	M023500	62	6299000	Community	22,000.00		
01	01	M02	3500	M023500	62	6299200	Books, magazines	12,000.00	27,000.00	27,000.00
01	01	M02	3500	M023500	62	6299400	Computer licenses	20,000.00	25,000.00	25,000.00
01	01	M02	3500	M023500	64	6490100	Purchases	10,000.00	10,000.00	10,000.00
01	01	M02	3500	M023500	64	6400100	Scholarships		51,300.00	51,300.00

a.2. Budget year 2014/2015

C.	U.	Ctr.	Cost Code	Ceco	Cu	Account	Description	Budget 14/15
01	01	M02	3500	M023500	60	6020100	Supplies	-3.325
01	01	M02	3500	M023500	60	6020300	Audiovisual Materials	-1.900
01	01	M02	3500	M023500	60	6020500	Material for Laboratories	-5.700
01	01	M02	3500	M023500	60	6020700	Teaching Materials	-1.140
01	01	M02	3500	M023500	60	6020900	Other Teaching Materials	-4.750
01	01	M02	3500	M023500	60	6022000	Maintenance Materials	-5.700
01	01	M02	3500	M023500	60	6022400	Cleaning Materials	-1.900
01	01	M02	3500	M023500	60	6025000	Purchases	-1.900
01	01	M02	3500	M023500	60	6028000	Office Supply Items	-3.800
01	01	M02	3500	M023500	60	6028100	Computer Office Supply Items	-5.700
01	01	M02	3500	M023500	62	6210100	Renting	-27.600
01	01	M02	3500	M023500	62	6220000	Building Repairs and Conservation	-2.760
01	01	M02	3500	M023500	62	6220001	Gardening	-9.200
01	01	M02	3500	M023500	62	6221000	Maintenance of Mechanical Systems	-27.600
01	01	M02	3500	M023500	62	6221100	Mechanical Systems Contracts	-30.360
01	01	M02	3500	M023500	62	6223000	Maintenance of Equipment	-2.300
01	01	M02	3500	M023500	62	6223100	Equipment Contracts	-2.760
01	01	M02	3500	M023500	62	6224000	Maintenance of Computer Supplies	-2.760
01	01	M02	3500	M023500	62	6240000	School Bus	-82.650
01	01	M02	3500	M023500	62	6241000	Cargo Transport	-475
01	01	M02	3500	M023500	62	6251000	Life Insurance C11/12	-6.790
01	01	M02	3500	M023500	62	6252000	Insurance + Insurance (new students)	-84.226
01	01	M02	3500	M023500	62	6253000	Theft Insurance	-54.902
01	01	M02	3500	M023500	62	6255000	Civil Liability	-3.104
01	01	M02	3500	M023500	62	6256000	Health Insurance	-64.602
01	01	M02	3500	M023500	62	6271000	Public Relations	-1.000
01	01	M02	3500	M023500	62	6280000	Lighting	-166.250
01	01	M02	3500	M023500	62	6281000	Water Supply	-19.000
01	01	M02	3500	M023500	62	6282000	Telephone	-16.000
01	01	M02	3500	M023500	62	6282100	Mobile Phone	-300
01	01	M02	3500	M023500	62	6284000	Heating	-38.000
01	01	M02	3500	M023500	62	6290000	Cleaning	-209.000
01	01	M02	3500	M023500	62	6291000	Photocopiers	-15.200
01	01	M02	3500	M023500	62	6292000	Meals	-23.000
01	01	M02	3500	M023500	62	6293000	Cultural Activities	-1.900
01	01	M02	3500	M023500	62	6293100	EPS Activities	-57.000
01	01	M02	3500	M023500	62	6294010	EPS+University academic functions	-9.500
01	01	M02	3500	M023500	62	6295000	Security	-90.250
01	01	M02	3500	M023500	62	6296000	Postal Services	-950
01	01	M02	3500	M023500	62	6296100	Courier Services	-950
01	01	M02	3500	M023500	62	6297000	Taxi	-900
01	01	M02	3500	M023500	62	6297100	Director	-4.500
01	01	M02	3500	M023500	62	6298000	Purchases	-1.900
01	01	M02	3500	M023500	62	6298100	Meetings	-450
01	01	M02	3500	M023500	62	6299000	Community	-15.200
01	01	M02	3500	M023500	62	6299200	Books, magazines	-17.100
01	01	M02	3500	M023500	62	6299400	Computer licenses	-33.950
01	01	M02	3500	M023500	62	6294000	Purchases	-4.000
01	01	M02	3500	M023500	62	6294000	NAAB	-40.000
01	01	M02	3500	M023500	62	6294000	Master in Integrated Quality Management (d/l)	-20.000
01	01	M02	3500	M023500	62	6294000	Master in Integrated Quality Management (on s)	-12.000
01	01	M02	3500	M023500	62	6294000	Master in Prevention of Occupational Risks	-20.000
01	01	M02	3500	M023500	62	6294000	Master in Landscape Architecture	-4.128
01	01	M02	3500	M023500	62	6294000	Master in Advanced Architectural Projects	-7.507
01	01	M02	3500	M023500	62	6294000	Advanced Diploma in Energy Efficiency	-3.000
01	01	M02	3500	M023500	62	6294000	Advanced Diploma in Digital Fabrication	-20.000
01	01	M02	3500	M023500	62	6294000	Masters	41.528
01	01	M02	3500	M023500	62	6231000	Independent Educational Services	-3.000
01	01	M02	3500	M023500	62	6294030	Master in Integrated Quality Management (d/l) 2	-92.400
01	01	M02	3500	M023500	62	6294030	Master in Integrated Quality Management (on s) 2	-22.000
01	01	M02	3500	M023500	62	6294030	Master in Prevention of Occupational Risks 2	-168.000
01	01	M02	3500	M023500	62	6294030	Master in Landscape Architecture 2	-12.500
01	01	M02	3500	M023500	62	6294030	Master in Advanced Architectural Projects 2	-20.920
01	01	M02	3500	M023500	62	6294030	Advanced Diploma in Energy Efficiency 2	-16.200
01	01	M02	3500	M023500	62	6294030	Advanced Diploma in Digital Fabrication 2	-45.000
01	01	M02	3500	M023500	63	6310000	Local taxes	-5.000
01	01	M02	3500	M023500	64	6400000	Salary (bajas y modif. Contratos)	645.000
01	01	M02	3500	M023500	64	6400000	Salary (altas)	-40.000
01	01	M02	3500	M023500	64	6400000	Master in Landscape Architecture 2	-12.500
01	01	M02	3500	M023500	64	6400000	Master in Advanced Architectural Projects 2	-49.000
01	01	M02	3500	M023500	64	6400000	Advanced Diploma in Energy Efficiency 2	-13.500
01	01	M02	3500	M023500	64	6400000	Advanced Diploma in Digital Fabrication 2	-15.000
01	01	M02	3500	M023500	64	6400000	Emeritus	-13.562
01	01	M02	3500	M023500	64	6400000	Salary (Modificaciones Docentes)	15.400

01	01	M02	3500	M023500	64	6400000	Salary (PD Variables)	-175.000
01	01	M02	3500	M023500	64	6400000	Salary (PND)	-293.000
01	01	M02	3500	M023500	64	6400000	Salary (PD)	-3.649.500
01	01	M02	3500	M023500	64	6400100	Scholarship	-35.000
01	01	M02	3500	M023500	64	6400100	Laboratory Technician	-24.000
01	01	M02	3500	M023500	64	6410000	Compensation	-560.000
01	01	M02	3500	M023500	64	6420000	Social security (Bajas)	135.000
01	01	M02	3500	M023500	64	6420000	Social security (PND)	-103.402
01	01	M02	3500	M023500	64	6420000	Social security (PD)	-1.016.657
01	01	M02	3500	M023500	66	6620000	Interest (LP)	-150
01	01	M02	3500	M023500	68	6821000	Amortization 1	-523.245
01	01	M02	3500	M023500	68	6821100	Amortization 2	-38.628
01	01	M02	3500	M023500	68	6822200	Amortization 3	-15.912
01	01	M02	3500	M023500	68	6822300	Amortization 4	-6.096
01	01	M02	3500	M023500	68	6823000	Amortization 5	-318
01	01	M02	3500	M023500	68	6825000	Amortization 6	-61.079
01	01	M02	3500	M023500	68	6825100	Amortization 7	-30.932
01	01	M02	3500	M023500	68	6826000	Amortization 8	-5.379
01	01	M02	3500	M023500	68	6826100	Amortization 9	-7.944
01	01	M02	3500	M023500	68	6828000	Amortization 10	-317.311
01	01	M02	3500	M023500	68	6828100	Amortization 11	-810
01	01	M02	3500	M023500	69	6941000	Insolvency provision	-70.931
01	01	M02	3500	M023500	69	6941000	Insolvency provision (posgraduated)	-10.382
01	01	M02	3500	M023500	70	7051000	Incomes (B)	3.438.506
01	01	M02	3500	M023500	70	7051000	Incomes (n/B)	1.810.413
01	01	M02	3500	M023500	70	7051000	Incomes (Engineering B)	1.689.825
01	01	M02	3500	M023500	70	7051000	Incomes (Engineering n/B)	80.964
01	01	M02	3500	M023500	70	7051000	Incomes (Building Engineering B)	46.282
01	01	M02	3500	M023500	70	7051000	Incomes (Building Engineering n/B)	23.023
01	01	M02	3500	M023500	70	7051100	Master in Integrated Quality Management (d/I)	226.800
01	01	M02	3500	M023500	70	7051100	Master in Integrated Quality Management (on s)	58.800
01	01	M02	3500	M023500	70	7051100	Master in Prevention of Occupational Risks	453.600
01	01	M02	3500	M023500	70	7051100	Master in Landscape Architecture	59.000
01	01	M02	3500	M023500	70	7051100	Master in Advanced Architectural Projects	90.000
01	01	M02	3500	M023500	70	7053000	Advanced Diploma in Energy Efficiency	48.000
01	01	M02	3500	M023500	70	7053000	Advanced Diploma in Digital Fabrication	102.000
01	01	M02	3500	M023500	70	7051600	Scholar Aids	-357.938
01	01	M02	3500	M023500	70	7051600	Scholar Aids (posgraduated)	-31.146

## Institutional Financial Issues

1  <b>Eficiencia económica</b>	1.1. Orientar las inversiones y costes a la educación	1.1.1. Reorientación, eliminación y externalización de costes no alineados con la misión de la FUSP
	1.2. Mejorar la eficiencia y rentabilidad	1.2.1. Mejora de los sistemas de información para la toma de decisiones
		1.2.2. Plan de Acción Inmediata para la eliminación de la oferta educativa no rentable
	1.3. Profesionalizar el análisis de inversiones	1.2.3. Reducción de costes en Contratación y Compras
1.4. Maximizar ingresos y mejorar la acción comercial	1.2.4. Mejora de la eficiencia energética	1.2.5. Racionalización de los activos inmobiliarios
	1.2.6. Optimización de los costes de personal PAS/PDI	1.3.1. Diseñar e implantar procesos y procedimientos que garanticen la adecuada toma de decisiones de inversión y ampliación de la oferta educativa.
2  <b>Un único CEU</b>	2.1. Implantar una forma de hacer común para cada línea de negocio	1.4.1. Definición y puesta en marcha de políticas comerciales y de desarrollo de negocio
		2.1.1. Unificación y traslado a la operativa de los valores y cultura CEU
	2.2. Mejorar la eficiencia y agilidad de la FUSP	2.1.2. Modelo pedagógico común: contenidos/programas y método didáctico
		2.1.3. Homogeneización y simplificación de procesos, procedimientos y tecnología
3  <b>Excelencia objetiva</b>	3.1. Alcanzar la excelencia educativa	2.1.4. Desarrollo de la relación entre los empleados CEU y de formación continua
	3.2. Garantizar la transparencia -meritocracia	2.1.5. Puesta en marcha de Programa CEU del futuro para personas con alto potencial
4  <b>Establecer las bases de futuro</b>	4.1. Poner en valor la marca CEU	2.2.1. Rediseño de los flujos de decisión: ACDP/ Patronato/ Presidente/ Dirección/ Fundaciones "hermanas"
	4.2. Orientar la FUSP al cliente	2.2.2. Definición del organigrama de la FUSP
	4.3. Potenciar la figura Alumni	3.1.1. Mejora de la eficiencia de la inversión del programa de becas CEU
		3.1.2. Diseño e implantación del Plan "5 a 8"
	4.4. Fomentar la internacionalización	3.1.3. Aseguramiento de la calidad y mejora continua
		3.2.1. Mejora de la transparencia en la información y comunicación interna
	4.5. Empleabilidad, emprendimiento y e.social	3.2.2. Plan de evaluación, retribución y retención del talento : fijación de objetivos a todos los niveles
	4.6. Rentabilizar la inversión en Investigación	4.1.1. Comunicación adecuada del posicionamiento estratégico de la marca CEU
	4.7. Responder al reto del postgrado	4.1.2. Gestión proactiva y eficiente de los Rankings
4.8. Crear nuevas líneas de negocio rentables	4.2.1. Conocimiento del cliente CEU: Alumni, empresas y alumnos	
4.9. Reordenar las líneas de negocio existentes	4.3.1. Puesta en valor de Alumni, presencia en las mejores empresas	

1 Financial efficiency	1.1 Manage educational investment and costs	1.1.1 Re-orient, eliminate and externalize non-core costs
	1.2 Improve efficiency and profitability	1.2.1 Improve information systems for decision-making 1.2.2 Immediate action plan to eliminate unprofitable educational services 1.2.3 Reduction of contract and purchasing prices 1.2.4 Improve energy efficiency 1.2.5 Rationalize real estate assets 1.2.6 Optimize staffing teaching, research, administrative and service personnel costs
	1.3 Professionalize investment analyses	1.3.1 Design and implement processes and procedures to guarantee the quality of investment decisions and increase educational services
	1.4 Maximize income and improve commercial activities	1.4.1 Define and establish commercial and business strategies
2 A single CEU	2.1 Establish common approaches to all business lines	2.1.1 Unification and operational implementation of CEU's values 2.1.2 Single educational model: contents/programs and teaching methods 2.1.3 Homogenization and simplification of processes, procedures and technology 2.1.4 Improved relationships between CEU employees and development of continuing professional training 2.1.5 Initiation of the "Future CEU" program for high potential individuals
		2.2.1 Redesign of decision-making flows between: AcDP, Board, President, Management Team and "Sister Foundations" 2.2.2 Preparation of Foundation organogram
3 Objective Excellence	3.1 Achieve educational excellence	3.1.1 Improve investment efficiency of scholarship system 3.1.2 Design and implement "5 to 8 Plan" 3.1.3 Quality assurance and continual improvement
	3.2 Guarantee institutional transparency and meritocracy	3.2.1 Improve transparency in internal communication and information flow 3.2.2 Plans covering evaluation, compensation and retention of talent: establishing objectives at all levels
4 Laying the Foundations for the future	4.1 Develop positive brand recognition	4.1.1 Effective communication and positioning of the CEU brand 4.1.2 Proactive and efficient deployment of rankings
	4.2 Gear the Fundación towards clients	4.2.1 Knowledge of the client: alumni, businesses and students
	4.3 Develop potential of alumni	4.3.1 Develop relationships with alumni working in leading businesses as a resource
	4.4 Encourage internationalization	4.4.1 Internationalization of student body and the education offered by CEU: recruitment of students, agreements, bilingual approach 4.4.2 Internationalization of faculty, contracts, rotation and training
	4.5 Employability, entrepreneurship and social entrepreneurship	4.5.1 Entrepreneurial training and social entrepreneurship
	4.6 Increase profitability of investment in research	4.6.1 Increase efficiency of investment in research
	4.7 Respond to challenges posed by postgraduate program	4.7.1 Launch Postgraduate Project
	4.8 Create new profitable business lines	4.8.1 Develop new business lines, especially e-learning and semi-presental courses
	4.9 Restructure existing business	4.9.1 Plan of action targeting schools and universities; continuing education for staff and business schools

## I.2.5 Information Resources

### **a. A description of the institutional context and administrative structure of the library and visual resources.**

San Pablo CEU's University Library is organized into Central Services and Sectional Libraries, including the Architecture Library.

The University Library is a part of CEUNET (created in 1998), a network of the libraries and documentation centers serving the three universities run by the Fundación Universitaria San Pablo CEU (that is, San Pablo CEU, CEU Cardenal Herrera and CEU Abat Oliva) and the other educational centers it is responsible for. CEUNET operates a centralized system known as LibriSuite, which allows each center to retain its unique characteristics – such as the language it uses, descriptors or access rules - while offering a single bibliographical search (Vufind).

CEUNET belongs to the *Red de Bibliotecas Universitarias Españolas*, (Network of Spanish University Libraries – REBIUM) and has signed institutional agreements with the Universia Portal, the OCW Consortium Platform (part of the Open Course Ware Portal), Adlung and Dialnet.

The University Library support services are responsible for managing and distributing information resources for teaching, learning and research. The service encompasses all the university's bibliographical and documentary resources, regardless of format or origin.

The Library is run by the Library Commission (a collegiate body), the Head Librarian, and the Specialized Service and Section Librarians (single member bodies). The Library Commission is chaired by the Rector and includes representatives of each faculty and school, the student body, library staff and the manager and director of the University Library. Full details of the structure and functions of the library administration system may be found in Section 2 of the San Pablo CEU Library Regulations: Governance and Management Bodies.

### **b. Assessment of the library and visual resource collections**

#### **b.1. Content, extent and formats available in the collection**

The University Library contains **510,630 monographs** and **4,008 periodicals**. The Architecture Section holds **17,062 books** (12,087 on the shelves and 4,975 in stack), **185 journals**, subscriptions to **59 periodicals**, **several on-line journals** (part of the digital information service offered by the library) and **974 architecture-related audiovisual recordings** (in CD-ROM and DVD format), including recordings of most of the lectures and complementary activities offered by the Architecture Program.

These resources may be accessed through the library's on-line catalog.

<http://catalogo.ceu.es/?library=uspceu>

#### **b.2. Ways in which the collection support the program**

Section 1, Article 3 of the San Pablo CEU Library Regulations specify that the primary function of the University Library is to acquire the information resources necessary to meet the teaching, study and research needs of students and staff and to conserve, process and make available its bibliographical, documentary and audiovisual holdings.

New acquisitions and updates to on-line stocks and information resources are overseen by the Library Commission, in coordination with the representatives of the schools, and taking into account requests made by instructional and research faculty. The Architecture Section is updated annually in response to titles

suggested by the instructional faculty, whose specialized knowledge thus influences the library's holdings. Materials are sourced using LibriSuite Library Management software, Vufind and other metasearch engines such as Discovery to search the library's holdings.

In addition to the library catalog (<http://www.bibliotecaceu.es/e-recursos>), a range of platforms, portals and library databases, such as Common Ground, Dialnet, Ebsco, Springer Link, Scopus and Web of Knowledge are available to users, as well as the architecture-specific resources Avery, Fundación Alejandro de la Sota, Academic Search Complete and Art & Architecture Complete.

Additionally, the libraries at San Pablo CEU maintain an active presence on the commonest social networking sites.

The university maintains an Institutional Archive (<http://dspace.ceu.es/>) which is used to distribute open access research and publications produced by faculty members. The service is free and available to faculty, students and members of the public. The institutional archive also contains dissertations, theses, reports, scientific papers etc. produced by students and staff.

### **b.3. Quality, currency and range of resources**

In order to guarantee that resources remain up to date the library counts with an acquisitions service, digital library, *docimoteca* (a resource housing test materials and results) and a media library. In addition to the holdings available for consultation in the library and on the various electronic platforms, materials can also be borrowed from the library or through the inter-library loan system, through publication swops, shared cataloguing, etc. All these services are available through the Documentation Center.

Another key resource is the Training, Research and Dissemination Service, which organizes regular activities, training courses and research support sessions for anyone who wishes to understand the library and the services and the resources it offers. Basic, advanced and made-to-measure training is available which, taken together, promote the library's visibility and encourage its use.

For users wishing to consult paper resources, the library has 270 reading and study stations, Wi-Fi, a laptop lending service, PCs for catalog searches and access to online publications and other digital resources.

The Architecture Library is organized across two interconnected floors. Access is on the upper floor, which also houses the lending desk, offices, free-access newspaper library, a large Wi-Fi enabled work room and six sound-proofed areas that can be reserved for group work. The lower floor houses the main collection, the stacks and the principal reading room.

Library functioning is recorded in regular technical reports, statements and regulation, guaranteeing quality service delivery. Statistical indicators are collected regularly to evaluate the library's operations; an annual report is also produced.

The Library has systems to gather, analyze and convey proposals, suggestions and complaints to the library's management team. Additionally, each year a section of the student satisfaction survey is dedicated to library services, providing an opportunity for users to provide anonymous feedback.

Turnstile data shows that over 284,369 people used the library between September 2013 and May 2014 and 930 journals and 32,350 monographs (5,197 monographs in Architecture section) were lent out.

### **b.4. Sufficient funding to enable continuous collection growth.**

Library funding is covered in Section 5 of the San Pablo CEU Library Regulations covering financial resources and acquisitions.

The university makes resources available to the Architecture Library every year for the purchase of electronic resources, permitting the collection to grow continuously.

These funds form a part of the overall library budget, which is approved annually by the Board of Trustees of the Fundación Universitaria San Pablo CEU. The resources are distributed between faculties and library sections according to criteria established by the Library Commission.

The Budget allocation covers infrastructure, equipment, conservation, maintenance and the purchase of bibliographical and documentary materials. Particular importance is attached to maintaining subscriptions to serial publications and data bases in recognition of the great importance of maintaining continuous series of this kind of resource.

Section 1, Article 2.4 and Section 3 of the San Pablo CEU Library Regulations indicate that the university must provide the library with sufficient human and material resources for it to function. Staff duties are detailed in the "Manual of University Library Staff Functions". Staff receives training, provided within the framework of the Foundation's Staff Training Plan, to ensure they are able to offer a professional service. The Plan is reviewed and updated annually.

## I.3 Institutional Characteristics

### I.3.1 Statistical Reports

#### a. Statistical Information on the Student Body

Number of matriculated students (applying the principle of substantial equivalency):

Academic Year 13/14	Degree in Architecture: 286
Academic Year 13/14	Architecture: 529
Academic Year 13/14	Degree in Architecture: 53 new intake, of whom 49 in first year, 4 interim years
Academic Year 13/14	Architecture: 1 students of new intake
Academic Year 13/14	1,381 across all the Masters courses

Numbers awarded degree:

Students completing in 2013: to date: 112

Number of years on the course:

5	have been studying for 11 years	5%
4	have been studying for 10 years	4%
11	have been studying for 9 years	9%
26	have been studying for 8 years	23%
44	have been studying for 7 years	39%
17	have been studying for 6 years	15%
5	have been studying for 5 years	5%

**b. Statistical Information on Faculty**

**General data, EPS Architecture Division, Academic Year 2013-2014**

Number of Instructional Faculty in the Department of Architecture and Design. Academic Year 2013-2014

FULL TIME:	52
HALF TIME:	35
PART TIME:	13

**Total: 100**

STATE ACCREDITED PhDs	19
UN-ACCREDITED PhDs	12
GRADUATES	68
DIPLOMA	1

**Total: 100**

NUMBER OF SIX-YEAR TEACHING RECORDS	9
-------------------------------------	---

FULL PROFESSORS	2
AGGREGATE PROFESSORS	7
ADJUNCT PROFESSORS	11
TENURED PROFESSORS	1
POST-DOCTORAL TEACHING ASSISTANTS	6
TEACHING ASSISTANTS	58
TEACHING ASSISTANTS ON DIPLOMA COURSES	1
ASSOCIATE PROFESSORS:	14
EMERITUS PROFESSORS AND SIMILAR	-

**Total: 100**

Number of Instructional Faculty in the Department of Quantitative Methods, Academic Year 2013-2014

FULL TIME	3
-----------	---

**Total: 3**

Number of Instructional Faculty in the Department of Humanities, Academic Year 2013-2014

FULL TIME	1
-----------	---

**Total: 1**

**Changes during Academic Year 2013-2014**

Promotions of Faculty Members

SURNAME, FORENAME	NEW ACADEMIC RANK
CAMPOS CALVO-SOTELO, PABLO	FULL PROFESSOR

## I.3.2 Faculty Credentials

DIRECTOR OF THE ESCUELA POLITÉCNICA SUPERIOR: David Santos Mejía, Ph.D.  
Chief Academic Officer

DIRECTOR OF THE ARCHITECTURE AND CONSTRUCTION DIVISION: Federico de Isidro Gordejuela, Ph.D.  
Program Administrator

DIRECTOR OF THE DEPARTMENT OF ARCHITECTURE AND DESIGN: Fernando del Ama Gonzalo, Ph.D.  
SECRETARY OF THE DEPARTMENT OF ARCHITECTURE AND DESIGN: Eduardo de la Peña Pareja

AREAS OF KNOWLEDGE IN THE DEPARTMENT OF ARCHITECTURE AND DESIGN:	
Area of Knowledge	Responsible Faculty
Mechanics of Continuous Media and Theory of Structures. Mechanical Engineering.	Responsible: Félix Hernando Mansilla.
Physics and Mathematics	Responsible: Ricardo Díaz Martín, Ph.D.
Architectural Composition	Responsible: Pablo Campos Calvo-Sotelo, Ph.D.
Building Construction	Responsible: Eva Juana Rodríguez Romero, Ph.D.
Building Materials and Assemblies	Coordinator: Federico de Isidro Gordejuela, Ph.D.
Construction Management	Coordinator: Benito Jiménez Alcalá, Ph.D.
Systems	Coordinator: Fernando del Ama Gonzalo, Ph.D.
Architectural Projects	Responsible: Aurora Herrera Gómez, Ph.D.
Analysis of Forms	Coordinator: José Luis Alonso Pando
Geometry	Coordinator: Alberto Sanjurjo Álvarez
Architectural Drawing	Coordinator: Aitor Goitia Cruz
Urban planning and Land-use	Responsible: Teresa Franchini Alonso, Ph.D.

OTHER FACULTY ROLES		
Name	Position	Start Date
Federico de Isidro Gordejuela, Ph.D.	Director of the Architecture and Construction Division President of Final Year Project Tribunal	09/2001 02/2010
Covadonga Lorenzo Cueva	Deputy Director, Organization and Academic Resources Coordinator, International Relations	03/2012 05/2010
Concepción Pérez Gutiérrez, Ph.D.	Academic Secretary	01/2007
Fernando del Ama Gonzalo, Ph.D.	Department Director	04/2013
Eduardo de la Peña Pareja	Department Secretary	04/2013
Auxiliadora Gálvez Pérez, Ph.D.	Coordinator, Final Degree Project Workshop	09/2012
María del Carmen García Hípola, Ph.D.	Coordinator, International Relations	02/2008
Belén Hermida Rodríguez	Coordinator, Bilingual Architecture Program	02/2009
Rocío Carvajal Alcaide	Coordinator, COIE	02/2010
Guadalupe Cantarero García, Ph.D.	Delegate, Ángel Herrera Prizes, EPS	02/2010
Teresa Franchini Alonso, Ph.D.	Representative, Doctoral Program	09/2011
Carlos Martínez-Arrarás Caro	Secretary, Final Degree Project	09/2013

For academic credentials of each instructional faculty member teaching on the degree program see Faculty Resumes in Part IV. Section 2.

See Faculty Matrix in Part I. Section 2.1 for each faculty member's course assignments and brief description of their recent scholarship and/or professional and teaching experience that strengthens their qualifications for ensuring students fulfill published performance criteria.

## I.4. Policy Review

List of documents to be placed in the team room:

- Policy on Academic/Studio Culture.
- Self-Assessment Policies and Objectives.
- Personnel Policies including:
  - Descriptions of all faculty and staff posts.
  - Rank, Tenure, & Promotion.
  - Reappointment.
  - EEO/AA.
  - Diversity (including special hiring initiatives).
  - Faculty Development, including but not limited to: research, scholarship, creative activity, or sabbatical.
- Student : Faculty ratios for all components of the curriculum (i.e. studio, classroom/lecture, seminar)
- Square feet per student for space designated for studio-based learning.
- Square feet per faculty member for space designated to support faculty activities and responsibilities.
- Admissions Requirements.
- Advisory Policies; including policies for evaluation of students admitted from preparatory or pre-professional programs where student performance criteria are expected to have been met through previous experience in non-accredited programs.
- Policies on the use and integration of digital media in the architecture curriculum.
- Policies on student academic integrity (e.g., cheating and plagiarism).
- Policies on the development of library and information resources.
- A description of the computer literacy program and how it is integrated within the curriculum.

## II. EDUCATIONAL OUTCOMES AND CURRICULUM

### II.1 Student Performance Criteria (SPC)

Currently, two parallel degree programs in architecture are taught at the EPS.

#### ***Título de Arquitecto (Qualification as Architect: “Program 2001”)***

During the 2013-2014 academic year students have been studying for the 4<sup>th</sup> and 5<sup>th</sup> years of Program 2001 and preparing their Final Degree Projects. In 2014-2015 the 4<sup>th</sup> year of Program 2001 will be discontinued, leaving students studying the 5<sup>th</sup> year and preparing the Final Degree Project. The last call for Final Degree Projects (PFC) of Program 2001 will be in July 2017

#### ***Grado en Arquitectura (Degree in Architecture: Program 2010)***

2010 saw the inauguration of the new degree course. The first cohort to study for the degree, made up of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year students, initiated studies in the 2013-2014. The 5<sup>th</sup> year will be taught for the first time in 2014-2015.

**The content, methodology and qualification offered by both programs are equivalent. Both the 2001 and 2010 programs entitle graduates to practice in Spain as architects.**

Program 2010 prepares students to practice professionally as specified by Order ECI/3856/2007, providing training in the following areas:

1. Ability to create architectural projects of high esthetic and technical quality;
2. Adequate knowledge of the history and theoretical underpinnings of architecture and relevant aspects of art, technology and human sciences;
3. Knowledge of the fine arts as a factor influencing the quality of students' architectural concepts
4. Adequate knowledge of planning and planning techniques, including urban planning;
5. Ability to understand the relationship between people and buildings and between buildings and their surroundings, as well as the need to ensure buildings and their surrounding spaces function effectively and to a human scale;
6. Ability to understand the architectural profession and its role in society, in particular through the design of socially responsible projects;
7. Knowledge of the methods used in research and to prepare construction projects;
8. Understanding of the challenges associated with envisioning the structural, construction and engineering requirements of building projects;
9. Adequate knowledge of physical and technological problems and the functioning of buildings in order to ensure the comfort of users, including temperature control;
10. Ability to satisfy the requirements of a building's users, within the limits imposed by budgets and planning regulations;
11. Satisfactory knowledge of industry sectors, organizations, regulations and procedures to be able to carry out projects and make use of architectural drawings in the planning process.

STUDENT PERFORMANCE CRITERIA MATRIX. Degree in Architecture (5 Courses + Final Thesis Project).

October 2014

Table 4.  
SPC MATRIX

October 2014

Code	Acronym	Realm A											Realm B												Realm C								
		Communication Skills	Design Thinking Skills	Visual Communication Skills	Technical Documentation	Investigative Skills	Fundamental Design Skills	Use of Precedents	Ordering Systems Skills	Historical Traditions and Global Culture	Cultural Diversity	Applied Research	Pre-Design	Accessibility	Sustainability	Site Design	Life Safety	Comprehensive Design	Financial Considerations	Environmental Systems	Structural Systems	Building Envelope Systems	Building Service Systems	Building Materials and Assemblies	Collaboration	Human Behavior	Client Role in Architecture	Project Management	Practice Management	Leadership	Legal Responsibilities	Ethics and Professional Judgment	Community and Social Responsibility
		A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	A.9	A.10	A.11	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	B.11	B.12	C.1	C.2	C.3	C.4	C.5	C.6	C.7	C.8	C.9
Realm A: Critical Thinking											Realm B: Integrated Building												Realm C: Leadership and Practice										
<b>FIRST year of studies</b>																																	
Architectural Form Analysis I	A101	AF1																															
Descriptive Geometry I	A102	GD1																															
Introduction to Architecture	A103	IAR																															
Fundamentals of Mathematics in Architecture I	A014	FM1																															
Fundamentals of Physics in Architecture I	A105	FF1																															
Anthropology	A106	ANT																															
Architectural Form Analysis II	A107	AF2																															
Descriptive Geometry II	A108	GD2																															
Architectural Drawing I	A109	DA1																															
Fundamentals of Mathematics in Architecture II	A110	FM2																															
Fundamentals of Physics in Architecture II	A111	FF2																															
History and Society	A112	HYS																															
<b>SECOND year of studies</b>																																	
Architectural Design I	A201	PR1																															
Architectural Drawing II	A202	DA2																															
Solid Mechanics	A203	MEC																															
Building Construction Materials	A204	MCO																															
Urban Theory I	A205	IU1																															
History of Architecture I	A206	HA1																															
Architectural Design II	A207	PR2																															
Drawing and Geometry	A208	DGA																															
Fundamentals of Mathematics in Architecture III	A209	FM3																															
Structural Systems	A210	SES																															
Urban Theory II	A211	IU2																															
History of Architecture II	A212	HA2																															
<b>THIRD year of studies</b>																																	
Architectural Design III	A301	PR3																															
Building Construction I	A302	SC1																															
Structural Analysis I	A303	AE1																															
Environmental Systems	A304	TEC																															
Urban Design I	A305	DU1																															
Great Books	A306	LIB																															
Architectural Design IV	A307	PR4																															
Building Construction II	A308	SC2																															
Structural Analysis II	A309	AE2																															
Electrical and Lighting Systems	A310	ELE																															
Urban Design II	A311	DU2																															
History of Architecture III	A312	HA3																															
<b>FOURTH year of studies</b>																																	
Architectural Design V	A401	PR5																															
Dimensioning of Structures	A402	DES																															
Mechanical Systems	A403	IST																															
Urban Planning I	A404	PL1																															
History of Architecture IV	A405	HA4																															
Social Doctrine of the Catholic Church	A406	DSI																															
Architectural Design VI	A407	PR6																															
Building Construction Analysis	A408	ACO																															
Foundations	A409	CIM																															
Urban Planning II	A410	PL2																															
Architectural Composition	A411	COM																															
Modern Language	A412	LMO																															
<b>FIFTH year of studies</b>																																	
Architectural Design VII	A501	PR7																															
Building Construction Design I	A502	PC1																															
City and Territorial Planning I	A503	PU1																															
Professional Practice in Architecture I	A504	OF1																															
Architectural Innovation Workshop	A505	TIA																															
Advanced Courses*	A512'	TES																															
Architectural Design VIII	A506	PR8																															
Building Construction Design II	A507	PC2																															
Design of Building Structures	A508	PES																															
Design of Environmental Mechanical Systems	A509	PIN																															
City and Territorial Planning II	A510	PU2																															
Professional Practice in Architecture II	A511	OF2																															
<b>FINAL THESIS PROJECT (PFC)</b>																																	
Thesis Project		PFC																															

Primary Emphasis

Secondary Emphasis

## II.2 Curricular Framework

### II.2.1 National Authorization

At the moment, the EPS offers a **Diploma of Architect** (Program 2001, *Título Universitario Oficial de Arquitecto*) and a **Degree in Architecture** (Program 2010, *Grado en Arquitectura*). Every published Architect Degree complies with **Royal Decree 4/1994**, the current guideline in Spain for any diploma which entitles the holder to practice as an Architect. These guidelines comply with **European Directive 85/384/EC**.

The 2001 qualification was established before 2008, when implementation of the European Higher Education Area (Bologna process) began in Spain.

Both training programs (Bologna and non-Bologna) are currently offered by the University San Pablo CEU in the sense that "*Título Universitario Oficial de Arquitecto*" is being progressively displaced by "*Título de Graduado o Graduada en Arquitectura*". 2016-2017 will be the last year with students from non-Bologna program. Last call for the Final Thesis Project (PFC) will be in July, 2017.

#### **TÍTULO DE ARQUITECTO (Diploma of Architect). PROGRAM 2001**

In accordance with Spanish Law, Program 2001 was approved by the "*Consejo de Universidades*" (Universities Council - the highest advisory body to the Ministry of Education) on 29th May 2001, and published in the Official Gazette in February 2003.

<http://www.boe.es/boe/dias/2003/02/18/pdfs/A06708-06714.pdf>

#### **GRADO EN ARQUITECTURA (Degree in Architecture). PROGRAM 2010**

In accordance with Spanish Law, Program 2010 was approved by the "*Consejo de Ministros*" (Council of Ministers of the Spanish Government) on 16<sup>th</sup> December 2010, and published in the Official Gazette in 13<sup>th</sup> August 2012.

<http://www.boe.es/boe/dias/2010/12/16/pdfs/BOE-A-2010-19333.pdf>

<http://www.boe.es/boe/dias/2012/08/13/pdfs/BOE-A-2012-10812.pdf>

Program 2010 complies with the guidelines in Spain and Europe that regulate the practice of Architecture:

- **European Directive 85/384/CEE** of the European Union of June 10, 1985, which establishes the conditions for the mutual recognition of diplomas, certificates and other titles in the architecture sector of member countries.
- **Royal Decree RD 314/2006**, March 17, which establishes the CTE Código Técnico de la Edificación, the Law on Building Regulations in Spain.
- **European Directive 2005/36/CE**, September 7, relative to the recognition of professional competences in the European Community.
- **Orden ECI/3856/2007** of December 27, 2007, a current guideline in Spain for any diploma which entitles the holder to practice as an Architect. This Law includes in its objectives the 11 points of European Directive 2005/36/CE.

## II.2.2 Professional Degrees and the Curriculum

### **TÍTULO DE ARQUITECTO (Diploma of Architect). PROGRAM 2001**

2001 was the first academic year for students of this diploma. The first class graduated in 2007. Currently, we have students in 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and Final Thesis Project (PFC). The program results can be evaluated. A brief summary of the program has been included here, as well as a table of equivalences between Programs 2001 and 2010.

### **GRADO EN ARQUITECTURA (Degree in Architecture). PROGRAM 2010**

2010 was the first year for students of this Degree. Currently we only have students in 1st, 2nd and 3rd year. The 4th year will first be taught during 2013-2014.

**The content, methodology and qualification offered by both programs are equivalent. Both the 2001 and 2010 programs entitle graduates to practice in Spain as architects.**

#### **a. TÍTULO DE ARQUITECTO (Diploma of Architect). PROGRAM 2001**

**a.1. Structure of Program 2001.** The program has duration of 5 years of academic coursework \*(405 LRU). Each year is structured into 2 semesters. Additionally, the program is structured in two indivisible cycles:

- In the **first cycle**, subjects are of a basic nature, which are necessary for the preparation of the contents developed in the second cycle of the university course (subjects of basic drawing, mathematics, physics or construction, history and theory of architecture and town-planning). The first cycle has duration of **two years**.
- In the **second cycle**, subjects are more specific and correspond to subjects related to architectural design, construction, structures, building technology, and professional practice. Subjects on architectural design integrate all disciplines and structure the curriculum throughout the entire university course. The second cycle has duration of **three years**.

The campus-based learning time of this program is about 27 hours / week. Hours are evenly distributed across 40 weeks / academic year.

**a.2. Types of subjects.** Subjects may take one semester or one year. A student takes a maximum of six compulsory/core subjects simultaneously.

#### **a. Mandatory subjects**

- **Core Subjects:** Theoretical and practical subjects of forced inclusion in the plans of all Spanish universities to obtain the official degree of "*Título Universitario Oficial de Arquitecto*". These subjects represent approximately 80% of the total ECTS credits of the degree.
- **Compulsory Subjects:** theoretical and practical subjects freely established by each university. These subjects represent approximately 5.5% of the total ECTS credits of the degree.

#### **b. Elective Subjects**

- **Optional Subjects:** theoretical and practical subjects freely established by each university from which the student can choose. These subjects represent approximately 4.5% of the total amount of credits of the degree.
- **Liberal Arts Subjects:** theoretical and practical subjects offered by the university in humanities and social sciences from which the student can choose. These subjects represent approximately 10% of the total amount of credits of the degree.

### a.3. Types of Subjects according to Content

- **Drawing/Architectural Design Subjects** (drawing, architectural design, urban planning) are mainly **studio** oriented, practical, integrating knowledge from all areas in the curriculum.
- **Theoretical/Humanistic Subjects** (history and theory of architecture and urbanism) are eminently **theoretical**, although students develop complementary **practical work** as well.
- **Technical subjects** (construction, structures, environmental and technical systems and building management) are both **lecture and studio** oriented, giving the students the specific technical competences and skills required by the Law on Building Regulations in Spain.

### a.4. Types of Subjects according to Teaching Methods

There are two types of subjects, theoretical and studio. Some subjects include both lectures/seminars and workshops studio oriented.

- **Theoretical:** mainly lectures and **seminars, exercises** and, in some cases, **laboratory work**. Theory classes are usually conducted by **one teacher**, the lab sessions are usually conducted by one or more teachers (in the case of subjects such as Building Materials, Fundamentals of Physics II and Introduction to Structures). The type of evaluation usually includes several **exams or written tests** throughout the semester. This type of teaching is common in the areas of Fundamentals of Mathematics and Physics, Theory and History of Architecture, Building Construction and Building Structures.
- **Studio:** mainly **studio classes**, with practical cases linked to particular assignments, group review sessions, and where complex graphic/design work is expected. Studio are always conducted by **two teachers**, simultaneously. In this type of teaching, it is common to have other teachers or visiting professionals participating in occasional reviews. The type of evaluation is mainly based on the **submitted work** (sketches, drawings, models, videos) throughout the semester. This class structure is used for all Architectural Drawing, all Architectural Design, Building Construction, Structural Design, Design of Mechanical Systems and all Urban Studies.

**a.5. Final Thesis Project.** The PFC (Thesis Project) course prepares students to develop and defend an original exercise conducted individually, consisting of a comprehensive architecture professional project, in which the student has to demonstrate proficiency for the performance of professional practice. Therefore, this course covers all aspects, primarily those related to the architectural and urban design, including the detailed resolution of constructive aspects, the analysis and dimensioning of structures and building and environmental systems, as well as cost estimates. The project is an **original comprehensive architectural design** integrating all the skills acquired in the years of studies. The project must be highly detailed to show competence and skills on all areas of design and construction in compliance with the applicable technical and administrative regulations in Spain.

Administratively, the Final Thesis Project is a core subject with a workload of 30 hours of class. It takes 6-9 months. Students have faculty advisors from all areas: Design, Building Construction and Management, Structures, Environmental and Technical Systems and Planning. **Passing the Final Thesis Project is a necessary condition for obtaining the degree in architecture at the Universidad San Pablo CEU.**

**a.6. Evaluating Methods.** Each course the student has **2 calls** to be evaluated, except the Final Thesis Project which has 4 calls. The first call happens at the end of the regular course, from data taken during the semester within the continuous and comprehensive evaluation system. In the case of not passing the subject

in this first call, the student has a second call in June/July, consisting on a final examination of the full subject.  
**The record of student progress is individual, in all subjects.**

- In **theory** subjects (mathematics, physics, materials, art history and architecture, theory of architecture, structures, environmental and mechanical systems, professional practice) the evaluation is done through **written examinations and tests.**
- In **studio** subjects (basic drawing courses, architectural design, urban planning and construction), the evaluation is done through various **graphic works assignments or exercises.**

**a.7. Continuous and Comprehensive Evaluation.** The Continuous and Comprehensive Evaluation Method is a distinctive feature of University San Pablo CEU since its foundation. Education establishes permanent and effective changes in the student knowledge and behaviour. Goals are established, partial achievements determine final achievements. In this method, reflection prevails over information and dialogue and practical analysis are promoted. This method integrates scientific teaching with complementary activities such as academic tutorship, master classes, seminars, work groups and individual assignments about current topics.

\* **About the Spanish credit system before the Bologna process.** The number of credits allocated to every subject comprises the total workload for an average student to prepare that particular subject. It must be noted that the degree in Architecture awarded by San Pablo-CEU University, (*"Arquitecto por la Universidad San Pablo-CEU"*) started in 2001, before the Bologna process was implemented. Therefore, the credit system according to which every single Spanish degree was designed and set up before 2008 was also based on credits, but these credits, called "*créditos LRU*" after the 1983's "*Ley de Reforma Universitaria*", measured exclusively the actual amount of hours of lectures, seminars and practical studio in which students physical presence is required.

According to this, 1 LRU credit equals to 10 hours of lectures, seminars and practical studio in which students physical presence is required, regardless of the real total workload needed for an average student to prepare one particular subject. This total workload is given by the addition of the hours of physical presence in lectures and other activities, plus the average time needed for homework, study and examinations. In Spain, since a new regulation was passed in 2007 for new degrees, adapted to the European Higher Education Area, this total workload is taken into account through ECTS credits, as a quantified means of expressing the volume of learning based on the achievement of learning outcomes and their associated workloads, calculated between 25 and 30 hours of actual work for every ECTS credit.

## **b. GRADO EN ARQUITECTURA (Degree in Architecture). PROGRAM 2010**

### **b.1. Requirements of Order ECI/3856/2007**

All programs should include at least three **modules** with a minimum number of ECTS credits and must ensure the acquisition of the skills listed in the table below. ECTS credits express the volume of learning based on the achievement of learning outcomes and their associated workloads, calculated between 25 and 30 hours of actual work for every ECTS credit.

**Modules :**

- The **Propaedeutic Module** contains basic and instrumental subjects, taught in the first years of studies. The content is basic sciences and drawing.
- The **Technical Module** contains specific subjects for the education of architects. The content is building construction, structures and systems as required by Spanish legislation (RD 314/2006, March 17)
- The **Design Module** contains specific subjects for the education of architects. The content is Architectural Design, Theory and History, Urbanism and Professional Practice. Architectural Design is taught 2nd through 5th year in a studio format, integrating all other disciplines.

**MODULES AND COMPETENCES. ORDER ECI/3856/2007**

Module	ECTS credits	Competences required Studio Methodology indicated by S
<p><b>Propaedeutic</b></p> <p>Basic Sciences and Drawing</p>	<p>60</p>	<p><b>Ability to:</b> proficiency in using all graphic procedures in the representation of spaces and objects (S); conceive and represent the visual attributes of objects and master proportion and drawing techniques, including digital ones (S)</p> <p><b>Adequate knowledge applied to architecture and urbanism of:</b> Systems of spatial representation: analysis an theory of form and laws of visual perception: metric and applied geometry; graphic mapping techniques at all stages, from sketching to scientific restitution; principles of general mechanics, statics, mass geometry, vector and tensor fields; principles of thermodynamics, acoustics and optics; principles of fluid mechanics, hydraulics electricity and electromagnetism; basis of topography, hypsometry and mapping and ground modification techniques.</p> <p><b>Applied knowledge of:</b> numerical calculus, analytical and differential geometry and algebraic methods.</p>
<p><b>Technical</b></p> <p>Structures, Construction and Systems</p>	<p>68</p>	<p><b>Ability to design, calculate, design, integrate in buildings and urban ensembles and execute:</b> building structures (S), Systems of partitions, carpentry, stairs and other finished work (S), enclosure systems, roof and other structural work (S) foundations (S) systems for supply, treatment and disposal of water, heating and air conditioning (S)</p> <p><b>Ability to:</b> Apply technical and construction standards; Maintain building structures, foundations and civil works; Maintain the finished work, assess the work.</p> <p><b>Ability to:</b> Design building and urban facilities of transformation and electrical supply, audiovisual media, acoustic conditioning and artificial lighting; Preserve facilities.</p> <p><b>Adequate knowledge of:</b> The mechanics of solids and soil, as well as the plastic, elastic and strength qualities of building materials; the conventional construction systems and their pathologies; the physical and chemical characteristics, production procedures and processes, pathology and use of construction materials; the industrial construction systems.</p> <p><b>Knowledge of:</b> The ethics, the professional organization and structure and the professional liability; the administrative procedures and professional management and processing; professional office organization; methods of measurement, assessment and expert assessment; the health and safety control of works; the management of real estate companies.</p>

<p style="text-align: center;"><b>Design</b></p> <p>Composition, Architectural Design and Urbanism</p>	<p><b>112</b></p>	<p><b>Ability to design, practice and develop:</b> preliminary and construction, projects, sketches and drafts (S) Urban projects (S), the direction of works (S).</p> <p><b>Ability to:</b> Develop use programs for buildings and urban spaces, intervene in and conserve, restore and rehabilitate the built heritage (S) Remove architectural barriers (S); engage in architectural criticism; Solve passive environmental conditioning, including thermal insulation and acoustics, climate control, energy efficiency and natural lighting (S) Catalog the built and urban heritage and plan its preservation.</p> <p><b>Ability to:</b> design security, evacuation and property protection projects (S); design civil works projects (S), design and execute layouts and urban development projects, gardening and landscape (S) Apply standards and building regulations, develop environmental studies, landscape and environmental impacts correction (S).</p> <p><b>Adequate knowledge of:</b> general theories of form, composition and architectural types; the general history of architecture; the study methods of symbol processes, practical uses and ergonomics; the study methods of social needs, quality of life, liability and basic housing programs; ecology, sustainability and the conservation principles of energy and environmental resources; architectural traditions, urban and landscape of Western culture, and their technical, climatic, economic, social and ideological bases; the aesthetics, theory and history of fine arts and applied arts; the relationship between cultural patterns and social responsibilities of the architect; the basis of vernacular architecture; urban sociology, theory, economics and history; the methodological foundations of urban, metropolitan, regional and territorial planning; design and management of urban planning at any scale.</p> <p><b>Knowledge of:</b> civil, administrative, urban planning and building codes and of the industry related to the professional performance; feasibility analysis, supervision, monitoring and coordination of integrated projects; real estate appraisal.</p>
<p><b>Final thesis project</b></p>	<p>Presentation and defence, once all the credits of the curriculum has been obtained, of an original exercise carried out individually, before a university board which must include at least one recognized professional proposed by professional organizations. The exercise will result in an integrated architecture project of professional nature which synthesizes all the skills acquired in the studies, developed to show sufficient competence to determine the complete execution of construction works, in compliance with all technical and administrative regulations applicable.</p>	

(S) Studio/Workshop

**b.2. Structure of Program 2010.** 2010-2011 was the first academic year for students of this degree at Escuela Politécnica Superior of Universidad San Pablo CEU. The language of instruction is Spanish and English. Program 2010 has duration of **5 years of academic coursework** (300 ECTS). Each year is structured into 2 semesters. ECTS stands for European Credit Transfer and Accumulation System. 1 credit ECTS is equivalent to 30 hrs of student work. The campus-based learning time of this program is about 27 hours / week. Hours are evenly distributed across 40 weeks / academic year

After completing the five years, students must pass a **Final Thesis Project** (PFC, 30 ECTS), which takes an average of 6-9 months of full time work, never less than 4 months under the supervision of tutors. Students have faculty advisors from all areas: Design, Building Construction and Management, Structures, Environmental and Technical Systems and Planning.

**Passing the Final Thesis Project is a necessary condition for obtaining the degree in architecture at the Universidad San Pablo CEU.**

In terms of content, the Program 2010 is structured into 7 modules: **Propaedeutic, Technical, Design, Humanities, Modern Language, Advanced Studio and Final Thesis Project.**

**MODULES AND FIELDS OF STUDIES. PROGRAM 2010**

Module	ECTS credits	Field of Studies	ECTS credits
Propaedeutic	63	Scientific Fundamentals in Architecture	24
		Architectural drawing	39
Technical	84	Building Construction	33
		Building Structures	27
		Building Systems	24
Design	117	Theory and History of Architecture	30
		Urbanism	24
		Architectural Design	48
		Architecture Innovation Studio	6
		Professional Practice	9
Humanities	24	Anthropology	6
		History and Society	6
		Social Doctrine of the Catholic Church	6
		Great Books	6
Modern Language	6	English, German or French	6
Advanced Studio	6	Elective course to choose two from: -Architectural Drawing -Building Construction -Building Structures -Building Systems -Urbanism -Architectural Design	6
Final Thesis Project	30	The Final Thesis Project is a comprehensive, professional architectural design project which integrates all fields of study. The project must be highly detailed, demonstrating competence and skills on all areas of design and construction in compliance with the applicable technical and administrative regulations in Spain. Administratively, the Final Thesis Project is a core subject with a workload of 30 hours of class. It takes 6-9 months, never less than 4 months. Students are assigned a design tutor and faculty advisors from all areas: Design, Building Construction and Management, Structures, Environmental and Technical Systems and Urbanism. <b>Passing the Final Thesis Project is mandatory in order to graduate with a Degree in Architecture from University San Pablo CEU.</b>	30
PROGRAM 2010	330		330

**b.3. Types of subjects.** All subjects are **one semester**. A student usually takes a maximum of six compulsory/core subjects simultaneously.

- **Mandatory subjects.** Theoretical and practical subjects of forced inclusion in the plans of all Spanish universities to obtain the official degree of "*Grado en Arquitectura*." Additionally, theoretical and practical subjects of forced inclusion in the programs of University San Pablo CEU. 324 ECTS credits.

- **Elective Subjects.** Theoretical and practical advance courses freely established by the university from which the student can choose. 6 ECTS credits.

**b.4. Types of Subjects according to Content.** Equivalent to Program 2001.

- **Drawing/Architectural Design Subjects** (drawing, architectural design, urban planning) are mainly **studio oriented**, practical, integrating knowledge from all areas in the curriculum.

- **Theoretical/Humanistic Subjects** (history and theory of architecture and urbanism) are eminently **theoretical**, although students develop complementary practical work as well.

- **Technical subjects** (construction, structures, environmental and technical systems and building management) are both **lecture and studio oriented**, giving the students the specific technical competences and skills required by the Law on Building Regulations in Spain.

**b.5. Types of Subjects according to Teaching Methods.** Equivalent to Program 2001.

There are two types of subjects, theoretical and studio. Some subjects include both lectures/seminars and workshops studio oriented.

- **Theoretical:** mainly **lectures and seminars, exercises** and, in some cases, **laboratory work**. Theory classes are usually conducted by **one teacher**, the lab sessions are usually conducted by one or more teachers (in the case of subjects such as Building Materials, Fundamentals of Physics II and Introduction to Structures). The type of evaluation usually includes **several exams or written** tests throughout the semester. This type of teaching is common in the areas of Fundamentals of Mathematics and Physics, Theory and History of Architecture, Building Construction and Building Structures.

- **Studio** classes: with practical cases linked to particular assignments, group review sessions, and where complex graphic/design work is expected. Studios are always conducted by **two teachers**, simultaneously. In this type of teaching, it is common to have other teachers or visiting professionals participating in occasional reviews. The type of evaluation is mainly based on the **submitted work** (sketches, drawings, models, videos) throughout the semester. This class structure is used for all Architectural Drawing, all Architectural Design, Building Construction, Structural Design, Design of Mechanical Systems and all Urban Studies.

**b.6. Final Thesis Project.** Equivalent to Program 2001.

The PFC (Final Thesis Project) course prepares students to **develop and defend an original exercise conducted individually**, consisting of a comprehensive **architecture professional project**, in which the student has to demonstrate proficiency for the performance of professional practice. Therefore, this course covers all aspects, primarily those related to the architectural and urban design, including the detailed resolution of constructive aspects, the analysis and dimensioning of structures and building and environmental systems, as well as cost estimates.

The project is an **original comprehensive architectural design** integrating all the skills acquired in the years of studies. The project must be highly detailed to show competence and skills on all areas of design and construction in compliance with the applicable technical and administrative regulations in Spain.

Administratively, the Final Thesis Project is a core subject with a workload of 30 hours of class. It takes 6-9 months. Students have faculty advisors from all areas: Design, Building Construction and Management, Structures, Environmental and Technical Systems and Planning.

**Passing the Final Thesis Project is a necessary condition for obtaining the degree in architecture at the Universidad San Pablo CEU.**

**b.7. Evaluating Methods.** Equivalent to Program 2001.

Each course the student has **2 calls** to be evaluated, except the Final Thesis Project which has 4 calls. The first call happens at the end of the regular course, from data taken during the semester within the continuous and comprehensive evaluation system. In the case of not passing the subject in this first call, the student has a second call in June/July, consisting on a final examination of the full subject. **The record of student progress is individual, in all subjects.**

-In **theory subjects** (mathematics, physics, materials, art history and architecture, theory of architecture, structures, environmental and mechanical systems, professional practice) the evaluation is done through **written examinations and tests.**

- In **studio subjects** (basic drawing courses, architectural design, urban planning and construction), the evaluation is done through various **graphic works assignments or exercises.**

**b.8. Continuous and Comprehensive Evaluation.** Equivalent to Program 2001.

The Continuous and Comprehensive Evaluation Method is a distinctive feature of University San Pablo CEU since its foundation. Education establishes permanent and effective changes in the student knowledge and behaviour. Goals are established, partial achievements determine final achievements. In this method, reflection prevails over information and dialogue and practical analysis are promoted. This method integrates scientific teaching with complementary activities such as academic tutorship, master classes, seminars, work groups and individual assignments about current topics.

**c. Schedule for implementation and equivalences between both programs**

The program implementation is done progressively since 2010-2011. Since 2010-2011 there are no more admissions to Program 2001. The schedule for 2010 program implementation and the 2001 program gradual extinction are shown below.

At the present time, all 2001 program subjects have been taught and there are results from student work.

## SCHEDULE FOR IMPLEMENTATION

2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
1st 2010 1st 2001*	1st 2010 1st 2001**	1st 2010	1st 2010	1st 2010	1st 2010
2nd 2001	2nd 2010 2nd 2001*	2nd 2010 2nd 2001**	2nd 2010	2nd 2010	2nd 2010
3rd 2001	3rd 2001	3rd 2010 3rd 2001*	3rd 2010 3rd 2001**	3rd 2010	3rd 2010
4th 2001	4th 2001	4th 2001	4th 2010 4th 2001*	4th 2010 4th 2001**	4th 2010
5th 2001	5th 2001	5th 2001	5th 2001	5th 2010 5th 2001*	5th 2010 5th 2001**
PFC 2001	PFC 2001	PFC 2001	PFC 2001	PFC 2001	PFC 2010 PFC 2001***

\* Courses and exams corresponding to 3rd and 4th calls.

\*\* Exam corresponding to 5th and 6th calls (extraordinary calls)

\*\*\*Last call for Final Thesis Project (PFC) will be in July, 2017

Students registered in Program 2001 are able to finish their studies in Program 2001 or to transfer at any time to the new Program 2010, transferring the credits taken according to a table of equivalences between both programs.

The table of equivalences between Program 2001 and Program 2010 shown below establishes a correspondence between subjects of both programs. The equivalence between subjects is based on their contents, so that two subjects or groups of subjects are equivalent when their goals and objectives, Student Performance Criteria, core contents, workload or physical presence of students in classes and sessions are covered by both.

## EQUIVALENCES BETWEEN PROGRAMS 2001 AND 2010 (electives not included)

PROGRAM 2001 CORE AND MANDATORY SUBJECTS	PROGRAM 2010 SUBJECTS
Fundamentals of Mathematics in Architecture I	Fundamentals of Mathematics in Architecture I Fundamentals of Mathematics in Architecture II
Art History	History of Architecture I History of Architecture II
Architectural Form Analysis I	Architectural Form Analysis I
Descriptive Geometry Applied Computer Sciences	Descriptive Geometry I Descriptive Geometry II
Introduction to Architecture	Introduction to Architecture
Building Materials	Building Construction Materials
Architectural Form Analysis II	Architectural Form Analysis II
Architectural Drawing	Architectural Drawing I
Fundamentals of Physics in Architecture I	Fundamentals of Physics in Architecture I Fundamentals of Physics in Architecture II
Fundamentals of Mathematics in Architecture II	Fundamentals of Mathematics in Architecture III
Urban Theory	Urban Theory I Urban Theory II

<b>PROGRAM 2001</b> CORE AND MANDATORY SUBJECTS	<b>PROGRAM 2010</b> SUBJECTS
Architectural Design I	Architectural Design I
Fundamentals of Physics in Architecture II	Solid Mechanics
Architectural History I	History of Architecture III
Computer Aided Design	Architectural Drawing II
Architectural Design II	Architectural Design II
Introduction to Building Technologies	Building Construction I Building Construction II
Introduction to Structural Systems	Structural Systems
Urban Design	Urban Design I Urban Design II
Structural Analysis	Structural Analysis I Structural Analysis II
Architectural Design III	Architectural Design III
Building Construction I	Building Construction Analysis
Environmental Technology	Environmental Systems
Architectural Design IV	Architectural Design IV
Electrical and Lighting Systems	Electrical and Lighting Systems
Architectural Composition	Architectural Composition
History of Architecture II	History of Architecture IV
Social Doctrine of the Catholic Church	Social Doctrine of the Catholic Church
Architectural Design V	Architectural Design V
Urban Planning	Urban Planning I Urban Planning II
Mechanical Systems	Mechanical Systems
Dimensioning of Structures	Dimensioning of Structures
Architectural Design VI	Architectural Design VI
Building Construction II	Building Construction Design I Building Construction Design II
Foundations	Foundations
Architectural Design VII	Architectural Design VII
Structural Design	Design of Building Structures
Professional Practice in Architecture	Professional Practice I Professional Practice II
Design of Mechanical Systems	Design of Environmental and Mechanical Systems
Architectural Design VIII	Architectural Design VIII
City and Territorial Planning	City and Territorial Planning I City and Territorial Planning II
Thesis Project	Final Thesis Project

#### d. State of program 2010 development (July 2014)

The state of Program 2010 at the present time (July 2014) is shown in the table below. The subjects of the four first courses have been taught from the academic year 2010/2011 to 2013/2014. During the academic year 2014/2015, that it is now beginning, fifth course will be taught. So, evidences of the results from the four first courses are available. Due to the equivalence between both programs, the subjects of the fifth course of Program 2010 have an equivalent subject in the Program 2001 in the majority of the cases. Evidences of results can be evaluated in the equivalent subject. The main content incorporations that have been done in the Program 2010 are the following:

##### a) Cross curricular contents:

- Five subjects of general humanistic content have been included. Their contents are not specific of the Architecture Degree (Anthropology, History and Society, Great Books, Social Doctrine of the Catholic Church, Modern Language).

##### b) Specific contents:

- A new propaedeutic subject has been included in the program 2010, with advanced drawing and geometry contents (Drawing and Geometry).
- A studio for the integration of sustainability in the designing process has been included. (Innovation Workshop)
- A specific specialized studio has been included, that offers twelve subjects in six knowledge areas of the degree. (Advanced Studio)

#### DEVELOPMENT OF THE PROGRAM 2010 AND EVIDENCES

Year of studies	Course Number	Code	Courses PROGRAM 2010	From the academic year	Taught	Evidences	Equivalent Course in PROGRAM 2001
1	A101	AF1	Architectural Form Analysis I	10/11	YES	YES	Architectural Form Analysis I
	A102	GD1	Descriptive Geometry I	10/11	YES	YES	Descriptive Geometry + Applied Computer Science
	A103	IAR	Introduction to Architecture	10/11	YES	YES	Introduction to Architecture
	A104	FM1	Fundamentals of Mathematics in Architecture I	10/11	YES	YES	Fundamentals of Mathematics in Architecture I
	A105	FF1	Fundamentals of Physics in Architecture I	10/11	YES	YES	Fundamentals of Physics in Architecture I
	A106	ANT	Anthropology	10/11	YES	YES	
	A107	AF2	Architectural Form Analysis II	10/11	YES	YES	Architectural Form Analysis II
	A108	GD2	Descriptive Geometry II	10/11	YES	YES	Descriptive Geometry + Applied Computer Science
	A109	DA1	Architectural Drawing I	10/11	YES	YES	Architectural Drawing
	A110	FM2	Fundamentals of Mathematics in Architecture II	10/11	YES	YES	Fundamentals of Mathematics in Architecture I
	A111	FF2	Fundamentals of Physics in Architecture II	10/11	YES	YES	Fundamentals of Physics in Architecture I
	A112	HYS	History and Society	10/11	YES	YES	
2	A201	PR1	Architectural Design I	11/12	YES	YES	Architectural Design I
	A202	DA2	Architectural Drawing II	11/12	YES	YES	Computer Aided Design
	A203	MEC	Solid Mechanics	11/12	YES	YES	Fundamentals of Physics in Architecture II
	A204	MCO	Building Construction Materials	11/12	YES	YES	Building Materials
	A205	IU1	Urban Theory I	11/12	YES	YES	Urban Theory
	A206	HA1	History of Architecture I	11/12	YES	YES	Art History
	A207	PR2	Architectural Design II	11/12	YES	YES	Architectural Design II
	A208	DGA	Drawing and Geometry	11/12	YES	YES	
	A209	FM3	Fundamentals of Mathematics in Architecture III	11/12	YES	YES	Fundamentals of Mathematics in Architecture II
	A210	SES	Structural Systems	11/12	YES	YES	Introduction to Structural Systems
	A211	IU2	Urban Theory II	11/12	YES	YES	Urban Theory
	A212	HA2	History of Architecture II	11/12	YES	YES	Art History

Year of studies	Course Number	Code	Courses PROGRAM 2010	From the academic year	Taught	Evidences	Equivalent Course in PROGRAM 2001
3	A301	PR3	Architectural Design III	12/13	YES	YES	Architectural Design III
	A302	SC1	Building Construction I	12/13	YES	YES	Introduction to Building Technologies
	A303	AE1	Structural Analysis I	12/13	YES	YES	Structural Analysis
	A304	TEC	Environmental Systems	12/13	YES	YES	Environmental Technology
	A305	DU1	Urban Design I	12/13	YES	YES	Urban Design
	A306	LIB	Great Books	12/13	YES	YES	
	A307	PR4	Architectural Design IV	12/13	YES	YES	Architectural Design IV
	A308	SC2	Building Construction II	12/13	YES	YES	Introduction to Building Technologies
	A309	AE2	Structural Analysis II	12/13	YES	YES	Structural Analysis
	A310	ELE	Electrical and Lighting Systems	12/13	YES	YES	Electrical and Lighting Systems
	A311	DU2	Urban Design II	12/13	YES	YES	Urban Design
	A312	HA3	History of Architecture III	12/13	YES	YES	History of Architecture I
4	A401	PR5	Architectural Design V	13/14	YES	YES	Architectural Design V
	A402	DES	Dimensioning of Structures	13/14	YES	YES	Dimensioning of Structures
	A403	IST	Mechanical Systems	13/14	YES	YES	Mechanical Systems
	A404	PL1	Urban Planning I	13/14	YES	YES	Urban Planning
	A405	HA4	History of Architecture IV	13/14	YES	YES	History of Architecture II
	A406	DSI	Social Doctrine of the Catholic Church	13/14	YES	YES	Social Doctrine of the Catholic Church
	A407	PR6	Architectural Design VI	13/14	YES	YES	Architectural Design VI
	A408	ACO	Building Construction Analysis	13/14	YES	YES	Building Construction I
	A409	CIM	Foundations	13/14	YES	YES	Foundations
	A410	PL2	Urban Planning II	13/14	YES	YES	Urban Planning
	A411	COM	Architectural Composition	13/14	YES	YES	Architectural Composition
	A412	LMO	Modern Language	13/14	YES	YES	
5	A501	PR7	Architectural Design VII	14/15	NO	YES	Architectural Design VII
	A502	PC1	Building Construction Design I	14/15	NO	YES	Building Construction II
	A503	PU1	City and Territorial Planning I	14/15	NO	YES	City and Territorial Planning
	A504	OF1	Professional Practice in Architecture I	14/15	NO	YES	Professional Practice in Architecture
	A505	TIA	Architectural Innovation Workshop	14/15	NO	NO	
	A512	TES	Advanced Studio*	14/15	NO	NO	
	A506	PR8	Architectural Design VIII	14/15	NO	YES	Architectural Design VIII
	A507	PC2	Building Construction Design II	14/15	NO	YES	Building Construction II
	A508	PES	Design of Building Structures	14/15	NO	YES	Structural Design
	A509	PIN	Design of Environmental & Mechanical Systems	14/15	NO	YES	Design of Mechanical Systems
	A510	PU2	City and Territorial Planning II	14/15	NO	YES	City and Territorial Planning
A511	OF2	Professional Practice in Architecture II	14/15	NO	YES	Professional Practice in Architecture	
PFC		PFC	Final Thesis Project	15/16	NO	YES	Thesis Project

\* Elective in Advanced Studio

5	A441	DIN	Life drawing	14/15	NO	NO	
	A442	REP	Architectural and Urban Mapping	14/15	NO	NO	
	A443	RES	Restoration Theory and Techniques	14/15	NO	NO	
	A444	NMT	New Building Construction Materials	14/15	NO	NO	
	A445	TIE	Advanced Structural Analysis	14/15	NO	NO	
	A446	ESP	Advanced Structural Design	14/15	NO	NO	
	A447	ACU	Acoustics in Architecture	14/15	NO	NO	
	A448	BIO	Bioclimatic in Architecture	14/15	NO	NO	
	A449	PAI	Landscape Architecture	14/15	NO	NO	
	A450	UCC	Urbanism and Contemporary City	14/15	NO	NO	
	A451	DIS	Industrial Design	14/15	NO	NO	
	A452	AEF	Ephemeral Architecture	14/15	NO	NO	

## II.2.3 Curriculum Review and Development.

### **a. Review and Development at EPS**

In accordance with the description in the Long Range Planning document, the School has put into place a protocol to revise and develop the academic curriculum, which establishes:

- **Methods for detecting and monitoring**, in order to identify areas for improvement.
- **Protocol for intervening** for each University area **to implement improvements**.

#### **a.1. Methods for detecting and monitoring**

The **Methods for Detecting and Monitoring** in order to identify areas for improvement are grouped in **3 areas**:

- a) **Student performance statistics**: which reveal learning dysfunctions
- b) **Teaching quality surveys**: which reveal student's perceptions about dysfunctions in professorial teaching.
- c) **Surveys about quality of non-teaching staff and services**: which reveals dysfunctions in the School's services.
- d) **School Board**: establishes dialogue between the Administration, teacher's representatives in each area, students and the non-teaching staff.
- e) **Meetings with student representatives**: establishes direct dialogue between the Academic Secretary and the student representatives of each course level.
- f) **Departmental Meetings**: establishes dialogue between the Director and the Departmental Secretary and the coordinators of each area.
- g) **Information from Alumni**, compiled through specific mechanisms it allows for employment surveys to be elaborated as well as other areas of interest in terms of the professional market.
- h) **Activities of the International Relations Department**, maintains contact with other universities, facilitating joint studios, etc. It also helps keep abreast of the curriculum de of other universities and their level of quality.
- i) **Participation in the Conference of Spanish School of Architecture Directors, CDEAE**, to share concerns and needs of Architecture Schools in Spain and make strategic decisions.
- j) **Architecture Division Administration**. Helps organize information to make strategic decisions.
- k) **School Administration Board and University Board**. Helps organize information to make strategic decisions.

#### **a.2. Processes and Agents Responsible for Implementing Measures of Improvement**

The **Processes and Agents Responsible for Implementing Measures of Improvement** within the EPS and the USPCEU are as follows:

- a) Using student performance data the strategies for tutors, whose work is more specialized during the first years, and mentors, voluntary older student advisors, are implemented. This information is organized by the Academic Secretary and discussed with the Tutors Committee, which meets at least twice a semester, and at the Evaluations Meetings which take place at the end of each semester. These analyses may result in:
  - Recommendations for changes in pedagogical content, which are in turn conveyed to the different areas of study, coordinated by the Department in question and the Head of the Architecture Division.
  - Recommendations to redistribute course loads, which are conveyed from the course coordinators by way of the student delegates to the Head of the Architecture Division and the Departmental Head.

- b) The study of the information collected through the teaching quality surveys is already defined. Important or repetitive deficiencies require the intervention of the Head of the Architecture Division and the Departmental Head.
- c) The information compiled from surveys about the quality of the Non-teaching Staff requires the intervention of the University Administration.
- d) School Administration Board meetings take place at least twice a year following a defined procedure. Meetings may deal with curricular issues, teaching strategies, teaching problems, proposals for University investments, etc. Meeting transcripts are elaborated and sent to the School Administration to be discussed at the meeting of the University Board.
- e) Student Delegates are elected by their peers. Delegate meetings are coordinated at least twice a year by the Academic Secretary, and facilitate direct communication of deficiencies and successes in the day to day activities of the School. The analysis of this feedback may lead to proposals for change in teaching strategies or work load distribution. The Academic Secretary conveys this information to the Administration of the Architecture Division and Department Head for discussion. Conclusions are implemented by Course Coordinators.
- f) Departmental meetings take place at least once a semester and is the normal route for Course and Area Coordinators to propose improvements in course content, as well as revisions to curriculum which are then conveyed to the Administration of the Architecture Division for debate in the University Board.  
When the topic is transversal like e.g. sustainability (affecting the entire program), or habitability (affecting a group of areas), or Design Studios (affecting a single area), proposals for improvements are discussed first with the Department Head who conveys ideas to the Administration of the Architecture Division.
- g) The faculty member who follows up on alumni activity compiles information about the employability and geographic location of the professional activity of our alumni. The analysis of this information allows for improvements to the content or focus of the curriculum to better address real needs of professional practice both nationally and internationally. This information is conveyed to the Administration of the Architecture Division. Many of these ideas are also being implemented in the fifth year course entitled "Innovation Studio," oriented to address specific need for innovation and organized through agreements with companies dedicated to architectural technologies and innovation.  
The evolving real educational needs by the professional market are addressed by the creation of University Degrees (called Títulos Propios or Advanced Diplomas) that while not forming part of the Degree Program are helpful to identify and develop new areas to be later partially or fully incorporated in the Degree.
- h) Other Universities' programs and activities are tracked but the Department of International Relations, which also organizes teaching exchanges, joint studios, invited jurors for juries, etc. Ideas resulting from these activities may give rise to proposals or improvements that are conveyed to the Head of the Architecture Division to debate by the University Board.
- i) Tracking of University Architecture Programs at a national level is performed by the School's Representative to the Conference of Spanish School of Architecture Directors, CDEAE: the Director of the Architecture Division. The CDEAE is committed to strengthening academic quality and Universities, and is the body which compiled the White Book for Architecture. This document served to establish the laws, Ministerial Orders and Royal Decrees organizing all architecture programs in Spain. Representatives of all Spanish architecture schools are present in the CDEAE. Information or initiatives garnered from their meetings may be brought by the Director to the University Board.
- j) k) The Administration of the Architecture Division, the School Administration Board and the University Board are responsible for the strategic evolution of the curriculum and making decisions which affect the whole program. Following analyses of the general situation and identifying needs, they can make long term decisions or implement processes affecting the development of the curriculum. Some decisions recently made include:

- The creation of a Sustainability Laboratory involving Professors from all areas of study, to establish activities and content for each course promoting knowledge and investigation of sustainability in each discipline.
- The creation of a Basic Habitability Laboratory, to establish activities and content for each course promoting knowledge and investigation in different areas in the context of developing nations.
- The NAAB accreditation process itself.

#### **b. Other External Review procedures**

Under the terms of the EHEA, university procedures and criteria must be made publicly available. Procedures should as a rule include the following:

- A self-evaluation or equivalent, prepared by the entity being reviewed.
- An external evaluation carried out by a group of experts including, when appropriate, one or more students and in situ visits made in accordance with the criteria of the evaluating agency.
- Publication of a report including the decisions, recommendations and other formal outputs of the evaluation.
- A follow-up procedure to monitor implementation of recommendations contained in the evaluation.

The EHEA requires the monitoring process to meet the following objectives According to the protocol the **objectives** of the monitoring process should be as follows:

- a) Ensure the effective implementation of teaching as per the program of studies for the award in question (duly authorized, as required, by the relevant Regional Government), as set out in the *Registro de Universidades, Centros y Títulos* (Register of Universities, Centers and Degree - RUCT) compiled by the Ministry of Education and Professional Training.
- b) Ensure that relevant information is publicly available to all interested parties within the university system and to the general public.
- c) Detect possible deficiencies in the teaching offered by the institution and consider the measures required to improve it.
- d) Review the recommendations included in the initial report and subsequent monitoring.
- e) Review the modifications made by the university after approval of the program in question.
- f) Make recommendations and/or suggestions for improvement during the implementation of the program of studies.
- g) Provide general evidence of progress in the quality control systems covering the Degree granted by the university.
- h) Identify good practice and publicize it within the university system.
- i) Prepare monitoring reports covering the official awards offered by the university, in order to ensure accountability to society.

#### **Utility**

The “monitoring model” should respond to the interests of the student body, employers and the general public and to the universities.

The university should use the system as a tool to ensure effective management of the Degree it offers and to facilitate current and future students and the university authorities in their decision-making.

#### **Internal commitment of the center or institution**

**Demonstrating success.** The monitoring process should produce regular (yearly) reports that identify and demonstrate the medium term successes of the training provided, ensuring accountability.

### Support to the Degree Quality System.

**Focus on improvement.** Monitoring should be focused not only on the identification of weaknesses but also of mechanisms to ensure the quality of awards continues to improve.

#### b.1. Qualitative Analysis of the Effectiveness of Implementation and Quality of Training Programs.

##### Analysis of the functioning of the Internal Quality Control System as applied to the degree program.

List of individuals responsible for quality control and the areas of responsibility they represent

Forename	Surnames	Post
COVADONGA	DE LORENZO CUEVA	PROFESSOR , DEGREE PROGRAM
CRISTINA	DEL POZO SANCHEZ	PROFESSOR, MASTERS PROGRAM
DAVID JOSÉ	SANTOS MEJIA	DIRECTOR, EPS
FEDERICO	DE ISIDRO GORDEJUELA	PROFESSOR , DEGREE PROGRAM
Mª CONCEPCION	PEREZ GUTIERREZ	ACADEMIC SECRETARY
MARIANO	FERNÁNDEZ LÓPEZ	PROFESSOR , DEGREE PROGRAM
OSCAR	HUEROS FERNANDEZ	STUDENT REPRESENTATIVE
PABLO	REDONDO MARTIN	RESPONSIBLE QUALITY
RAUL	GARCIA GARCIA	PROFESSOR , DEGREE PROGRAM
RICARDO	DIAZ MARTIN	PROFESSOR, MASTERS PROGRAM
SANTIAGO	DE MOLINA RODRÍGUEZ	PROFESSOR, MASTERS PROGRAM
SANTIAGO	PARIENTE CASTELLANOS	ADMINISTRATIVE AND SERVICES PERSONNEL
TERESA	RAVENTOS VIÑAS	PROFESSOR , DEGREE PROGRAM

#### Functioning and decision-making

The Internal Quality Control System (SGIC – see Part I. Section 1.2. f.) is used across the whole of the University San Pablo CEU and is adapted for use by each faculty, school or center and for each award offered. The Internal Quality Commission (CIC – see Part I. Section 1.4.) is responsible for proposing the measures required to ensure effective planning, monitoring and quality control of the Degree to the faculty, school or center directors, via the SGIC.

<http://www.uspceu.es/pages/admision/que-estudiar/sistema-interno-garantia-calidad.html>

#### Functioning of the CIC.

The CIC is convened by the chair who, in consultation with the Quality Control Coordinator, prepares the agenda for its meetings.

#### CIC Procedures.

The CIC's work is organized around the Provisional Monitoring Reports prepared by the Program Administrators and Directors of Masters Programs and reviewed by the Dean or Director before passing them on to the members of the CIC within the agreed timescales.

The decisions taken by the CIC are recorded in the Degree Monitoring Report, which includes strengths, weaknesses and proposals for improvement, and forms the basis of the Degree Quality Monitoring Report

The Secretary of the CIC prepares minutes of the meetings, recording its decisions. The minutes are passed on to the CIC's Quality Unit which publishes it on the Quality Portal.

The director of the school or center or dean of faculty is responsible for overseeing the response to the monitoring of the Degree and suggesting improvements and the practical steps required for their implementation. These recommendations are published in the Degree Quality Report.

The cross-cutting analysis of the strengths, weaknesses and recommendations for improvement in the awards offered by the faculties, schools and centers, duly ordered and prioritized strategically, is published in the relevant (school, center or faculty) Quality Report.

The director of the school or center or the dean of faculty prepares the Quality Improvement Plan which specifies the measures required to bring about improvement and the individuals responsible for ensuring their implementation. The proposals are examined by the Permanent Commission of the Governing Board which ensures that the Quality Improvement Plans are published on the Quality Portal. The individuals responsible for each action (Vice Rectors, General Secretary, Management Team, Dean or Director) are responsible for communicating decisions to the relevant parties who then inform the individuals responsible for quality control, guaranteeing that the recommendations are passed to subsequent meetings of the CIC. This procedure ensures that each school, center or faculty CIC continues to monitor improvement in the future.

#### **Schedule of meetings and measures**

The chair should call a meeting of the CIC at least once every semester. One of these meetings should take place in the final three months of the academic year, once all necessary information on that year's program is available.

#### **b.2. Description of the Principal Measures of Improvement Taken in Response to CIC Proposals**

Full details of all the measures carried out in response to the CIC's proposals, are provided in this report (Measures taken to improve the Degree). A summary of these measures is provided below:

- Establishment of a system for evaluating satisfaction levels of instructional and research faculty
- Establishment of a system for evaluating satisfaction levels of support staff.
- Establishment of a system for evaluating the satisfaction of external actors, to be rolled out during the 2012-2013 academic year.
- Establishment of a system for evaluating student satisfaction with teaching
- Establishment of a system for evaluating recruitment processes.

#### **Role of the curriculum review process in long-range planning and self-assessment.:**

The conclusions contained in the CIC's annual reports are included in the Awards Monitoring Report which describes both the improvement measures taken and their effectiveness.

The report may also propose substantial modifications to the program of studies along with an explanation and justification of the proposed change and an explanation of the information sources used to justify them.

This annual report always contains:

- Narrative and analysis of the strengths of the award.
- Narrative of the weaknesses detected in the implementation of the award and information on the data or opinions that led to their identification and on the measures proposed to bring about improvement.

## II.3. Evaluation of Preparatory/Pre-professional Education

The admissions process for students who have already taken some university assignments in the Spanish higher education system is as follows:

1. Students are required to submit the following documentation to the Admissions Service:

- Plan of studies followed by the center they have been studying
- Certificate of qualifications
- Program of assignments stamped by university of origin
- Photocopy of ID card (DNI).

2. The Admissions Service passes the documentation to the corresponding school, center or faculty, which prepares a preliminary report setting out recommendations concerning the recognition and/or transfer of credits. The findings of the report are communicated to the applicant, preferably in a face to face interview. If the student accepts the report he or she may proceed to matriculation pending the official recognition and/or transfer of credits by the center's Academic Secretary.

### **a. Criteria for recognizing credits obtained by students of other degrees at Spanish universities:**

1. If the previous degree was in the field of engineering or architecture, at least 36 introductory course credits will be accepted towards the new degree. Eligible assignments and Student Performance Criteria in this case are:

FM1, FM1, FF1, FF2, GD1, GD2, FM3, MEC.

2. If the previous degree was in a different field credits will be accepted for assignments that also form a part of the introductory courses for engineering or architecture. These are: business, architectural drawing, physics, computing, mathematics, and chemistry. Of these, the underlined subjects are taught on the EPS's Degree in Architecture.

3. If the credits have been gained in other subjects or degree programs they will be recognized in as much as they are relevant to the areas of competence and knowledge of the applicant and their proposed studies, or if they are cross-cutting.

### **b. Criteria for recognizing credits obtained by students of other degrees at non-Spanish universities:**

#### **National Taiwan University:**

An agreement with National Taiwan University will come into force during the 2013-2014 academic year. Credits for the following assignments gained by students of this university will be recognized:

**First Year:** All assignments validated (60 ECTS credits):

AF1, GD1, IAR, FM1, FF1, ANT, AF2, GD2, DA1, FM2, FF2, HYS

**Second Year:** The following assignments are validated (51 ECTS credits):

PR1, MCO, MEC, HA1, IU1, PR2, FM3, SES, IU2, HA2

**Third Year:** The following assignments are validated (18 ECTS credits):

DU1, DU2, LIB, ELE

**During the first year at the EPS a conversion course is offered, including the following assignments:**  
(ECTS credits):  
PR3, DA2, SC1, TEC AE1, PR4, DGA, SC2, AE2, HA3.

**Visiting students from National University Taiwan will also study the 4th and 5th years in full as well as the Final Degree Project.**

In all other cases the San Pablo CEU's Validation Commission decides on validations. Its functions and procedures may be consulted at:

<http://www.uspceu.com/es/estudios/admision-y-matricula/reconocimientos-y-convalidaciones/index.php>

## II.4 Public Information

### II.4.1 Statement on NAAB Substantial Equivalency

The required “Statement on NAAB Substantial Equivalency” is included in the Architecture section of the EPS website at

[http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/\\_extra/acreditacion-naab/index.php](http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/_extra/acreditacion-naab/index.php)

In order to promote an understanding of the accredited professional degree by prospective students, parents, and the public, the Architecture Program has created a web page titled “NAAB Substantial Equivalency” on the EPS website, which serves as an important source of information about the Architecture Program and is the first point of contact for many prospective students.

This web page contains the exact language of the required Statement found in the NAAB Conditions for Accreditation:

“The National Architectural Accrediting Board (NAAB) is the sole agency authorized to accredit US professional degree programs in Architecture. The NAAB occasionally evaluates programs outside the U.S., ineligible for NAAB accreditation, to determine if they are “substantially equivalent” to NAAB-accredited programs. The term “substantial equivalency” identifies a program as comparable in educational outcomes in all significant aspects, and indicates that it provides an educational experience meeting acceptable standards, even though such program may differ in format or method of delivery”.

### II.4.2 Access to NAAB Conditions and Procedures

In order to assist parents, students, and others as they seek to develop an understanding of the body of knowledge and skills that constitute a professional education in architecture, we make available the following documents on our website:

**2013 Procedures for Substantial Equivalency (pdf)**

**2012 Conditions for Substantial Equivalency (pdf)**

[http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/\\_extra/acreditacion-naab/index.php](http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/_extra/acreditacion-naab/index.php)

### II.4.3 Access to Career Development Information

In order to assist parents, students, and others seeking to develop an understanding of the broader context of architecture education and the career opportunities available to graduates of our degree program, we have made Career Development resources available to all on the EPS website.

All the information is available at:

<http://www.uspceu.com/es/home.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/presentacion.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/competencias.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/plan-de-estudios.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/guias-docentes.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/salidas-profesionales.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/profesorado.php>

<http://www.uspceu.com/es/estudios/grado/escuela-politecnica-superior/arquitectura/medios.php>

#### II.4.4 Public Access to APRs and VTRs

APR and VTR documents are accessible to the public online, at NAAB Accreditation, a link where the program evaluation process is being updated.

EPS website:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/index.php>

Direct access to NAAB Accreditation process and documentation:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/extra/acreditacion-naab/index.php>

## III. SUMMARY OF RESPONSES TO THE TEAM FINDINGS FROM VISIT2

### III.1 Responses to Conditions Not Met

The conditions indicated in the VTR visit 2 (March 10-14, 2014) not met or in the process of being met are the following:

#### **Not Met**

- I.1.4 Long Range Planning
- I.4 Policy Review
- II.2.3 Curriculum Review & Development
- II.4.1 Statement on Substantially Equivalent Degrees
- II.4.2 Access to NAAB Conditions and Procedures

#### **Not Yet Met**

- B.3 Sustainability
- C.1 Collaboration

#### **I.1.4 Long-Range Planning**

**[x] Not Met**

**Visit Two Team Assessment:** *The APR described in great detail an external long-range planning process set forth by the Spanish government. However, there is no evidence of an internal, departmental process for long-range planning.*

In the APR for visit 3, we have incorporated a list of explicit objectives, considered as priorities for the development of the Degree in Architecture over the next 6 years. Also included in II.2.3 Curriculum Review & Development, you can find the internal processes followed at EPS for detection and monitoring for the identification of areas of improvement, and the processes and committees responsible for implementing such improvements.

Some of these processes go through the implementation of SGIC (Internal Quality Control System) of our university through CIC (Internal Quality Comissions) where basic parameters for the self-evaluation processes are defined (Performance Rate, Success Rate, Evaluation Rate). As an example, we are listing the main long-term improvements implemented since 2011-2012, in the Degree of Architecture, also included in the website of EPS.

We have completed the description of the role the five perspectives play in long-term planning:

- In the **Architectural Education and the Academic Community**, the development in the communication between the different disciplines of the University has been specified; after Visit 2, we have begun working with other schools to specifically develop the SCP C.1 Collaboration and to enhance the multidisciplinary work of our students.
- In the **Architectural Education and the Student Body**, the addition of other opportunities as the creation of specific tutorials and coaching for first year students during the last academic year 2013-2014 has been specified; this coaching system for first year students done by upper class students is producing its first results.

- In the **Architectural Education and the Profession**, information on development has been extended through visiting professors and practitioners and the relationship between the program and the profession.
- In the **Architectural Education and the Public Good**, there are two initiatives that the Degree in Architecture wants to keep and show evidence of this long-term process: the Sustainability Laboratory (which is affecting the revision of parts of the curriculum, coinciding with comments from Visit 2 VTR about the SPC B.3. Sustainability) and the Habitability and Development Laboratory, HD-LAB (which is developing projects in Sierra Leone and Benin)

#### I.4 Policy Review

[x] Not Met

**Visit Two Team Assessment:** *The information required by Appendix 4 of the Conditions for Substantial Equivalency was not provided in the team room during the visit. Therefore, this condition is not met. The information required in the three sections listed for Policy Review as described above was addressed in the APR.*

During visit 2, the documents specified in the section I.4 Policy Review of APR I.4 were not in the Team Room. These documents are being updated and included in the APR in order to be included in the Team Room during visit 3.

#### II.2.3 Curriculum Review and Development

[x] Not Met

**Visit Two Team Assessment:** *Although the APR thoroughly discusses the curriculum required and set by the Spanish government, there is no evidence of the internal process utilized by the architecture program administration and faculty at CEU to organize and implement the requirements or changes. There is no evidence of how faculty/staff/students are included in the decision-making process. The team was not able to find evidence of any format or procedure within the department's policies for making changes or updating the curriculum.*

The section II.2.3 Curriculum Review & Development of this APR explicitly includes internal processes followed in the EPS, the means for detecting and monitoring for the detection of areas of improvement, and the processes and committees responsible for implementing such improvements. The means of detecting and monitoring for detection of areas of improvement are the following, grouped in three blocks:

- Through **statistics** on the performance of **students, quality of teaching and quality of PAS**
- Through **School Board, Students Representatives and Department Board**
- Through **Alumni, Department of International Relations, Conference of Directors of Architecture Schools in Spain, Director of Architecture Division, Director Board of EPS and University San Pablo CEU Board.**

Processes and committees responsible for implementing curriculum improvements in the field of EPS and USPCEU are also listed.

#### II.4.1 Statement on Substantially Equivalent Degrees

[x] Not Met

**Visit Two Team Assessment:** *The link to the website provided in the APR was broken. During the visit, the team found that San Pablo CEU had developed a new website since the time the APR was written. Since the link to the Statement on Substantially Equivalent Degrees is no longer available, this condition is not met.*

The required "Statement on NAAB Substantial Equivalency" is included in the Architecture section of the EPS website at

[http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/\\_extra/acreditacion-naab/index.php](http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/_extra/acreditacion-naab/index.php)

#### **II.4.2 Access to NAAB Conditions and Procedures**

**[x] Not Met**

**Visit Two Team Assessment:** *The link to the website provided in the APR was broken. During the visit, the team found that San Pablo CEU had developed a new website since the time the APR was written. Since the link to the NAAB Conditions and Procedures is no longer available, this condition is not met.*

The link with the required information has been restored:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/extra/acreditacion-naab/index.php>

#### **B.3. Sustainability**

**[x] Not Yet Met**

**Visit Two Team Assessment:** *No evidence of ability to design projects that provide healthful environments for occupants was found. In fact, the team room was constructed with paper products, glues, and paints that caused allergic reactions for two of the team members. The team work area had to be relocated to the mezzanine and windows and doors had to be left open. Fans were run for one day. However, the other areas of sustainability were well covered and well represented through studio projects and technical drawings. There is also a sustainability laboratory.*

The Sustainability Lab activity has affected the PFC in previous years and from their recommendations some content has been introduced in subjects in the curriculum.

After the visit of the NAAB assessment team we have proceeded to introduce theoretical content in the following subjects in the curriculum:

- **MCO (A204)** concepts of sustainability, recycling potential, environmental management and toxicity of materials.
- **TEC (A304)** concepts applied to the theoretical foundations of environmental systems and energy efficiency.
- **DU1 (A305)** and **DU2 (A311)**, environmental impact considerations
- **SC2 (A308)**, choice of materials and building application to enclosure systems

In architectural design studios **PR5 (A401)**, **PR6 (A407)**, **PR7 (A501)**, **PR8 (A506)**, urban design and regional planning **PU1 (503)**, **PU2 (A510)**, building construction **PC1 (A502)** we have already introduced sustainability considerations in the development of design. The workshop **TIA (A505)**, which has begun to be taught this academic year, deals with the processes of innovation in architecture, and sustainability has been introduced as a requirement.

#### **C.1. Collaboration**

**[x] Not Yet Met**

**Visit Two Team Assessment:** *No evidence of the students' ability to work in multidisciplinary teams was available. However, architecture students were observed working together on many projects and in quite a few classes. The team enjoyed seeing teams of students create and test (destroy) beams for a structures course. This SPC is not yet met.*

To promote multidisciplinary work environment we have introduced a workshop in **ELE (A310)**, which will involve architecture and engineering students in EPS programs. This workshop will offer a joint exercise to develop in multidisciplinary teams. Since this is a subject that will be taught in the second semester, there will be no evidence until the end of the academic year 2014-2015.

Some elective subjects have led to multidisciplinary work between architecture and engineering students and the School of Humanities USPCEU during the first half of this year, but it would not involve all students in the program. We are monitoring this experience. We also are preparing some collaborative workshops in some **Advanced Courses (A512)**.

## III.2 Responses to Causes of Concern

The Causes of Concern included in Visit 2 VTR (March 10-14, 2014) are the following:

### **1.2.4 Financial Resources (diversification of resources/revenue)**

**Visit Two Team Assessment:** *Our discussions with the CEU administrators revealed that the primary source of revenue for the architecture program is provided through student tuition. At present there are over 700 students enrolled in an approximately 6.5 year program (5 year + preparation for final degree project). Successful completion of the program leads to an immediate granting of both a degree and license to practice. Thirty percent of the students receive some form of grant toward tuition. Currently, there appears to be sufficient revenue to offer students a high caliber of instruction and to support the administrators, faculty, and staff. However, as of 2014, Spain's workforce is continuing to experience a 21% unemployment rate, but more importantly--the administration stated that since 2010 the unemployment rate for architects has risen to a staggering 83%. When this topic was brought up with the administration, they emphasized that there is a concerted effort to boost the research and PhD programs along with facilitation of partnerships between other disciplines and programs in Spain and abroad. The administration is welcoming the opportunity to attract international students and global exchanges through its association with NAAB and achievement of Substantial Equivalency for CEU's program in architecture.*

The Institute of Technology is a center of University San Pablo CEU, which in turn depends on the University Foundation San Pablo CEU (FUSP). The structure is shown in section I.2.2 "Administrative Structure and Governance". FUSP is the parent foundation, which has diversified its offerings in two ways:

- academically, with an interdisciplinary character, through centers of different orientations: secondary education (from 3 to 18 years), higher and professional education, three universities, postgraduate centers, business schools, doctoral programs, research centers...
- geographically, being implemented in 8 communities in Spain: Madrid (7 centers), Valencia (4 centers), Barcelona (3 centers), Galicia (1 center), Florida (4 centers), Basque Country (1 center), Castilla-Leon (1 center), Murcia (1 center)

Proceeds from the FUSP, a private foundation, come mainly from the enrollment of students in its 22 centers, but also from benefactors or the results of their research. The FUSP is a nonprofit organization that uses its resources exclusively for the purposes that contemplate pursuing its social objectives and preserve its heritage as a means to achieve its objectives. Among them is maintaining an ambitious scholarship program, administered by the Foundation.

The EPS, as a FUSP and USPCEU school, collaborates responsibly maintaining the activity of the Foundation, and its scope is financially dependent on their structure. This organization gives stability to the program, as it has in its nearly 50 years of existence in Spain in a changing economic and political context.

Among the objectives listed in section I.1.4. "Long Range Planning", the first the EPS assumes is to ensure the program quality through responsible planning in the procurement and management of resources within the context of FUSP. For this, the EPS is enhancing its international visibility and presence in funded research programs, and is enhancing its academic offerings.

### III.3 Summary of Responses to Changes in the NAAB Conditions

The most significant changes that have been made in the program after Visit 2 NAAB assessors are set out below:

1. With regard to the causes of concern expressed by students and included in section I.1.2 "Learning Culture and Social Equity", the Director of the program has proceeded to inform to FUSP Management and the Rector of USPCEU the causes of student concern (and staff on campus as well) on the harshness of the spaces surrounding the building of the EPS. The FUSP has considered the idea of extending the area of intervention and has begun drafting a Master Plan for the Renewal of Campus Montepíncipe.

It is important to mention the announcement of a **Competition for the renovation of the campus**, intended for teams of students and alumni, in order to receive their contributions for the improvement of the common areas of the campus. The competition was organized by the Presidency of the FUSP and has been decided upon. In the coming days we will proceed to the awards ceremony and the opening of the exhibition of the works. The ideas contained in the winning proposals will be included in the Master Plan for the Renewal of the Campus, which the Foundation aims to tackle.

2. We are increasing the presence of SPC B.3 "Sustainability" in the courses of the program; this process has already been started from the work of the Sustainability Laboratory.

Specifically, we have extended the **theoretical curriculum** of various subjects, **MCO (A204), SC2 (A308), DU1 (A305), TEC (A304), ELE (A310)** to address security in the use of materials, toxicity, various environmental aspects and the relationship between human behavior and the environment in these areas (C.2 "Human behavior"). In other **workshop courses, PR# (A401, A407, A501, A506), PC1 (A502), PU1 (A503), PIN (A509), PU2 (A510)**, various aspects of sustainability are applied in the development of the exercises. **TIA (A505)** course will introduce aspects of innovation. In the **PFC**, it is mandatory to all students, since last year, an analysis that takes into account specific aspects of sustainability of the project presented.

3. We have set up a workshop in collaboration with engineering students in **ELE (A310)** in order to **foster the ability to work in collaboration** with others and in multidisciplinary teams, although there will be no evidence to end of second semester. We are also preparing some collaborative workshops in some **Advanced Courses (TES)**.
4. In the APR for Visit 3 we have explained in more detail the procedures for the detection of areas of improvement and implementation in the development of Curriculum (see II.2.3. "Curriculum Review and Development"), and the long-term objectives that EPS has assumed for the next six years (see I.1.4. "Long Range Planning").
5. As to public access to information, we have changed the APR link to Visit 2, due to changes that occurred in the structure of the Web FUSP / USP / EPS during the past year.

6. Operational costs for building energy have been included in TEC (A304) and PIN (A509), in order to improve SPC B.7 "Financial Considerations", which was, however, judged met.
  
7. Based on the experience gained during Visit 2, which has provided a better understanding of the definition of some SPC, we have introduced **some changes to the SPC matrix**, in order to adjust the true sense of the content criteria for each subject. The **most relevant** are:
  - **SPC C.1 "Collaboration"** has been **removed** from several subjects and **assigned only to those raised in multidisciplinary teams work: ELE (A310) and TES (A512)**.
  - **SPC C.6 "Leadership"** has been **removed** from several subjects and **assigned to OF1 (A504) and OF2 (A511)**.
  - **SPC C.9 "Community and Social Responsibility"** has been **reinforced in subjects OF1 (A504) and OF2 (A511)**.
  - **SPC A.9 "Historical Traditions and Global Culture" and SPC A.10 "Cultural Diversity"** have been **removed from some subjects of Architectural Design** since there was evidence only in the exercises of certain groups of students.

Below is a **table of the changes to the SPC matrix** of visit 2 attached.



## IV. SUPPLEMENTAL INFORMATION

### IV.I. *Grado en Arquitectura* (Degree in Architecture). Courses

#### FIRST YEAR

A101	(AF1)	ARCHITECTURAL FORM ANALYSIS I
A102	(GD1)	DESCRIPTIVE GEOMETRY I
A103	(IAR)	INTRODUCTION TO ARCHITECTURE
A104	(FM1)	FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE I
A105	(FF1)	FUNDAMENTALS OF PHYSICS IN ARCHITECTURE I
A106	(ANT)	ANTHROPOLOGY
A107	(AF2)	ARCHITECTURAL FORM ANALYSIS II
A108	(GD2)	DESCRIPTIVE GEOMETRY II
A109	(DA1)	ARCHITECTURAL DRAWING I
A110	(FM2)	FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE II
A111	(FF2)	FUNDAMENTALS OF PHYSICS IN ARCHITECTURE II
A112	(HYS)	HISTORY AND SOCIETY

#### SECOND YEAR

A201	(PR1)	ARCHITECTURAL DESIGN I
A202	(DA2)	ARCHITECTURAL DRAWING II
A203	(MEC)	SOLID MECHANICS
A204	(MCO)	BUILDING CONSTRUCTION MATERIALS
A205	(IU1)	URBAN THEORY I
A206	(HA1)	HISTORY OF ARCHITECTURE I
A207	(PR2)	ARCHITECTURAL DESIGN II
A208	(DGA)	DRAWING AND GEOMETRY
A209	(FM3)	FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE III
A210	(SES)	STRUCTURAL SYSTEMS
A211	(IU2)	URBAN THEORY II
A212	(HA2)	HISTORY OF ARCHITECTURE II

#### THIRD YEAR

A301	(PR3)	ARCHITECTURAL DESIGN III
A302	(SC1)	BUILDING CONSTRUCTION I
A303	(AE1)	STRUCTURAL ANALYSIS I
A304	(TEC)	ENVIRONMENTAL SYSTEMS
A305	(DU1)	URBAN DESIGN I
A306	(LIB)	GREAT BOOKS
A307	(PR4)	ARCHITECTURAL DESIGN IV
A308	(SC2)	BUILDING CONSTRUCTION II
A309	(AE2)	STRUCTURAL ANALYSIS II
A310	(ELE)	ELECTRICAL AND LIGHTING SYSTEMS
A311	(DU2)	URBAN DESIGN II
A312	(HA3)	HISTORY OF ARCHITECTURE III

#### FOURTH YEAR

A401	(PR5)	ARCHITECTURAL DESIGN V
A402	(DES)	DIMENSIONING OF STRUCTURES
A403	(IST)	MECHANICAL SYSTEMS
A404	(PL1)	URBAN PLANNING
A405	(HA4)	HISTORY OF ARCHITECTURE
A406	(DSI)	SOCIAL DOCTRINE OF THE CATHOLIC CHURCH
A407	(PR6)	ARCHITECTURAL DESIGN VI
A408	(ACO)	BUILDING CONSTRUCTION ANALYSIS
A409	(CIM)	FOUNDATIONS
A410	(PL2)	URBAN PLANNING II
A411	(COM)	ARCHITECTURAL COMPOSITION
A412	(LMO)	MODERN LANGUAGE

#### FIFTH YEAR

A501	(PR7)	ARCHITECTURAL DESIGN VII
A502	(PC1)	BUILDING CONSTRUCTION DESIGN I
A503	(PU1)	CITY AND TERRITORIAL PLANNING I
A504	(OF1)	PROFESSIONAL PRACTICE IN ARCHITECTURE I
A505	(TIA)	ARCHITECTURAL INNOVATION WORKSHOP
A512	(TES)	ADVANCED COURSES* (A441 - A452, see below)
A506	(PR8)	ARCHITECTURAL DESIGN VIII
A507	(PC2)	BUILDING CONSTRUCTION DESIGN II
A508	(PES)	DESIGN OF BUILDING STRUCTURES
A509	(PIN)	DESIGN OF ENVIRONMENTAL AND MECHANICAL SYSTEMS
A510	(PU2)	CITY AND TERRITORIAL PLANNING II
A511	(OF2)	PROFESSIONAL PRACTICE IN ARCHITECTURE II

#### \* ADVANCED COURSES

A441	(DIN)	LIFE DRAWING
A442	(REP)	ARCHITECTURAL AND URBAN MAPPING
A443	(RES)	RESTORATION THEORY AND TECHNIQUES
A444	(NMT)	NEW BUILDING MATERIALS
A445	(TIE)	ADVANCED STRUCTURAL ANALYSIS
A446	(ESP)	ADVANCED STRUCTURAL DESIGN
A447	(ACU)	ACOUSTICS IN ARCHITECTURE
A448	(BIO)	BIOCLIMATIC IN ARCHITECTURE
A449	(PAI)	LANDSCAPE ARCHITECTURE
A450	(UCC)	URBANISM AND CONTEMPORARY CITY
A451	(DIS)	INDUSTRIAL DESIGN
A452	(AEF)	EPHEMERAL ARCHITECTURE

## IV. 2. Course Descriptions.

Course Number:	<b>A101 (AF1)</b>
Course Title:	<b>ARCHITECTURAL FORM ANALYSIS I</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Analysis of architectural forms. Graphic expression. Form and space. Language and graphic representation. Form structure.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop analytic and cognitive capacities which enable students to analyze through graphic expression processes an existing reality and to invent and create architectural spaces and new forms through design processes.</li> <li>- Develop self-reflection and self-evaluation about individual and collective work.</li> <li>- Learn from fine arts as an influential factor in the quality of the architectural conception.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.2 Design Thinking Skills</b> <b>A.3 Visual Communication Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Non-visual models (50%)</li> <li>- Life Drawing (10%)</li> <li>- Visual models (30%)</li> <li>- Technical skills (10%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	ARNHEIM, R., <b>Arte y Percepción visual</b> . Eudeba VVAA: <b>Arte del siglo XX</b> . Taschen. HAYES, C., <b>Guía completa de pintura y dibujo. Técnicas y materiales</b> . H. Blume
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Alonso Pardo, José Luis (F/T) Cantarero García, Guadalupe (P/T) Horcajada Díaz, Daniel (P/T) López Rodríguez, Begoña (F/T) Roldán Martín, Juan (F/T) Ruiz Granados, Justo (P/T) Sarasola Rubio, Fátima (P/T)
Language:	Spanish, English

Course Number:	<b>A102 (GD1)</b>
Course Title:	<b>DESCRIPTIVE GEOMETRY I</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Geometry. Representation systems. Representation of the terrain. Lines and surfaces. Sunlight.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Analyze, represent and manipulate geometric forms in architecture</li> <li>- Develop capacities to acquire knowledge of geometry laws and properties through representation systems.</li> <li>- Introduce the student in a detailed study of certain surfaces.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	A.3 Visual Communication Skills <b>A.8 Ordering Systems Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Projection-section. Axonometric perspective: orthographic-oblique (8%)</li> <li>- Linear perspective: Historical background. Computer applications. Freehand drawings. Techniques of perspective. (15%)</li> <li>- Representation of the terrain. Contour maps. Sloping roofs (10%)</li> <li>- Polyhedric forms. Prisms, pyramid. Regular polyhedron. Intersection. Shadows (20%)</li> <li>- Elliptic and ruled quadric surfaces. Cone, cylinder, sphere. Plane section and shadow (20%)</li> <li>- Quadric and ruled significant surfaces. Intersection. Vaults. Shadows and shades (20%)</li> <li>Sunlight (7%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>IZQUIERDO ASENSI, F. <b>Geometría Descriptiva</b>, Dossat.</p> <p>RODRÍGUEZ DE ABAJO, F. <b>Geometría Descriptiva I, II Y III (Diédrico, Acotado y Axón)</b>.</p> <p>RODRÍGUEZ DE ABAJO, F. <b>Geometría Descriptiva IV (P. Caballera)</b>.</p> <p>TAIBO, A. <b>Geometría Descriptiva y sus aplicaciones I</b>. Tebar Flores.</p> <p>RABASA, E. <b>Proyección y representación. Conceptos intuitivos</b>. Inst. Juan de Herrera</p> <p>SÁNCHEZ GALLEGU, J.A. <b>Geometría descriptiva: Sistemas de proyección cilíndrica</b>, UPC, 1998</p>
Offered (semester and year):	1st semester, 1st year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Carvajal Alcaide, Rocío (F/T)</p> <p>Marsá González, José María (F/T)</p> <p>Rey Álvarez, José Miguel (F/T)</p> <p>Sanjurjo Álvarez, Alberto (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A103 (IAR)</b>
Course Title:	<b>INTRODUCTION TO ARCHITECTURE</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Introduction to architecture. Contemporary architecture. Theories of architecture.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop capacities to interpret, justify, question works of architecture with a critical thinking</li> <li>- Develop capacities to understand the profession and its role in society</li> <li>- Introduce the student in the basic language and understanding of architecture</li> <li>- Acquire knowledge of the principal strategies of architectural creation</li> <li>- Learning of methods of analysis and criticism of architectural design and buildings.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills          A.6 Fundamental Design Skills  <b>A.11 Applied Research</b>          C.2 Human Behavior</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Concepts of Architecture (9.0%)</li> <li>- Drawing and representation (6.5%)</li> <li>- About Shape (6.5%)</li> <li>- About Perception (6.5%)</li> <li>- About Geometry (6.5%)</li> <li>- Technique and Material (6.5%)</li> <li>- Function and Architecture (6.5%)</li> <li>- The Architectural Space (6.5%)</li> <li>- About Light (6.5%)</li> <li>- About Color (6.5%)</li> <li>- Nature and Architecture (6.5%)</li> <li>- The City (6.5%)</li> <li>- Architecture and Society (6.5%)</li> <li>- Phenomenology of Habitation (6.5%)</li> <li>- Masters of Modern Architecture (6.5%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>HEARN, F., <b>Ideas que han configurado edificios</b>, G.G.          FRAMPTON, K., <b>Historia crítica de la Arquitectura moderna</b>, G.G.          COLQUOUN, A., <b>La arquitectura moderna. Una historia desapasionada</b>, G.G.</p>
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Campos Calvo-Sotelo, Pablo (F/T)          Gómez García, Alejandro (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A104 (FM1)</b>
Course Title:	<b>FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Algebra. Calculation. Metric, differential and analytical geometry. Descriptive statistics.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire capacity of analysis and synthesis.</li> <li>- Acquire ability to resolve problems.</li> <li>- Develop capacities of numerical understanding.</li> <li>- Introduce the student in applied knowledge of numerical calculus, analytical and differential geometry and algebraic methods.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	A.8 Ordering Systems Skills
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Linear Geometry</li> <li>- Euclidian Geometry</li> <li>- Poligons and Poliedrics</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	HERNANDEZ, E., <b>Algebra y Geometría</b> , Addison-Wesley.1996. CASTELLET, M., LLERENA, I., <b>Algebra lineal y geometría</b> , Reverté, 2000 GUIJARRO, P., CRUELLES, R. <b>Matemàtiques per a l'arquitectura</b> UPC, 2002
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	López Ramírez, Eduardo (F/T) Victoria Rodríguez, Susana (F/T)
Language:	Spanish, English

Course Number:	<b>A105 (FF1)</b>
Course Title:	<b>FUNDAMENTALS OF PHYSICS IN ARCHITECTURE I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	General mechanics and fluid mechanics. Acoustics. Thermodynamics. Electricity. Electromagnetism. Light and color theories. Theoretical basis of the physical environment.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Introduce the student in applied knowledge of physical phenomena.</li> <li>- Acquire knowledge of mechanisms of heat transfer, aerodynamics and hydrodynamics, electric and magnetic fields and optics and acoustics.</li> <li>- Acquire knowledge of methods to calculate fluid flow.</li> <li>- Understand the thermal properties of materials: Conductors and Insulators.</li> <li>- Understand the optical properties of materials.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	B.8 Environmental Systems
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Physical Magnitudes and Units. (20%)</li> <li>- Thermodynamics. Mechanisms of Heat transfer. Thermal conduction, thermal convection and thermal radiation. (20%)</li> <li>- Fluid dynamics, Aerodynamics and hydrodynamics. (20%)</li> <li>- Electric and magnetic fields and DC electrical circuits. (20%)</li> <li>- Optics and Acoustics. (20%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>LEVENSPIEL, O., <b>Flujo de Fluidos e Intercambio de Calor</b>, Reverté 1999</p> <p>EDMINISTER, J.A., NAHVI, M. <b>Circuitos Eléctricos</b>, Mc Graw-Hill, 2001</p> <p>SEARS, ZEMANSKI, YOUNG, FREEDMAN., <b>Física Universitaria</b>, Addison-Wesley Longman, 1998</p> <p>DURÁ DOMENECH, A., VERA GUINDOS, J., <b>Fundamentos Físicos de las Construcciones Arquitectónicas Vol I y II</b>, Universidad de Alicante, 2003</p>
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Díaz Martín, Ricardo (F/T)</p> <p>Sanglier Contreras, Gastón (F/T)</p> <p>José Manuel del Río (F/T)</p>
Language:	Spanish, English



Course Number:	<b>A107 (AF2)</b>
Course Title:	<b>ARCHITECTURAL FORM ANALYSIS II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Analysis of architectural forms. Representation. Interpretation. Introduction to architectural hand drawing. Perspective. Visual indoor and outdoors models.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop capacities to read and draw a given reality from within its internal construction rules.</li> <li>- Develop capacities to use hand drawing graphic language as a communication tool.</li> <li>- Develop capacities to have a personal research through different techniques in order to acquire a personal graphic language.</li> <li>- Develop capacities to represent the reality within its proportions and rules using perspective and architectural plans.</li> <li>- Develop capacities to transform a given space from a basic range of spatial strategies.</li> <li>- Acquire the ability to apply graphic procedures of spaces and objects representation.</li> <li>- Acquire the ability to conceive and represent the visual attributes of objects and master of proportion and drawing techniques.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.2 Design Thinking Skills  <b>A.3 Visual Communication Skills</b>  A.8 Ordering Systems Skills</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Urban sketching (20%)</li> <li>- Classroom model (40%)</li> <li>- Transformation of a given space (30%)</li> <li>- Technical skills (10%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>AAVV, <b>Arte del siglo XX</b>, Taschen  ARGAN, G.C., <b>Arte moderno</b>, Ed. Fernando Torres  ARNHEIM, R., <b>Arte y Percepción visual</b>, Eudeba  BACHELARD, G., <b>La poética del espacio</b>.  HAYES, C., <b>Guía completa de pintura y dibujo. Técnicas y materiales</b>, H. Blume  GHYKA, M.C., <b>Estética de las proporciones en la naturaleza y en las artes</b>, Poseidón.  MALINS, F., <b>Para entender la pintura</b>, H. Blume  RASMUSSEN, S.E., <b>La experiencia de la arquitectura</b>, Reverté</p>
Offered (semester and year):	2nd semester, 1st year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Alonso Pardo, José Luis (F/T)  Cantarero García, Guadalupe (P/T)  Horcajada Díaz, Daniel (P/T)  López Rodríguez, Begoña (F/T)  Ruiz Granados, Justo (P/T)  Sarasola Rubio, Fátima (P/T)</p>
Language:	Spanish, English

Course Number:	<b>A108 (GD2)</b>
Course Title:	<b>DESCRIPTIVE GEOMETRY II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Geometry. Representation systems. Representation of the terrain. Lines and surfaces. Shade and shadow. Sunlight.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop capacities to analyze, represent and manipulate geometric forms in architecture</li> <li>- Acquire knowledge of geometry laws and properties through representation systems.</li> <li>- Introduce the student in a detailed study of certain surfaces.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.3 Visual Communication Skills</p> <p><b>A.8 Ordering Systems Skills</b></p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Projection-section. Axonometric perspective: orthographic-oblique (8%)</li> <li>- Linear perspective: Historical background. Computer applications. Freehand drawings. Techniques of perspective. (15%)</li> <li>- Representation of the terrain. Contour maps. Sloping roofs (10%)</li> <li>- Polyhedric forms. Prisms, pyramid. Regular polyhedron. Intersection. Shadows (20%)</li> <li>- Elliptic and ruled quadric surfaces. Cone, cylinder, sphere. Plane section and shadow (20%)</li> <li>- Quadric and ruled significant surfaces. Intersection. Vaults. Shadows and shades (20%)</li> <li>- Sunlight (7%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>IZQUIERDO ASENSI, F. <b>Geometría Descriptiva</b>, Dossat</p> <p>RODRÍGUEZ DE ABAJO, F. <b>Geometría Descriptiva I, II Y III (Diédrico, Acotado y Axón)</b>.</p> <p>RODRÍGUEZ DE ABAJO, F. <b>Geometría Descriptiva IV (P. Caballera)</b>.</p> <p>TAIBO, A. <b>Geometría Descriptiva y sus aplicaciones I</b>, Tebar Flores.</p> <p>RABASA, E. <b>Proyección y representación. Conceptos intuitivos</b>. Inst. Juan de Herrera</p> <p>SÁNCHEZ GALLEGO, J.A. <b>Geometría descriptiva: Sistemas de proyección cilíndrica</b>, UPC, 1998</p>
Offered (semester and year):	2nd semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Carvajal Alcalde, Rocío (F/T)</p> <p>Marsá González, José María (F/T)</p> <p>Rey Álvarez, José Miguel (F/T)</p> <p>Sanjurjo Álvarez, Alberto (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A109 (DA1)</b>
Course Title:	<b>ARCHITECTURAL DRAWING I</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Architectural drawing. Architectural graphic language. Computer Aided Design. Understanding, analysis and description of Architecture using architectural drawing systems, scales and graphic skills and their applications to architectural objects.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Introduce the students in architectural design principles: Formal and spatial organization of architecture.</li> <li>- Introduce the students in architectural drawing systems, proportion and scale concepts.</li> <li>- Acquire specific architectural representation codes and graphic skills.</li> <li>- Acquire architectural graphic language and its adequate application from intuitive approaches to final proposals.</li> <li>- Acquire knowledge of conceptual research and adequate relationship of graphic techniques (drawing systems, scales and skills) to pursued architectural topics.</li> <li>- Develop capacities for analysis and synthesis using Architectural Drawing.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.3 Visual Communication Skills</b> A.4 Technical Documentation <b>A.8 Ordering Systems Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Introduction to architectural graphical language. Drawing uses: Understanding and communication. (10%)</li> <li>- Three dimensional reality and its graphic representation. Proportion and control of form.</li> <li>- Scale concept. Physical, conceptual and relative sizes. (20%)</li> <li>- Graphic construction. Drawing systems, applications and uses. Graphic skills. (20%)</li> <li>- Architectural context. Architecture and environment. From general to specific. (20%)</li> <li>- Architectural organization. Formal and spatial structure. The constructive and functional order. (20%)</li> <li>- Graphic presentation. Intended graphical presentations. Analysis and synthesis. (10%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	CHING, F.D., <b>Manual de Dibujo Arquitectónico</b> , G.G., Barcelona. GOITIA, A., <b>Planta-Sección-Alzado y Escalas</b> , Inst. J. de Herrera, Madrid. GOITIA, A., <b>Dibujo Axonométrico: Usos Arquitectónicos</b> , Inst. J. de Herrera, Madrid. MATA, E., <b>Recursos Gráficos en el Dibujo de Arquitectura</b> , Inst. J. de Herrera, Madrid.
Offered (semester and year):	2nd semester, 1st year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Bueno Bueno, Juan (P/T) Goitia Cruz, Aitor (F/T) Izquierdo Esteban, Sonia (F/T) Lorenzo Cueva, Covadonga (F/T) Maestre Galindo, Clara (F/T) Moya Olmedo, Pilar. (P/T) Sotelo Calvillo, Gonzalo. (F/T) Utiel González, Juan. (P/T)
Language:	Spanish, English

Course Number:	<b>A110 (FM2)</b>
Course Title:	<b>FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Algebra. Calculation. Metric, differential and analytical geometry. Descriptive statistics.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop capacities of analysis and synthesis</li> <li>- Acquire ability to resolve problems</li> <li>- Introduce the students in numerical understanding</li> <li>- Acquire knowledge of numerical calculus, analytical and differential geometry and algebraic methods.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	A.8 Ordering Systems Skills
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Linear Geometry (40%)</li> <li>- Euclidian Geometry (40%)</li> <li>- Poligons and Poliedrics (40%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	HERNANDEZ, E., <b>Algebra y Geometría</b> , Addison-Wesley, 1996. CASTELLET, M., LLERENA, I., <b>Algebra lineal y geometría</b> , Reverté, 2000 GUIJARRO, P., CRUELLES, R., <b>Matemàtiques per a l'arquitectura</b> , UPC, 2000 MARSDEN, J., TROMBA, A., <b>Càlculo vectorial</b> , Addison-Wesley Longman, 2004 GOLUBITSKY, M., DELLNITZ, M., <b>Àlgebra lineal y ecuaciones diferenciales, con uso de MATLAB</b> , Thomson, 2001 FLANIGAN, KAZDAN, <b>Calculus II</b> , Springer, 2003
Offered (semester and year):	2nd semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Garro Garro, Juan Carlos (F/T)
Language:	Spanish, English

Course Number:	<b>A111 (FF2)</b>
Course Title:	<b>FUNDAMENTALS OF PHYSICS IN ARCHITECTURE II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	General mechanics and fluid mechanics. Acoustics. Thermodynamics. Electricity. Electromagnetism. Light and color theories. Theoretical basis of the physical environment.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire the knowledge of mechanical equilibrium. A system of particles is in static equilibrium. External forces and moments of external forces.</li> <li>- Discuss the concepts "center of gravity" and "center of mass" of an object.</li> <li>- Acquire the knowledge of Moment of inertia. Measurement and calculation.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	B.8 Environmental Systems
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Vector calculus. Introduction to the concept of force (30%)</li> <li>- Static of particles and rigid bodies (40%)</li> <li>- Kinematics of planar particles and rigid bodies (30%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>LEVENSPIEL, O., <b>Flujo de Fluidos e Intercambio de Calor</b>, Reverté 1999          EDMINISTER, J.A., NAHVI, M. <b>Circuitos Eléctricos</b>, Mc Graw-Hill, 2001          SEARS, ZEMANSKI, YOUNG, FREEDMAN., <b>Física Universitaria</b>, Addison-Wesley Longman, 1998          PYTEL, A., KIUSALAAS, J., <b>Ingeniería Mecánica. Estática y Dinámica</b>, Thomson, 1999          RILEY, W.F., STURGES, L.D., <b>Ingeniería Mecánica. Estática y Dinámica</b>, Reverté, 1995          DURÁ DOMÉNECH, A., VERA GUINDOS, J., <b>Fundamentos Físicos de las Construcciones Arquitectónicas, Vol I y II</b>, Universidad de Alicante, 2003</p>
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Díaz Martín, Ricardo (F/T)          Sanglier Contreras, Gastón (F/T)          Río Campos, JoséManuel (F/T)</p>
Language:	Spanish, English







Course Number:	<b>A203 (MEC)</b>
Course Title:	<b>SOLID MECHANICS</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	General mechanics Balancing systems and isostatic systems. Theoretical basis of the physical environment.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Understand the problems of structural design, construction and engineering problems associated with building design.</li> <li>- Understand how the balance of sound systems and internal stresses in isostatic structures and reticulated articulated as basic elements for the proper development of subsequent courses.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>B9. Structural Systems</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Block A: Equilibrium in gridded isostatic systems (60%)</li> <li>- Block B: Equilibrium in articulated isostatic systems (40%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	GERE, J.M., TIMOSHENKO, S.P., <b>Mecánica de materiales</b> , International Thomson Editores VÁZQUEZ, M., LÓPEZ, E., <b>Mecánica para Ingenieros. Estática</b> , Noela CELIGÜETA, J.T., <b>Curso de Análisis estructural</b> , EUNSA
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Castilla Heredia, María Isabel (F/T) Hernando Mansilla, Félix (F/T) Prieto Muñoz, Federico (P/T)
Language:	Spanish, English

Course Number:	<b>A204 (MCO)</b>
Course Title:	<b>BUILDING CONSTRUCTION MATERIALS</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Materials science. Construction materials. Building regulations. Toxicity of Building Materials. Sustainable construction.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Learn about building materials and their commercial types.</li> <li>- Acquire the criteria for their election and application on site and in the architectural project.</li> <li>- Know and apply the basic standards regulating the use of products and materials, their technical prescription and mechanisms of control.</li> <li>- Understand laboratory tests to characterize the properties of materials.</li> <li>- Be able to analyze, form opinions, and critically think about hazardous versus healthy materials into a sustainable environment.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	B.3 Sustainability B. 8 Environmental Systems <b>B.12 Building Materials and Assemblies</b> C.2. Human Behavior C.7. Legal Responsibilities
Topical Outline (include percentage of time in course spent in each subject area):	BLOCK A: Basic Materials Science (40%) - Basic chemical aspects of materials, atomic and molecular structure. - Physical, mechanical and hygrothermal properties of materials. Basic concepts of sustainability. -Materials properties: specifications, standards, and regulations. -Quality, quality control and quality management. -Embodied energy. -4Rs: reduction, reuse, recycling and recovery. BLOCK B: Properties of common materials in construction (60%) - Natural stone, ceramics, glass. Gypsum, lime, cement. Aggregates. Mortars, concrete. Recycling concrete. Recycling glass. - Metals and alloys. Recycling metals. - Bituminous materials. Wood and cork. - Polymers. Composites. Adhesives. Paints. Recycling polymers.
Prerequisites:	None
Textbooks/Learning Resources:	ADDLESON, L., RICE, C. Performance of Materials in Buildings. A study of the principles and Agencies of Change, Butterworth Heinemann, 1995. ARREDONDO, F. et al., Estudio de materiales, Tomos I-II. ETSICCP, 1986. SHACKELFORD, J.F. Introducción a la Ciencia de Materiales para Ingenieros. Prentice Hall. 2005. AMSTOCK, J.S., Manual del vidrio en la Construcción. McGrawHill/Interamericana. 1999. ASKELAND, D., Ciencia y Tecnología de Materiales. Iberoamericana. 1987. AAVV. EHE 08. Instrucción de Hormigón Estructural. Ministerio de Fomento. TAYLOR, G.D. Materials in Construction: An introduction. Pearson Ed. Ltd., 2000. CALKINGS, M. Materials for Sustainable Sites. John Wiley and Sons, Inc., 2009. ALLEN, E., IANO, J. Fundamentals of Building Construction: Materials and Methods. John Wiley and Sons, Inc., 2008. VASSIGH, S., CHANDLER, J. Building Systems Integration for Enhanced Environmental Performance. Ross Publishing, 2011. PACHECO-TORGAL, F., JALALI, S., FUCIC, A. Toxicity of Building Materials. Woodhead Publishing Ltd., 2012.
Offered (semester and year):	1st semester, 2nd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	de Isidro Gordejuela, Federico (F/T) Machín Hamalainen, Carlos (F/T) del Río Campos, José Manuel (F/T)
Language:	Spanish, English

Course Number:	<b>A205 (IU1)</b>
Course Title:	<b>URBAN THEORY I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Introduction to spatial planning and urban project: physical environment, social environment and history and theory of urban fabrics.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire basic knowledge of Urbanism, being the city the subject of analysis.</li> <li>- Use the analysis of the city as basic knowledge for the developing of proposals.</li> <li>- Acquire knowledge of historical, territorial and urban approaches to the city.</li> <li>- Introduce the student in realization of synthetic diagnoses on studied urban realities.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.9 Historical Traditions &amp; Global Culture</b> B.4. Site Design C.2 Human Behavior
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Territorial Analysis (30%)</li> <li>- Urban Analysis (40%)</li> <li>- Urban History (30%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	LYNCH, K., <b>The Image of the City</b> , MIT Press MORRIS, A.E.J., <b>A History of Urban Form: Before the Industrial Revolutions</b> , Longman Sc & Tech JACOBS, A. B., <b>Great Streets</b> , MIT FARIÑA, J., <b>Clima, territorio y urbanismo</b> , ETSAM RODRIGUEZ-TARDUCHY, M.J., <b>Forma y Ciudad</b> , Cinter AAVV, <b>Guía del Urbanismo</b> , Madrid s.XX, 2004 MC. HARGH, I., <b>Design with Nature</b> , Doubleday/Natural History Press, Garden City. G.G.
Offered (semester and year):	1st semester, 2nd year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Perea Moreno, Luis (F/T) Raventós Viñas, Teresa (F/T)
Language:	Spanish, English

Course Number:	<b>A206 (HA1)</b>
Course Title:	<b>HISTORY OF ARCHITECTURE I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Art and Architecture History. From Greece to the Renaissance.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Introduce the student in the study of the history of Western architecture in a global project which comprises the rest of the subjects of History of Architecture.</li> <li>- Learn concepts, forms and vocabulary specific to art history and architecture, as well as knowledge of the most significant architects and movements.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills  <b>A.9 Historical Traditions &amp; Global Culture</b>          A.10 Cultural Diversity</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Theory and function of Art (10%)</li> <li>- Greece (20%)</li> <li>- Rome (20%)</li> <li>- Early Christian art (20%)</li> <li>- Byzantium (10%)</li> <li>- Islam (20%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>AA.VV., <b>Diccionario de la Arquitectura y la Construcción</b>, Munilla-Lería, 2001          CHUECA, F., <b>Historia de la arquitectura occidental</b>, Dossat, 1988          KOSTOF, S., <b>Historia de la Arquitectura</b>, Alianza Forma, 2000          MULLER, W., VOGEL, G., <b>Atlas de Arquitectura</b>, Alianza Ed., 1984          ROTH, L.M., <b>Entender la arquitectura</b>, G.G. 2003</p>
Offered (semester and year):	1st semester, 1st year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Díaz-Pinés Valentín, Pilar (F/T)          Muro García-Villalba, Blanca (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A207 (PR2)</b>
Course Title:	<b>ARCHITECTURAL DESIGN II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Introduction to the theory and practice of architecture. Conceptualization of architectural space, instrumental development, establishment of processes and scales of project.
Course Goals & Objectives:	-Command of graphical tools as means to face a design process. -Development of critical abilities to focus on architectural culture and on own's proposals. -Approach to functional programs.
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.5 Investigative Skills <b>A.6 Fundamental Design Skills</b> A.7 Use of Precedents. A.8 Ordering Systems Skills <b>B.1 Pre-Design</b> B.4 Site Design
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (25%) -Workshop and discussion (70%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	AALTO, A., <b>La humanización en la arquitectura</b> . Tusquets. Cuadernos Infimos 81 BENÉVOLO, L., <b>Historia de la Arquitectura Moderna</b> , Taurus. GIEDION, S., <b>Espacio, Tiempo y Arquitectura</b> , Dossat GREGOTTI, V., <b>Desde el interior de la Arquitectura</b> , Península / Ideas 27 GOODMAN, N., <b>Maneras de hacer mundos</b> , Visor KAHN, L.I., <b>Conversaciones con estudiantes</b> . G.G. LE CORBUSIER., <b>Mensaje a los estudiantes de Arquitectura</b> , Infinito. PEVSNER, N., <b>Historia de las tipologías arquitectónicas</b> , G.G. ZUMTHOR, P., <b>Pensar la Arquitectura</b> , G.G.
Offered (semester and year):	1st semester, 2nd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Bertet González, Mauricio (P/T) de Blas Gutiérrez de Vega, María José (F/T) Cano Pintos, Gonzalo (P/T) Gahona Fraga, José Luis (P/T) Millán López, Juan (F/T) Iglesias Sanz, Carlos Miguel (F/T) Picado Fernández, Rubén (F/T)
Language:	Spanish, English

Course Number:	<b>A208 (DGA)</b>
Course Title:	<b>DRAWING AND GEOMETRY</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Drawing and Geometry studio. CAD systems and operating systems. Fundamentals of programming and networking.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop capacities to acquire understanding, analysis and expression of the geometry of the architecture.</li> <li>- Introduce the student in narrative graphics for architectures of singular geometries.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.3 Visual Communication Skills</b> <b>A.8 Ordering Systems Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Collecting data of architectural model. (25%)</li> <li>- Formal structure and space. (25%)</li> <li>- Geometric Determination and layout. (25%)</li> <li>- Graphic design. (25%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	IZQUIERDO, F., <b>Geometría Descriptiva Superior y Aplicada (2a ed.)</b> , Paraninfo, Madrid. GHEORGHIU, A., DRAGOMIR, V., <b>La representation des structures constructives</b> . Eyrolles, Paris. MOUSSAVI, F., <b>The function of form</b> , Actar and Harvard University. GSD
Offered (semester and year):	2nd semester, 2nd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Carvajal Alcaide, Rocío (F/T) Goitia Cruz, Aitor (F/T) Lorenzo Cueva, Covadonga (F/T) Maestre Galindo, Clara (F/T) Sanjurjo Alvarez, Alberto (F/T) Sotelo Calvillo, Gonzalo. (F/T)
Language:	Spanish, English

Course Number:	<b>A209 (FM3)</b>
Course Title:	<b>FUNDAMENTALS OF MATHEMATICS IN ARCHITECTURE III</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Differential equations. Metric, differential and analytical geometry. Numerical analysis.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire knowledge of geometric aspects (such as the study of curvature), to enrich their exploration of space.</li> <li>- Acquire knowledge of mathematical foundations (such as calculation of curves, surfaces and solids), to help you deal with basic issues in geometry mass (mass centers, moments of inertia, inertia tensor).</li> <li>- Acquire knowledge of techniques of dynamical systems and differential equations that underlie current models in continuum mechanics, elasticity, plasticity, strength of materials, structural design, ...</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	A.8 Ordering Systems Skills
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Geometry of curves. (20%)</li> <li>- Surface geometry. (30%)</li> <li>- Integration of curves and surfaces. (30%)</li> <li>- Annexes: Geometry of a system of first order equations. Linear systems. Linear equations of higher order than the first. Introduction to the study of nonlinear systems. Introduction to the study of dynamical systems. (20%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>MARSDEN, J., TROMBA, A., <b>Cálculo vectorial</b>, Addison-Wesley.          PRESSLEY, A. <b>Elementary differential geometry</b>, Springer U.M.S.          BLANCHARD, P., DEVANEY, R. L., HALL, G. R., <b>Ecuaciones diferenciales</b>, Thomson-Paraninfo.</p>
Offered (semester and year):	2nd semester, 2nd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Garro Garro, Juan Carlos (F/T)          Victoria Rodríguez, Susana (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A210 (SES)</b>
Course Title:	<b>STRUCTURAL SYSTEMS</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Mechanics. Solid mechanics. Elasticity and Plasticity. Strength of materials. Structural types.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire knowledges of compressive strength and stress-strain estate at a point in a body.</li> <li>- Introduce the student in determination and graphic representation of the stress distributions due to different types of internal forces on a section.</li> <li>- Introduce the student in elastic deflections due to axial force and bending.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>B.9 Structural Systems</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- BLOCK A: Distribution of internal forces in structural elements (30%)</li> <li>- BLOCK B: Distribution of stresses in planar sections (30%)</li> <li>- BLOCK C: Elastic deflections in statically determinate structures (40%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>GERE, J.M., TIMOSHENKO, S.P., <b>Mecánica de materiales</b>, International Thomson Editores</p> <p>VÁZQUEZ, M., LÓPEZ, E., <b>Mecánica para Ingenieros. Estática</b>, Noela</p> <p>CELIGÜETA, J.T., <b>Curso de Análisis estructural</b>, EUNSA</p>
Offered (semester and year):	Second year, second semester.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Castilla Heredia, María Isabel (F/T)</p> <p>Hernando Mansilla, Félix (F/T)</p> <p>Prieto Muñoz, Federico (P/T)</p>
Language:	Spanish, English

Course Number:	<b>A211 (IU2)</b>
Course Title:	<b>URBAN THEORY II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Introduction to spatial planning and urban project: physical environment, social environment and history and theory of urban fabrics.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire basic knowledge of Urbanism, being the city the subject of analysis.</li> <li>- Use the analysis of the city as basic knowledge for the developing of proposals.</li> <li>- Learning historical, territorial and urban approaches to the city.</li> <li>- Realization of synthetic diagnoses on studied urban realities.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.2 Design Thinking Skills. <b>A.9 Historical Traditions &amp; Global Culture</b></p> <p>A.3 Visual Communication Skills</p> <p>A.6 Fundamental Design Skills</p> <p>A.7 Use of Precedents</p>
Topical Outline (include percentage of time in course spent in each subject area):	<p>BLOCK A: Urban Analysis: Introduction to basic urban concepts (50%)</p> <ul style="list-style-type: none"> <li>- Introduction to the city and urbanism</li> <li>- Perceived City</li> <li>- The operation of the City</li> <li>- The Plan of the City. Plot</li> <li>- The City was built. The ejido T</li> <li>- Inhabited City</li> <li>- The Transformation of the City</li> </ul> <p>BLOCK B. Synthesis and Diagnosis (50%)</p>
Prerequisites:	None
Textbooks/Learning Resources:	<p>LYNCH, K., <b>The Image of the City</b>, MIT Press</p> <p>MORRIS, A.E.J., <b>A History of Urban Form: Before the Industrial Revolutions</b>, Longman Sc &amp; Tech</p> <p>JACOBS, A. B., <b>Great Streets</b>, MIT Press</p> <p>FARIÑA, J., <b>Clima, territorio y urbanismo</b>, ETSAM</p> <p>RODRIGUEZ-TARDUCHY, M.J., <b>Forma y Ciudad</b>, Cinter</p> <p>CULLEN, G., <b>El paisaje Urbano</b>, Blume-Labor</p>
Offered (semester and year):	2nd semester, 2nd year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Perea Moreno, Luis (F/T)</p> <p>Raventós Viñas, Teresa (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A212 (HA2)</b>
Course Title:	<b>HISTORY OF ARCHITECTURE II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Art and Architecture History. From Greece to the Renaissance.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Approach the study of the history of Western architecture in a global project which comprises the rest of the subjects of History of Architecture.</li> <li>- Learn concepts, forms and vocabulary specific to art history and architecture, as well as knowledge of the most significant architects and movements.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills  <b>A.9 Historical Traditions &amp; Global Culture</b>  A.10 Cultural Diversity</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Romanesque Architecture. (25%)</li> <li>- Gothic Architecture. (25%)</li> <li>- Renaissance Architecture. (25%)</li> <li>- Baroque Architecture. (25%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>AAVV, <b>Diccionario de Arquitectura y Construcción</b>,  AAVV, <b>B.A.N.T.E. (Banco de Términos de la Edificación</b>, Universidad de Valladolid), Munilla.Lería, 2001  BENEVOLO, L., <b>Historia de la arquitectura del Renacimiento</b>, G.G., 1972  BENEVOLO, L., <b>Historia de la arquitectura moderna</b>, G.G., 1974  BENEVOLO, L., <b>Orígenes del urbanismo moderno</b>, Celeste Ediciones, Madrid, 1992  CALZADA ECHEVARRÍA, A., <b>Diccionario clásico de arquitectura y bellas artes</b>. Ediciones del Serbal, 2003  FRAMPTON, K., <b>Historia crítica de la arquitectura moderna</b>, G.G., 1981  HITCHCOCK, H. R., <b>Arquitectura de los siglos XIX y XX</b>, Manuales Arte Cátedra, 1998  KOSTOF, S., <b>Historia de la arquitectura (vol. 2 y 3)</b>, Alianza, 1988  ZEVI, B., <b>Historia de la arquitectura moderna</b>, Poseidón, Buenos Aires, 1959</p>
Offered (semester and year):	2nd semester, 2nd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Díaz-Pinés Valentín, Pilar (F/T)  Muro García-Villalba, Blanca (F/T)</p>
Language:	Spanish, English

Course Number:	<b>A301 (PR3)</b>		
Course Title:	<b>ARCHITECTURAL DESIGN III</b>		
Total Credits Awarded (ECTS):	<b>6</b>		
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Private and public space.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquired the capacity to synthesize architectural understanding within a Design Project, demonstrating control of the necessary tools to define and describe its architecture.</li> <li>- Acquired the application of architectural culture to the design process, providing spatiality, developing an architectural logic to support the proposal.</li> <li>- Acquired the ability to analysis of complex functional programs. Acquired the capacity to comprehend the relationship between buildings and users, a building within its context.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <b>A.2 Design Thinking Skills</b>  A.3 Visual Communication Skills  A.5 Investigative Skills.  A.6 Fundamental Design Skills  <b>A.7 Use of Precedents</b> </td> <td style="width: 50%; vertical-align: top;"> A.8 Ordering Systems Skills  <b>B.1 Pre-Design</b>  B.4 Site Design  B.12 .Building Materials and Assemblies </td> </tr> </table>	<b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.5 Investigative Skills. A.6 Fundamental Design Skills <b>A.7 Use of Precedents</b>	A.8 Ordering Systems Skills <b>B.1 Pre-Design</b> B.4 Site Design B.12 .Building Materials and Assemblies
<b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.5 Investigative Skills. A.6 Fundamental Design Skills <b>A.7 Use of Precedents</b>	A.8 Ordering Systems Skills <b>B.1 Pre-Design</b> B.4 Site Design B.12 .Building Materials and Assemblies		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>-Theory (15%)</li> <li>-Workshop and discussion (80%)</li> <li>-Final review (5%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:	BENÉVOLO, L., <b>Historia de la Arquitectura Moderna</b> , Taurus. GIEDION, S., <b>Espacio, Tiempo y Arquitectura</b> , Dossat. PEVSNER, N., <b>Historia de las tipologías arquitectónicas</b> , G.G. * The general bibliography of PR3 is composed by a list updated every year. Each semester the course coordinator prepares a specific bibliography depending on the research and topic proposed that specific year.		
Offered (semester and year):	1st semester, 3rd year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Hevia Ochoa de Echagüen, Juan (P/T) García Hípola, Mayka (F/T) Arana Aroca, María (F/T) de Molina Rodríguez, Santiago (P/T) Bresnick Hecht, Adam (P/T) Canals Revilla, Valerio (P/T) Martínez-Peñalver, Covadonga (P/T) Ros García, Juan Manuel (F/T) Rubio Bajo, Antonio (P/T)		
Language:	Spanish, English		



Course Number:	<b>A303 (AE1)</b>
Course Title:	<b>STRUCTURAL ANALYSIS I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Analysis of building structures. Typologies.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Obtain elastic joint reactions and internal force diagrams in indeterminate planar structures.</li> <li>- Calculate the joint deflections of such structures.</li> <li>- Obtain plastic joint reactions and internal force diagrams in indeterminate planar structures, along the yielding process or just prior to its collapse.</li> <li>- Calculate the failure load or the plastic moment that a given section should be able to assume in order to avoid the failure of a structure.</li> <li>- Obtain elastic internal forces and deflections in beam grids.</li> <li>- Obtain the ultimate load or the yield moment of resistance per unit width of a slab.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>B.9 Structural Systems</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Review of statically determinate structures (10%)</li> <li>- Flexibility method (20%)</li> <li>- Slope deflection and stiffness methods (40%)</li> <li>- Plastic analysis (30%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	GERE, J.M., TIMOSHENKO, S.P., <b>Mecánica de materiales</b> , International Thomson Editores VÁZQUEZ, M., <b>Resistencia de materiales</b> , Noela CELIGÜETA, J.T., <b>Curso de Análisis estructural</b> , EUNSA
Offered (semester and year):	1st semester, 2nd semester, 3rd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Molina Iniesta, Mariano (F/T) Pérez Gutiérrez, María Concepción (F/T) Martín Escudero, Antonio (F/T)
Language:	Spanish, English

Course Number:	<b>A304 (TEC)</b>		
Course Title:	<b>ENVIRONMENTAL SYSTEMS</b>		
Total Credits Awarded (ECTS):	<b>6</b>		
Course Description:	Environmental and mechanical systems for Architecture and Urbanism. Technical and acoustics systems.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Learn about how the climate should be shaping the building from the envelope to the architectural and technical details.</li> <li>- Learn about the thermal performance of buildings and the indoor comfort conditions</li> <li>- Learn about the heating, cooling and ventilation systems, and the different energy sources.</li> <li>- Learn about the building energetic regulations. Spanish code CTE-HE.</li> <li>- Instruct the student to the design criteria to minimize use of non-renewable energy resources and to improve energy efficiency taking advantage of free natural resources.</li> <li>- Acquire knowledge of the fundamental aspects of sound, hearing, acoustic conditions and acoustic performance of the building.</li> <li>- Introduce the students in the design criteria and process used in architectural acoustics</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> A.1 Communication Skills  <b>A.4 Technical Documentation</b>  A.6 Fundamental Design Skills  B.2 Accessibility  <b>B.3 Sustainability</b> </td> <td style="width: 50%; border: none;"> B.4 Site Design  B.6 Comprehensive Design  B.7 Financial Considerations  <b>B.8.Environmental Systems.</b>  <b>B.10 Building Envelope Systems</b> </td> </tr> </table>	A.1 Communication Skills <b>A.4 Technical Documentation</b> A.6 Fundamental Design Skills B.2 Accessibility <b>B.3 Sustainability</b>	B.4 Site Design B.6 Comprehensive Design B.7 Financial Considerations <b>B.8.Environmental Systems.</b> <b>B.10 Building Envelope Systems</b>
A.1 Communication Skills <b>A.4 Technical Documentation</b> A.6 Fundamental Design Skills B.2 Accessibility <b>B.3 Sustainability</b>	B.4 Site Design B.6 Comprehensive Design B.7 Financial Considerations <b>B.8.Environmental Systems.</b> <b>B.10 Building Envelope Systems</b>		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Architecture and energy (25%)</li> <li>- Building energetic regulations: Spanish code CTE-HE (25%)</li> <li>- Heating, cooling and ventilation of a building (20%)</li> <li>- Acoustic performance of buildings (30%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:	NUÑEZ, R., ARAMBURU, F., BOTRÁN, C., <b>Técnicas de Acondicionamiento Térmico</b> , CEU Ediciones, Madrid AAVV, <b>Código Técnico de la Edificación CTE HE (Ahorro Energético)</b> , Ministerio de Fomento, Madrid AAVV, <b>Código Técnico de la Edificación CTE HR</b> , Ministerio de Fomento, Madrid AAVV, <b>Catálogo de Materiales CTE</b> , Ministerio de Fomento, Madrid		
Offered (semester and year):	1st semester, 3rd year.		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	del Ama Gonzalo, Fernando (F/T) Rodrigo Núñez Carrasco (F/T) Sanglier Contreras, Gastón (F/T) Aramburu Gaviola, Félix (F/T)		
Language:	Spanish, English		

Course Number:	<b>A305 (DU1)</b>
Course Title:	<b>URBAN DESIGN I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Urban studies. Urban design and urban project. Gardening and landscape. Environmental aspects. Environmental impacts
Course Goals & Objectives:	- Acquire the theoretical tools necessary to support urban design projects - Develop urban design projects at different scales
NAAB Student Performance Criterion/a addressed (list number and title):	A.3 Visual Communication Skills A.6 Fundamental Design Skills A.7 Use of Precedents <b>B.2 Accessibility</b> <b>B.3 Sustainability</b> <b>B.4 Site Design</b>
Topical Outline (include percentage of time in course spent in each subject area):	- Theory background on Urban Elements and Urban Design (30%) - Urban project development (70%)
Prerequisites:	None
Textbooks/Learning Resources:	CARMONA, M et al., <b>Public Places, Urban Spaces. The Dimensions of Urban Design</b> , Oxford Architectural Press. LÓPEZ CANDEIRA. J., <b>Diseño Urbano: Teoría y Práctica</b> , Munilla.Leria, Madrid
Offered (semester and year):	1st semester, 3rd year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Arana Giralt, Juan (P/T) Franchini Alonso, Teresa (F/T)
Language:	Spanish, English

Course Number:	<b>A306 (LIB)</b>
Course Title:	<b>GREAT BOOKS</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Reading and critical reflection of great works of philosophy, literature and thought.
Course Goals & Objectives:	Introduce the student in a detailed study of great books in the History of Western Civilization. Develop capacities to acquire knowledge of scientist, writers and philosophers legacy. Develop capacities of analysis of how philosophers and writers contributed greatly to science.
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.1 Communication Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	Itinerary 1: Travels through Literary Time and Space. 50% Itinerary 2: Metanoia in Literature. 50%
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 3rd year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	García Ureña, Lourdes G. Ariza, Fernando Velasco, Mar
Language:	Spanish, English

Course Number:	<b>A307 (PR4)</b>
Course Title:	<b>ARCHITECTURAL DESIGN IV</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Space context.
Course Goals & Objectives:	-Ability to express and present a construable architectural Project. -Use of a wide architectural culture to provide the project with a comprehensive coherence and to place it within the context of time and space. -Approach to design methodology. -Integration of materials and their qualities into the design process.
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.4 Technical Documentation A.5 Investigative Skills A.7 Use of Precedents  A.8 Ordering Systems Skills <b>B.1 Pre-Design</b> B.4.Site Design B.12 Building Materials and Assemblies
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (15%) -Workshop and discussion (80%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	BENÉVOLO, L., <b>Historia de la Arquitectura Moderna</b> , Taurus. GIEDION, S., <b>Espacio, Tiempo y Arquitectura</b> , Dossat. PEVSNER, N., <b>Historia de las tipologías arquitectónicas</b> , G.G. * The general bibliography of PR4 is composed by a list updated every year. Each semester the course coordinator prepares a specific bibliography depending on the research and topic proposed that specific year.
Offered (semester and year):	2nd semester, 3rd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	García Hípola, Mayka (F/T) Hevia Ochoa de Echagüen, Juan (P/T) Ros García, Juan Manuel (F/T) Bresnick Hecht, Adam (P/T) Iglesias Sanz, Carlos (F/T) Arana Aroca, María (F/T) de Molina Rodríguez, Santiago (P/T) Rubio Bajo, Antonio (P/T)
Language:	Spanish, English

Course Number:	<b>A308 (SC2)</b>
Course Title:	<b>BUILDING CONSTRUCTION II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Design and execution of building systems in architecture and urbanism. Structural systems. Cladding systems. Building regulations.
Course Goals & Objectives:	- Acquire detailed knowledge of the execution of the façades and the roof of a building, being able to represent and specify them reasonably and accurately. - Acquire knowledge of the procedures of assembly and the application of the materials in building systems that are composed of.
NAAB Student Performance Criterion/a addressed (list number and title):	A.4 Technical Documentation A.5 Investigative Skills B.3 Sustainability B.8 Environmental Systems  B.9 Structural Systems <b>B.10 Building Envelope Systems</b> <b>B.12 Building Materials and Assemblies</b>
Topical Outline (include percentage of time in course spent in each subject area):	- The role of protection (5%) - Façades (40%) - Roofs (40%) - External openings (10%) - Ramps and stairs (5%)
Prerequisites:	None
Textbooks/Learning Resources:	AAVV, <b>Las claves del construir arquitectónico. Vols. I, II, III.</b> G.G., 1997. AAVV, <b>Tratado de construcción.</b> Sistemas. Munilla-Lería, 2001. AAVV, NTE. <b>Normas tecnológicas de la Edificación,</b> MOPT, Madrid ALCALDE, F., <b>Banco de detalles arquitectónicos,</b> F. Alcalde Pecero, 2002. CHING, F., <b>Diccionario visual de la arquitectura,</b> G.G., 2005. DEL RIO ZULOAGA, J.M., <b>La construcción en las estructuras,</b> Ed. Propia. PARICIO, I., <b>La construcción de la arquitectura, Tomos I y II,</b> ITCC., 1988-89 SALVADORI, M., <b>Why buildings fall down. How structure fails,</b> Norton, 1992 SALVADORI, M., <b>Why buildings stand up. The strength of architecture,</b> Norton, 1990. SCHMITT, H., <b>Tratado de construcción,</b> G.G., 2004. * Magazines: <b>Tectónica, Detail, Monografías Detail, DDA–Detalles de Arquitectura, TC Cuadernos, ConArquitectura, Constructiva, El Croquis, A+U, AV.</b>
Offered (semester and year):	2nd semester, 3rd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	de Isidro Gordejuela, Federico (F/T) Rodríguez Romero, Eva Juana (F/T) Machín Hamalainen, Carlos (F/T)
Language:	Spanish, English

Course Number:	<b>A309 (AE2)</b>
Course Title:	<b>STRUCTURAL ANALYSIS II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Analysis of building structures. Typologies.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>-Obtain elastic joint reactions and internal force diagrams in indeterminate planar structures.</li> <li>-Calculate the joint deflections of such structures.</li> <li>-Obtain plastic joint reactions and internal force diagrams in indeterminate planar structures, along the yielding process or just prior to its collapse.</li> <li>-Calculate the failure load or the plastic moment that a given section should be able to assume in order to avoid the failure of a structure.</li> <li>-Obtain elastic internal forces and deflections in beam grids.</li> <li>-Obtain the ultimate load or the yield moment of resistance per unit width of a slab.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>B.9 Structural Systems</b>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Review of statically determinate structures (10%)</li> <li>- Flexibility method (20%)</li> <li>- Slope deflection and stiffness methods (40%)</li> <li>- Plastic analysis (30%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	GERE, J.M., TIMOSHENKO, S.P., <b>Mecánica de materiales</b> , International Thomson Editores VÁZQUEZ, M., <b>Resistencia de materiales</b> , Noela CELIGÜETA, J.T., <b>Curso de Análisis estructural</b> , EUNSA
Offered (semester and year):	1st semester, 2nd semester, 3rd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Molina Iniesta, Mariano (F/T). Pérez Gutiérrez, María Concepción (F/T).
Language:	Spanish, English

Course Number:	<b>A310 (ELE)</b>		
Course Title:	<b>ELECTRICAL AND LIGHTING SYSTEMS</b>		
Total Credits Awarded (ECTS):	<b>6</b>		
Course Description:	Electrical Systems. Circuits theory. Light. Electrical engineering and lighting.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire knowledge of the principles of electricity and lighting.</li> <li>- Introduce the student in designing, calculating, and implementing low-voltage electrical installations and facilities for indoor and outdoor lighting.</li> <li>- Implement technical standards.</li> <li>- Develop electrification projects and artificial lighting.</li> <li>- Acquire ability to maintain electrical and lighting systems.</li> <li>- Resolve cases of energy efficiency and natural lighting</li> <li>- Learn about the building regulations. Spanish code REBT.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;">           A.2 Design Thinking Skills  <b>A.4 Technical Documentation</b>            A.5 Investigative Skills            B.6 Comprehensive Design         </td> <td style="width: 50%; vertical-align: top;">           B.8 Environmental Systems.  <b>B.11 Building Service Systems</b>  <b>C.1. Collaboration</b> </td> </tr> </table>	A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills B.6 Comprehensive Design	B.8 Environmental Systems. <b>B.11 Building Service Systems</b> <b>C.1. Collaboration</b>
A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills B.6 Comprehensive Design	B.8 Environmental Systems. <b>B.11 Building Service Systems</b> <b>C.1. Collaboration</b>		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Basics of circuit theory ( 20%)</li> <li>- Design and calculation of electrical installations (50%)</li> <li>- Lighting (10%)</li> <li>- Calculation and design of lighting installations (20%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:	GONZALEZ LEZCANO, R., ARAMBURU, F., SANCHO, R., <b>Diseño y Cálculo de Instalaciones Eléctricas en Baja Tensión</b> . Munilla Leria., Madrid AAVV, <b>Reglamento Electrotécnico de Baja Tensión, REBT</b> , Ministerio de Fomento		
Offered (semester and year):	2nd semester, 3rd year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	González Lezcano, Roberto Alonso (F/T) del Río Campos, José Manuel (F/T)		
Language:	Spanish, English		

Course Number:	<b>A311 (DU2)</b>
Course Title:	<b>URBAN DESIGN II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Urban studies. Urban design and urban project. Gardening and landscape. Environmental aspects. Environmental impacts
Course Goals & Objectives:	- Acquire the theoretical tools necessary to support urban design projects - Develop urban design projects at different scales
NAAB Student Performance Criterion/a addressed (list number and title):	A.3 Visual Communication Skills A.6 Fundamental Design Skills <b>A.7 Use of Precedents</b> B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> <b>C.9 Community &amp; Social Responsibility</b>
Topical Outline (include percentage of time in course spent in each subject area):	- Theory background on Urban Elements and Urban Design (30%) - Urban project development (70%)
Prerequisites:	None
Textbooks/Learning Resources:	CARMONA, M et al., <b>Public Places, Urban Spaces. The Dimensions of Urban Design</b> , Oxford Architectural Press. LÓPEZ CANDEIRA. J., <b>Diseño Urbano: Teoría y Práctica</b> . Munilla.Leria, Madrid
Offered (semester and year):	2nd semester, 3rd year.
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Arana Giralt, Juan (P/T) Franchini Alonso, Teresa (F/T)
Language:	Spanish, English

Course Number:	<b>A312 (HA3)</b>
Course Title:	<b>HISTORY OF ARCHITECTURE III</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	History of architecture. High Renaissance to Fin de siècle.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Approach the study of the history of Western architecture in a global project which comprises the rest of the subjects of History of Architecture.</li> <li>- Learn concepts, forms and vocabulary specific to art history and architecture, as well as knowledge of the most significant architects and movements.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills  <b>A.9 Historical Traditions &amp; Global Culture</b>          A.10 Cultural Diversity</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- The Age of Enlightenment (15%)</li> <li>- The century of revolution (15%)</li> <li>- The legacy of the nineteenth century (15%)</li> <li>- The genesis of the modern movement (15%)</li> <li>- The historical avantgarde (15%)</li> <li>- The Modern Movement (15%)</li> <li>- Architecture and urban planning interwar(10%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>BENEVOLO, L., <b>Historia de la arquitectura moderna</b>, G.G., Barcelona          COLQUHOUN, A., <b>La arquitectura moderna: una historia desapasionada</b>, G.G.          CONRADS, U., <b>Programas y manifiestos de la arquitectura del siglo XX</b>, Lumen          CURTIS, W., <b>La arquitectura moderna desde 1900</b>. H. Blume,          DAL CO, F., TAFURI, M., <b>Historia de la arquitectura contemporánea</b>, Aguilar          GIEDION, S., <b>Espacio, tiempo y arquitectura</b>, Dossat          PEVSNER, N., <b>Pioneros del diseño moderno: de William Morris a Walter Gropius</b>, Infinito</p>
Offered (semester and year):	2nd semester, 3rd year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Díaz-Pinés Valentín, Pilar (F/T)          Campos Calvo-Sotelo, Pablo (F/T)          Muro García-Villalba, Blanca (F/T)</p>
Language:	Spanish English

Course Number:	<b>A401 (PR5)</b>
Course Title:	<b>ARCHITECTURAL DESIGN V</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Social housing. Design and construction.
Course Goals & Objectives:	-Implementation of design tools to express an architectural Project with a high definition degree. -Development of complex cultural approaches after rigorous field works, as means to defend consistent proposals. Ability to develop design methodologies. -Integration of building systems into the design process.
NAAB Student Performance Criterion/a addressed (list number and title):	A.1 Communication Skills <b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.4 Technical Documentation <b>A.5 Investigative Skills</b> A.8 Ordering Systems Skills A.11 Applied Research B.1 Pre-Design B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> B.6 Comprehensive Design B.12 Building Materials and Assemblies
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (15%) -Workshop and discussion (80%) -Program and concepts (70%) -Technology (30%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Gahona Fraga, José Luis (P/T) Ros García, Juan Manuel (F/T) García Hípola, María del Carmen (F/T) Sáenz Guerra, Francisco Javier (P/T) Gálvez Pérez, María Auxiliadora (F/T) Cano Lasso, Diego (F/T) Casillas Gamboa, Luis (F/T) Millán López, Juan (F/T) Martínez - Peñalver, Covadonga (P/T)
Language:	Spanish, English

Course Number:	<b>A402 (DES)</b>
Course Title:	<b>DIMENSIONING OF STRUCTURES</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Building structures: types, dimensioning, design and implementation. Regulations. Quality control and pathology.
Course Goals & Objectives:	-Dimensioning the structural elements of a building from a previous analysis of their structural stress. -Dimensioning conventional reinforced concrete structures. -Dimensioning conventional laminated steel structures.
NAAB Student Performance Criterion/a addressed (list number and title):	<b>B.9 Structural Systems</b> <b>C.7 Legal Responsibilities</b>
Topical Outline (include percentage of time in course spent in each subject area):	- Loads ( Codes: CTE-DB-SE-AE, Structural loads and load combinations, Limit states: ultimate limit state, serviceability limit state) 10% - Reinforced concrete (Codes: CTE-EHE, Material properties: concrete and steel bars, Coefficients of safety, structural members sizing) 40% - Unidirectional slabs 10% - Bidirectional slabs 10% - Structural steel (Codes: CTE-DB-SE-A, Material properties, Coefficients of safety, structural members sizing) 30%
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Martín Escudero, Antonio (F/T)
Language:	Spanish

Course Number:	<b>A403 (IST)</b>	
Course Title:	<b>MECHANICAL SYSTEMS</b>	
Total Credits Awarded (ECTS):	<b>6</b>	
Course Description:	Hydraulic, heating, cooling, ventilation and protection systems. Design and dimensioning. Pathology, quality control and costs.	
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Provide tools to get along the professional practice, both on design and construction.</li> <li>- Acquire knowledge to identify machines and handle commercial catalogues: thermal devices, heaters, air conditioners, heat pumps, etc.</li> <li>- Provide calculating and dimensioning tools for hot and cold water and air circuits</li> <li>- Introduce through RITE (Regulation of thermal facilities in building) to systems design concepts. Knowledge of state and regional fire regulations.</li> <li>- Develop basic knowledge on urban facilities and systems design and calculation.</li> <li>- Design and dimension Sanitation, Ventilation and Fire system facilities.</li> <li>- Calculate and dimension the air conditioned, plumbing and heating networks of a building.</li> </ul>	
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.2 Design Thinking Skills</b> <b>A.4 Technical Documentation</b> <b>A.5 Investigative Skills</b> <b>B.2 Accessibility</b> <b>B.5 Life safety</b>	<b>B.6 Comprehensive Design</b> <b>B.8 Environmental Systems</b> <b>B.10 Building Envelope Systems</b> <b>B.11 Building Service Systems</b> <b>C.2 Human Behavior</b>
Topical Outline (include percentage of time in course spent in each subject area):		
Prerequisites:	None	
Textbooks/Learning Resources:		
Offered (semester and year):	1st semester, 4th year	
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Echeverría Trueba, Juan Bautista (P/T) González Lezcano, Roberto, (F/T) López Fernández, Eduardo (P/T)	
Language:	Spanish	

Course Number:	<b>A404 (PL1)</b>
Course Title:	<b>URBAN PLANNING I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Urban planning. Territorial and urban planning project. Urban legislation. Legal Architecture. Valuations. Urban economy.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Provide knowledge for professional performance in connection with management regulatory frameworks and town planning.</li> <li>- Introduce into the existing state planning legislation.</li> <li>- Provide knowledge on urban and regional planning tools.</li> <li>- Study municipal general planning contents.</li> <li>- Study general planning development tools.</li> <li>- Provide knowledge on planning derived limitations over property rights.</li> <li>- Provide knowledge on private activity statutory control instruments.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	A.4 Technical Documentation <b>B.4 Site Design</b> <b>C.7 Legal Responsibilities</b> C.9 Community and Social Responsibility
Topical Outline (include percentage of time in course spent in each subject area):	<p>BLOCK A: Theory (30%)</p> <ul style="list-style-type: none"> <li>-Urban Planning in Spain. Legal Framework</li> <li>-Municipal Master Plan</li> <li>-Sectoral legislations</li> <li>-Property rights and land use profitability</li> <li>-Implementation systems</li> </ul> <p>BLOCK A: Workshops (70%)</p> <ul style="list-style-type: none"> <li>- Analysis of a current Master Plan</li> <li>-Proposals for an urban expansion</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>ESTEBAN NOGUERA, J. <b>La ordenación urbanística</b>. Barcelona: Electa, 2003</p> <p>ESTEBAN NOGUERA, J. <b>Elementos de ordenación urbana</b>. Barcelona: UPC, 1998</p> <p>MOYA GONZALEZ, L. <b>La práctica del urbanismo</b>. Ed. Síntesis, 2011</p> <p>GONZÁLEZ MARTÍNEZ, M. <b>Planeamiento y gestión urbanística</b>. Madrid: UNED. 2001</p> <p>MUÑOZ MACHADO, S. &amp; LÓPEZ BENÍTEZ, M. <b>El planeamiento urbanístico</b>. Madrid: Ed. lustel, 2007</p> <p>PERALES MADUEÑO, F. <b>La ejecución del planeamiento</b>. Madrid: Ed lustel. 2006</p>
Offered (semester and year):	1st semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Franchini Alonso, Teresa (F/T) Perea Moreno, Luis (F/T)
Language:	Spanish

Course Number:	<b>A405 (HA4)</b>
Course Title:	<b>HISTORY OF ARCHITECTURE IV</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	History of architecture and urbanism. From Fin de siècle to current trends.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Approach the study of the history of Western architecture in a global project which comprises the rest of the subjects of History of Architecture.</li> <li>- Learn concepts, forms and vocabulary specific to art history and architecture, as well as knowledge of the most significant architects and movements.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills  <b>A.9 Historical Traditions &amp; Global Culture</b>          A.10 Cultural Diversity</p>
Topical Outline (include percentage of time in course spent in each subject area):	
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Muro García-Villalba, Blanca (F/T)          Gómez Gómez, María Belén (F/T)          Gómez García, Alejandro (F/T)</p>
Language:	Spanish

Course Number:	<b>A406 (DSI)</b>
Course Title:	<b>SOCIAL DOCTRINE OF THE CATHOLIC CHURCH</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Fundamental perspectives to humanize technology and achieve a fair balance between capital, labor, science and the natural environment.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Provide knowledge on social issues from the Catholic Church teaching point of view, the theoretical principles of her Social Doctrine and its put into practice. Architectural practice ethical principles.</li> <li>- Give a straightforward vision of the Catholic Church Social Doctrine and its contribution to all men not just to Catholics.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.1 Communication Skills</b> <b>A.11 Applied Research</b> C.2 Human Behavior C.9 Community and Social Responsibility
Topical Outline (include percentage of time in course spent in each subject area):	
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Gallardo Relloso, Víctor (P/T)
Language:	Spanish

Course Number:	<b>A407 (PR6)</b>
Course Title:	<b>ARCHITECTURAL DESIGN VI</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Structural, constructive and energetic implications.
Course Goals & Objectives:	-Implementation of design tools to express an architectural Project with a definition suitable to detail scales. -Development of a critical approach to analyze cultural positions and methodologies and to value their commitment with natural or artificial environment. -Integration of building and structural systems into the design process.
NAAB Student Performance Criterion/a addressed (list number and title):	A.1 Communication Skills <b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.4 Technical Documentation <b>A.5 Investigative Skills</b> A.8 Ordering Systems Skills A.11 Applied Research B.1 Pre-Design B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> B.6 Comprehensive Design B.9 Structural Systems B.10 Building Envelope Systems B.12 Building Materials and Assemblies
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (15%) -Workshop and discussion (80%) -Program and concepts (70%) -Technology (30%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Ros García, Juan Manuel (F/T) Gahona Fraga, José Luis (P/T) Sáenz Guerra, Francisco Javier (P/T) Cano Lasso, Diego (F/T) Gálvez Pérez, María Auxiliadora (F/T) Casillas Gamboa, Luis (F/T) Millán López, Juan (F/T)
Language:	Spanish, English

Course Number:	<b>A408 (ACO)</b>
Course Title:	<b>BUILDING CONSTRUCTION ANALYSIS</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Building systems in architecture, dimensioning, scheduling, on site work.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Apply Construction Systems theoretical knowledge to a proposed architectural model.</li> <li>- Develop an existing full constructive model expressed by technical drawings, including planning and execution systems.</li> <li>- Introduce into the construction project through own model definition.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.4 Technical Documentation <span style="float: right;"><b>B.12 Building Materials and Assemblies</b></span>          B.9 Structural Systems          B.10 Building Envelope Systems          B.11 Building Service Systems</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>-Theory (5%)</li> <li>-Workshop and discussion (65%)</li> <li>-Practise Exercises (30%)</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<p>Revista TECTÓNICA          -Revista DETAIL          -Revista MONOGRAFIAS DETAIL          -Revista DDA-Detalles de Arquitectura          ALCALDE, F. 2002. Banco de detalles arquitectónicos. Ed F. Alcalde Pecero, Sevilla          - CHING, F. 2005. Diccionario visual de arquitectura. Ed. GG. Barcelona          LEVI, SALVADORI, M. 1992. Why buildings fall down. How structure fail, W.W.Norton, NY.          - PARICIO ANSUATEGUI, J. 1995-96. La construcción de la arquitectura, Tomo 1 Las Técnicas, Tomo 2 Los elementos. Instituto de Tecnología de la Construcción de Cataluña. Barcelona.          - AAVV. 1997. Las claves del construir arquitectónico. Tomos I-II-II. Ed GG. Barcelona.          - AAVV. 2001. Tratado de construcción. Sistemas. Ed. Munilla-Lería. Madrid</p>
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>González Truco, Iván (F/T)          Villamil Cajoto, Cristina (F/T)          Maciá Torregros, M<sup>a</sup> Eugenia (F/T)</p>
Language:	Spanish

Course Number:	<b>A409 (CIM)</b>
Course Title:	<b>FOUNDATIONS</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Soil mechanics, building structures and foundations. Retaining structures. Regulations. Quality control and pathology.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Acquire soil science knowledge to approach foundation structural elements calculus.</li> <li>- Introduction to soil and rock mechanics. Knowledge of soil under loads behaviour. Most common test types.</li> <li>- Geotechnical study formulation and interpretation. Earth pressure calculus. Design and calculus of earth retaining structures. Shallow and deep foundations geotechnical and structural analysis.</li> <li>- Foundation pathologies and wedging methods.</li> <li>- Handling of Código Técnico de la Edificación SE-C: Cimentaciones.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	B.4 Site Design <b>B.9 Structural Systems</b> C.7. Legal Responsibilities
Topical Outline (include percentage of time in course spent in each subject area):	
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Dierssen Sotos, Guillermo (P/T) Sánchez Téllez, Santiago (F/T)
Language:	Spanish

Course Number:	<b>A410 (PL2)</b>
Course Title:	<b>URBAN PLANNING II</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Urban planning. Territorial and urban planning project. Urban legislation. Legal Architecture. Valuations. Urban economy.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Provide knowledge for professional performance in connection with management and statutory control instruments regulatory frameworks. Application to the urban fragment design.</li> <li>- Develop Urban Planning I issues.</li> <li>- Study urban fragment planning for Spain.</li> <li>- Apply planning theoretical contents to practice.</li> <li>- Introduction to planning in developing countries</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A:4 Technical Documentation</p> <p><b>B.4 Site Design</b></p> <p><b>C.7 Legal Responsibilities</b></p>
Topical Outline (include percentage of time in course spent in each subject area):	<p>BLOCK A: Theory (10%)</p> <p>I. Urban Planning in Spain. General issues</p> <ul style="list-style-type: none"> <li>- Legal Framework</li> <li>- Tools for the urban fragment design</li> </ul> <p>II. Urban Planning for Development</p> <ul style="list-style-type: none"> <li>- Development, planning and basic habitability</li> <li>- Low cost urbanization. Case studies optimizing the design</li> </ul> <p>BLOCK B: Workshop (90%)</p> <p>I. Urban Planning in Makeni (Sierra Leone)</p> <ul style="list-style-type: none"> <li>- Phase 1. Territorial approach</li> <li>- Phase 2. Urban fragment design</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	<ul style="list-style-type: none"> <li>- MOYA GONZALEZ, L. <b>La práctica del urbanismo</b>. Ed. Síntesis, 2011</li> <li>- J.A. LÓPEZ CANDEIRA. <b>Diseño urbano. Teoría y práctica</b>. Ed. Munilla-Lería. Madrid, 1999</li> <li>- CAMINOS HORACIO, <b>Elementos de Urbanización</b>, Editorial Gustavo Gili, Barcelona 1984.</li> <li>- UN-HABITAT, <b>The Challenge of Slums</b>. Global report on Human Settlements 2003, United Nations Human Settlements Programme (UN-HABITAT), Earthscan Publications Ltd, Londres, Reino Unido, 2003</li> <li>- UN-HABITAT, <b>State of the World's Cities 2008/2009. Harmonious cities</b>, Earthscan para United Nations Human Settlements Programme (UN-HABITAT), Londres, Reino Unido, 2008</li> <li>- UN-HABITAT, <b>Planning sustainable cities: policy directions</b>. Earthscan. United Nations Human Settlements Programme. UK, 2009</li> <li>- UN-HABITAT, <b>State of the African Cities 2010. Governance, Inequality and Urban Land Markets</b>. United Nations Human Settlements Programme (UN-HABITAT), Nairobi, Kenya, 2010</li> <li>- UN-HABITAT, <b>Urban Manual Planning for Somaliland</b>. United Nations Human Settlements Programme. Nairobi, Kenya, 2010</li> <li>- UN-HABITAT, <b>Urban Planning for city leaders</b>. United Nations Human Settlements Programme. Nairobi, Kenya, 2012</li> </ul>
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Perea Moreno, Luis (F/T)
Language:	Spanish

Course Number:	<b>A411 (COM)</b>
Course Title:	<b>ARCHITECTURAL COMPOSITION</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory of architectural composition. Aesthetics.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Study Architectural Composition basic elements, their origin and significance, as well as the relations among them and other specific different Art fields.</li> <li>- Study of Composition Mechanisms and Methods more often used along Architecture History, especially in contemporary Architecture.</li> <li>- Analysis of significant examples drawn from both local and Universal History, especially from Contemporary Architecture.</li> <li>- Provide enough tools to face a critical analysis of any Architectural Work or Design and to make sound decisions in the design and project activity.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.2 Design Thinking Skills  <b>A.7 Use of Precedents</b>          A.9 Historical Traditions &amp; Global Culture</p>
Topical Outline (include percentage of time in course spent in each subject area):	
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Gómez García, Alejandro (F/T)
Language:	Spanish, English

Course Number:	<b>A412 (LMO)</b>
Course Title:	<b>MODERN LANGUAGE</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	English or French or German
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Study normative aspects of modern language.</li> <li>- Introduce the student in oral and written expression.</li> <li>- Introduce the student in knowledge of specific vocabulary for Architecture.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.1 Communication Skills</b>
Topical Outline (include percentage of time in course spent in each subject area):	<p>Oral expression: 40%</p> <p>Written expression: 40%</p> <p>Vocabulary for Architecture: 20%</p>
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 4th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Amezcuca, David</p> <p>López, Angie</p>
Language:	English or French or German

Course Number:	<b>A501 (PR7)</b>
Course Title:	<b>ARCHITECTURAL DESIGN VII</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Global planning strategies and project development.
Course Goals & Objectives:	-Knowledge of design tools to develop a proposal by means of scales with a high level of graphic definition. -Knowledge of diverse cultural approaches and design methodologies to make the student able to face different situations. -Integration of building phases into the design process.
NAAB Student Performance Criterion/a addressed (list number and title):	A.1 Communication Skills <b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.4 Technical Documentation A.5 Investigative Skills A.8 Ordering Systems Skills A.11. Applied Research <b>B.1 Pre-Design</b> B.2 Accessibility B.3 Sustainability B.4 Site Design B.5 Life Safety <b>B.6 Comprehensive Design</b> B.8 Environmental Systems B.9 Structural Systems B.10 Building Envelope Systems B.12 Building Materials and Assemblies
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (15%) -Workshop and discussion (80%) -Program and concepts (60%) -Technology (40%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Camacho Díez, Javier (P/T) Hermida Rodríguez, Belén (F/T) Herrera Gómez, Aurora (F/T) Patón Jiménez, Vicente (F/T) de la Peña Pareja, Eduardo (F/T) Torrelo Fernández, Rafael (P/T) Sáez Guerra, Javier (P/T) Canals Revilla, Valerio (P/T)
Language:	Spanish, English

Course Number:	<b>A502 (PC1)</b>		
Course Title:	<b>BUILDING CONSTRUCTION DESIGN I</b>		
Total Credits Awarded (ECTS):	<b>6</b>		
Course Description:	Building systems In architecture, design, dimensioning, scheduling ground handling, on site work, pathology and intervention. Industrialised systems.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop and define a student's personal project from the building area, conveyed in technical plans, including mounting and executions systems.</li> <li>- Know and apply industrialized and prefabricated construction systems (typologies, joints, and attachment systems), interior partition and finishing systems.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> A.2 Design Thinking Skills  <b>A.4 Technical Documentation</b>  A.5 Investigative Skills  A.8 Ordering Systems Skills  B.3 Sustainability  B.4 Site Design </td> <td style="width: 50%; vertical-align: top;"> B.6 Comprehensive Design  B.9 Structural Systems  B.10 Building Envelope Systems  B.11 Building Service Systems  <b>B.12 Building Materials and Assemblies</b> </td> </tr> </table>	A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills A.8 Ordering Systems Skills B.3 Sustainability B.4 Site Design	B.6 Comprehensive Design B.9 Structural Systems B.10 Building Envelope Systems B.11 Building Service Systems <b>B.12 Building Materials and Assemblies</b>
A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills A.8 Ordering Systems Skills B.3 Sustainability B.4 Site Design	B.6 Comprehensive Design B.9 Structural Systems B.10 Building Envelope Systems B.11 Building Service Systems <b>B.12 Building Materials and Assemblies</b>		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>-Theory (10%)</li> <li>-Workshop and Discussion (60%)</li> <li>- Practise Exercises (30%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:	<p><b>BUILDING CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>-SCHMITT. Tratado de Construcción. Ed. G.G.</li> <li>-G.BAUD. Tecnología de la Construcción Ed. BLUME</li> <li>-CASALS, A.; FALCONES, A.; GONZÁLEZ, J. L. Las Claves del Construir Arquitectónico. Ed. G.G., 1997</li> <li>-FOSTER, M. La Construcción de la Arquitectura. Técnica, Diseño y Estilo. H. Blume.</li> </ul> <p><b>INDUSTRIALIZATION AND PREBRABRICATION</b></p> <ul style="list-style-type: none"> <li>ÁGUILA GARCÍA, ALFONSO. La industrialización de la edificación de viviendas. Tomo 1. Sistemas. Ed. Mairca</li> <li>ÁGUILA GARCÍA, ALFONSO. La industrialización de la edificación de viviendas. Tomo 2. Componentes. Ed. Mairca</li> </ul> <p><b>SYSTEMS AND MATERIALS</b></p> <ul style="list-style-type: none"> <li>-TÉCTÓNICA. Monografías de arquitectura, tecnología y construcción. ISSN: 1136-0062</li> <li>1. Envoltentes (I). Fachadas ligeras; 5. Hormigón (II); 7. Junta seca; 9. Acero (I); 10. Vidrio (I); 11. Madera (I); 13. Madera (II); 15. Cerámica; 19. Plásticos; 22. Aluminio; 27. Piedra</li> <li>- Details, Technology and form. Ed. Princeton architectural press. ISBN: 978-1-56898-953-2</li> </ul> <p><b>PREFAB HOUSES</b></p> <ul style="list-style-type: none"> <li>- Casas prefabricadas. Ed. Ilusbooks. ISBN: 978-84-15227-09-0</li> <li>- Containers Sustainable Architecture. Ed. Instituto Monsa de Ediciones. ISBN: 978-84-15223-35-1</li> <li>- Prefab Architecture. A guide to modular Design and Construction. Ed. John Wiley&amp;Sons. ISBN: 978-0-470-27561-0</li> </ul> <p><b>PREBRABRICATION ARTICLES</b></p> <ul style="list-style-type: none"> <li>-Pagnotta, Brian. "The Pros and Cons of Cargo Container Architecture" 29 Aug 2011. ArchDaily. &lt;<a href="http://www.archdaily.com/?p=160892">http://www.archdaily.com/?p=160892</a>&gt;</li> <li>- Canadian Architecture Collection, Habitat '67. McGill University, Canada. [on-line] <a href="http://cac.mcgill.ca/safdie/habitat">http://cac.mcgill.ca/safdie/habitat</a></li> <li>- Kurokawa, K. Nakagin Capsule Tower. Kisho Kurokawa Architect &amp; Associates, Tokio. [on-line] <a href="http://www.kisho.co.jp/page.php/209">http://www.kisho.co.jp/page.php/209</a></li> </ul>		
Offered (semester and year):	1st semester, 5th year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	González Truco, Iván (F/T) López Gorriá, Marta (F/T) Villamil Cajoto, Cristina (F/T) Maciá Torregrosa, M <sup>a</sup> Eugenia (F/T)		
Language:	Spanish		

Course Number:	<b>A503 (PU1)</b>		
Course Title:	<b>CITY AND TERRITORIAL PLANNING I</b>		
Total Credits Awarded (ECTS):	<b>3</b>		
Course Description:	Territorial and country planning. Urban analysis and urban transformations. Landscape architecture.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Reflect on the incidence of urban growths and its base field in order to achieve a general point of view of humankind interventions on the territory, understanding the city as a part of a complex system.</li> <li>- Manage and integrate data and heterogeneous information about territory and city.</li> <li>- Analyze city as a complex phenomenon. Develop proposals of strategic planning from analyzed data.</li> <li>- Design an urban project of territorial scale. Approach the territorial scale project from different premises and points of view.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;">           A.2 Design Thinking Skills            A.4 Technical Documentation            A.7 Use of Precedents            B.1 Pre-Design         </td> <td style="width: 50%; vertical-align: top;">           B.2 Accessibility            B.3 Sustainability  <b>B.4 Site Design</b>            C.9 Community &amp; Social Responsibility         </td> </tr> </table>	A.2 Design Thinking Skills A.4 Technical Documentation A.7 Use of Precedents B.1 Pre-Design	B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> C.9 Community & Social Responsibility
A.2 Design Thinking Skills A.4 Technical Documentation A.7 Use of Precedents B.1 Pre-Design	B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> C.9 Community & Social Responsibility		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>-Theory (20%)</li> <li>-Workshop (70%)             <ul style="list-style-type: none"> <li>-Urban analysis</li> <li>-Urban transformation proposals: ecology, social sustainability, urban and natural landscape, culture and history, economy and productive systems, infrastructures, digital urban nets.</li> </ul> </li> <li>Discussions (10%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:			
Offered (semester and year):	1st semester, 5th year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Cid Blasco, Gracia (P/T) Lahoz Palacio, Carlos (P/T) Martínez-Arrarás Caro, Carlos (P/T)		
Language:	Spanish		

Course Number:	<b>A504 (OF1)</b>
Course Title:	<b>PROFESSIONAL PRACTICE OF ARCHITECTURE I</b>
Total Credits Awarded (ECTS):	<b>3</b>
Course Description:	Architect professional competences and legal responsibilities, types of architectural works and construction authorizations, legal aspects and regulations, project documentation, project management, measurement, cost and project budget .
Course Goals & Objectives:	Identifying professional practice areas and material competence for architects. Definition of the particular duties and legal responsibilities of architectural practice. Knowledge of the most relevant legal issues of the professional practice Information about the requirements for construction authorizations Knowledge of the complete mandatory documentation for the project of architecture. Understanding of the specific techniques applied in the preparation of the project budget.
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.4 Technical Documentation</b> <b>B.5. Life Safety</b> <b>B.7 Financial Considerations</b> <b>C.3 Client Role in Architecture</b> <b>C.4 Project Management</b> <b>C.5 Practice Management</b> <b>C.6 Leadership</b> <b>C.7 Legal Responsibilities</b> <b>C.8 Ethics and Professional Judgement</b> <b>C.9 Community and Social Responsibility</b>
Topical Outline (include percentage of time in course spent in each subject area):	Identification of the professional practice (30%) Legal and administrative requirements and regulations (30%) Project documentation and budgets (40%)
Prerequisites:	None
Textbooks/Learning Resources:	GARCÍA ERVITI, F. Compendio de Arquitectura Legal. Editorial Reverté. GARCÍA MUÑOZ, G. Precio, Tiempo y Arquitectura. Mairera/ Celeste. GONZÁLEZ PÉREZ, J. Comentarios a la Ley de Ordenación de la Edificación. Ed. Civitas, 1999 GUÍAS DE ASISTENCIA TÉCNICA. Colegio Oficial de Arquitectos de Madrid: - Contenido Documental del Proyecto de Ejecución. - Redacción de Proyectos de Intervención Arquitectónica. MUÑOZ COSME, A. Iniciación a la Arquitectura. Mairera/Celeste. NORMATIVA VIGENTE: - Real Decreto 314/2006 de 17 de marzo "Código Técnico de la Edificación"
Offered (semester and year):	1st semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Jiménez Alcalá, Benito (F/T)
Language:	Spanish

Course Number:	<b>A505 (TIA)</b>	
Course Title:	<b>ARCHITECTURAL INNOVATION WORKSHOP</b>	
Total Credits Awarded (ECTS):	<b>6</b>	
Course Description:	Research on structural systems, construction and building facilities, New applications. Testing and modeling of new systems, Sustainability. Application to the architectural project.	
Course Goals & Objectives:		
NAAB Student Performance Criterion/a addressed (list number and title):	A.11 Applied Research B.2 Accessibility <b>B.3 Sustainability</b> B.4 Site Design B.5 Life Safety	B.7 Financial Considerations <b>B.8 Environmental Systems</b> B.10 Building Envelope Systems B.12 Building Materials and Assemblies C.9 Community & Social Responsibility
Topical Outline (include percentage of time in course spent in each subject area):		
Prerequisites:	None	
Textbooks/Learning Resources:		
Offered (semester and year):	1st semester, 5th year	
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Ros García, José Manuel (F/T)	
Language:	Spanish	

Course Number:	<b>A506 (PR8)</b>
Course Title:	<b>ARCHITECTURAL DESIGN VIII</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Theory and practice of architecture, integrating the disciplines which contribute to the project. Project implementation, Methodology and project management. Regulations.
Course Goals & Objectives:	-Command of design tools to describe an architectural Project with different scales and definition degrees along every step of the design process. -Command of design methodologies that make the student able to face documentary production strategies. -Integration of regulations, structural and building phases, as well as accessibility and sustainability issues, into the design process.
NAAB Student Performance Criterion/a addressed (list number and title):	A.1 Communication Skills <b>A.2 Design Thinking Skills</b> A.3 Visual Communication Skills A.4 Technical Documentation A.5 Investigative Skills A.8 Ordering Systems Skills A.11 Applied Research <b>B.1 Pre-Design</b> B.2 Accessibility  B.3 Sustainability B.4 Site Design B.5 Life Safety <b>B.6 Comprehensive Design</b> B.8 Environmental Systems <b>B.9 Structural Systems</b> B.10 Building Envelope Systems B.11 Building Service Systems B.12 Building Materials and Assemblies
Topical Outline (include percentage of time in course spent in each subject area):	-Theory (15%) -Workshop and discussion (80%) -Program and concepts (60%) -Technology (40%) -Final review (5%)
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Camacho Díez, Javier (P/T) Hermida Rodríguez, Belén (F/T) Herrera Gómez, Aurora (F/T) Patón Jiménez, Vicente (F/T) de la Peña Pareja, Eduardo (F/T) Torrelo Fernández, Rafael (P/T) Sáez Guerra, Javier (P/T) Canals Revilla, Valerio (P/T)
Language:	Spanish, English

Course Number:	<b>A507 (PC2)</b>		
Course Title:	<b>BUILDING CONSTRUCTION DESIGN II</b>		
Total Credits Awarded (ECTS):	<b>3</b>		
Course Description:	Building systems In architecture, design, dimensioning, scheduling ground handling, on site work, pathology and intervention. Industrialised systems.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Develop and define a student's personal project from the building area, conveyed in technical plans, including mounting and executions systems.</li> <li>- Know and apply industrialized and prefabricated construction systems (typologies, joints, and attachment systems) and interior partition and finishing systems.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> A.2 Design Thinking Skills  <b>A.4 Technical Documentation</b>  A.5 Investigative Skills  A.8 Ordering Systems Skills  B.3 Sustainability  B.4 Site Design </td> <td style="width: 50%; vertical-align: top;"> B.6 Comprehensive Design  B.9 Structural Systems  B.10 Building Envelope Systems  B.11 Building Service Systems  <b>B.12 Building Materials and Assemblies</b> </td> </tr> </table>	A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills A.8 Ordering Systems Skills B.3 Sustainability B.4 Site Design	B.6 Comprehensive Design B.9 Structural Systems B.10 Building Envelope Systems B.11 Building Service Systems <b>B.12 Building Materials and Assemblies</b>
A.2 Design Thinking Skills <b>A.4 Technical Documentation</b> A.5 Investigative Skills A.8 Ordering Systems Skills B.3 Sustainability B.4 Site Design	B.6 Comprehensive Design B.9 Structural Systems B.10 Building Envelope Systems B.11 Building Service Systems <b>B.12 Building Materials and Assemblies</b>		
Topical Outline (include percentage of time in course spent in each subject area):	- Workshop (100%)		
Prerequisites:	None		
Textbooks/Learning Resources:	<ul style="list-style-type: none"> <li>-Avellaneda, J y Aguiló, C. "De 1267 productos a 80 componentes. Construcciones Industrializadas", Quaderns d'arquitectura i urbanisme, nº 251 (2006), pp.84-89.</li> <li>- "Prefabulous London. The A to Z of modern city homes", The Building Centre Trust, Londres (2006).</li> <li>- Ansele, M. "Contenedores Humanos", NaN Arquitectura y Construcción, nº 26, Octubre (2007), pp. 34-43.</li> <li>- Gómez Jáuregui, V. y González Poggi, L.J. "The first prototype of concrete modular dwellings", Concrete Plant International. Colonia (Alemania): Ad-Media GmbH, nº 5, octubre (2008), pp.156-158.</li> </ul>		
Offered (semester and year):	2nd semester, 5th year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	González Truco, Iván (F/T) Villamil Cajoto, Cristina (F/T) López Gorria, Marta (F/T) Maciá Torregros, Mª Eugenia(F/T)		
Language:	Spanish		

Course Number:	<b>A508 (PES)</b>
Course Title:	<b>DESIGN OF BUILDING STRUCTURES</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Design of building structures: typologies, analysis, design and implementation. Regulations. Quality control and pathology.
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Design the structure of a building to the execution stage.</li> <li>- Study the different structural typologies in each material that are being used nowadays in order to be able to apply them to projects.</li> <li>- Study built projects plans and details so students achieve to define execution plans, reports, supplements and the list of specifications.</li> </ul>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.2 Design Thinking Skills <span style="float: right;"><b>B.9 Structural Systems</b></span>          A.8 Ordering Systems Skills          B.6 Comprehensive Design</p>
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>- Workshop: Design the structure of a building: 20%</li> <li>- Study of existing building structures 40%</li> <li>- Study of built projects plan: 40%</li> </ul>
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	2nd semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	<p>Gómez Pulido, María Dolores (P/T)          Molina Iniesta, Mariano (F/T)          Sánchez Tellez, Santiago (F/T)</p>
Language:	Spanish

Course Number:	<b>A509 (PIN)</b>	
Course Title:	<b>DESIGN OF ENVIRONMENTAL AND MECHANICAL SYSTEMS</b>	
Total Credits Awarded (ECTS):	<b>6</b>	
Course Description:	Urban systems. Sustainability. Photothermal and geothermal energy. Minimum energy housing, domotics. Design and dimensioning. Application of Spanish building Code in Building Systems.	
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Know the requirements of the installations of a building and the applying rules.</li> <li>- Study the energy efficiency of a building since the design stage, justifying its location, orientation, and building system, the different energy sources that have to be taken into account in the building, the design basis and calculation of air conditioning and heating system; acoustic requirements that must be taken into account, telecommunications requirements indicated for the building; energy savings achieved in it and the integration of domotic systems.</li> <li>- Calculate the energy consumption of buildings.</li> <li>- Integrate in a building all the necessary service systems and elaborate service system projects for buildings.</li> <li>- Elaborate refurbishing installation projects focussed on a better energy efficiency.</li> </ul>	
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.1 Communication Skills  <b>A.2 Design Thinking Skills</b>  <b>A.4 Technical Documentation</b>  A.5 Investigative Skills  A.11 Applied Research  <b>B.2 Accessibility</b>  <b>B.3 Sustainability</b>  B.5 Life Safety</p>	<p>B.6 Comprehensive Design  B.7 Financial Considerations  <b>B.8 Environmental Systems</b>  <b>B.10 Building Envelope Systems</b>  B.11 Building Service Systems  C.2 Human Behavior  C.4 Project Management  C.7 Legal Responsibilities</p>
Topical Outline (include percentage of time in course spent in each subject area):	Desing a Building with Spanish Building Code prescriptive parameters (40%). Energy efficiency strategies (20%). Fire protection and accessibility. (20%). Building systems comprehensive design. (20%).	
Prerequisites:	None	
Textbooks/Learning Resources:		
Offered (semester and year):	2nd semester, 5th year	
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	del Ama Gonzalo, Fernando (F/T) Aramburu Gaviola, Félix (F/T) López Fernández, Eduardo José (P/T) Núñez Carrasco, Rodrigo (F/T)	
Language:	Spanish	

Course Number:	<b>A510 (PU2)</b>		
Course Title:	<b>CITY AND TERRITORIAL PLANNING II</b>		
Total Credits Awarded (ECTS):	<b>3</b>		
Course Description:	Territorial and city planning. Urban analysis and urban transformations. Landscape architecture.		
Course Goals & Objectives:	<ul style="list-style-type: none"> <li>- Reflect on the incidence of urban growths and its base field in order to achieve a general point of view of humankind actuations on the territory, understanding the city as a part of a complex system.</li> <li>- Manage and integrate data and heterogeneous information about territory and city.</li> <li>- Analyze city as a complex phenomenon.</li> <li>- Develop proposals of strategic planning from analyzed data.</li> <li>- Design an urban project of territorial scale. To approach the territorial scale project from different premises and points of view.</li> </ul>		
NAAB Student Performance Criterion/a addressed (list number and title):	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">           A.2 Design Thinking Skills            A.4 Technical Documentation            A.7 Use of Precedents            B.1 Pre-Design         </td> <td style="width: 50%; border: none;">           B.2 Accessibility            B.3 Sustainability  <b>B.4 Site Design</b>            C.9 Community &amp; Social Responsibility         </td> </tr> </table>	A.2 Design Thinking Skills A.4 Technical Documentation A.7 Use of Precedents B.1 Pre-Design	B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> C.9 Community & Social Responsibility
A.2 Design Thinking Skills A.4 Technical Documentation A.7 Use of Precedents B.1 Pre-Design	B.2 Accessibility B.3 Sustainability <b>B.4 Site Design</b> C.9 Community & Social Responsibility		
Topical Outline (include percentage of time in course spent in each subject area):	<ul style="list-style-type: none"> <li>-Theory (20%)</li> <li>-Workshop (70%)             <ul style="list-style-type: none"> <li>-Urban analysis</li> <li>-Urban transformation proposals: ecology, social sustainability, urban and natural landscape, culture and history, economy and productive systems, infrastructures, digital urban nets.</li> </ul> </li> <li>Discussions (10%)</li> </ul>		
Prerequisites:	None		
Textbooks/Learning Resources:			
Offered (semester and year):	2nd semester, 5th year		
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Cid Blasco, Gracia (P/T) Lahoz Palacio, Carlos (P/T) Martínez-Arrarás Caro, Carlos (P/T)		
Language:	Spanish		

Course Number:	<b>A511 (OF2)</b>
Course Title:	<b>PROFESSIONAL PRACTICE IN ARCHITECTURE II</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	On-site work, control and monitoring, regulations, direction and economical management, worker health and safety, documentation related to safety, technical documentation, professional organization, marketing, construction contracts.
Course Goals & Objectives:	<p>Knowledge of the site construction activities and the documentation and administrative requirements at each stage</p> <p>Information about legal issues relevant for the direction and control of works</p> <p>Knowledge of health and safety in the construction field, with specifications on the architect responsibilities</p> <p>Understanding of the most frequent technical documents redacted by architects</p> <p>Knowledge of companies for architects and individual practice</p> <p>Marketing in architecture and construction</p> <p>Knowledge of the types of contracts in the professional practice</p>
NAAB Student Performance Criterion/a addressed (list number and title):	<p>A.4 Technical Documentation</p> <p>B.5 Life Safety</p> <p><b>B.7 Financial Considerations</b></p> <p><b>C.3 Client Role in Architecture</b></p> <p><b>C.4 Project Management</b></p> <p><b>C.5 Practice Management</b></p> <p><b>C.6 Leadership</b></p> <p><b>C.7 Legal Responsibilities</b></p> <p><b>C.8 Ethics and Professional Judgment</b></p> <p><b>C.9 Community and Social Responsibility</b></p>
Topical Outline (include percentage of time in course spent in each subject area):	<p>On-site practice (40%)</p> <p>Technical documentation (20%)</p> <p>Marketing (20%)</p> <p>Contracts (20%)</p>
Prerequisites:	None
Textbooks/Learning Resources:	<p>CALAVERA, J. Manual para la redacción de informes técnicos en construcción. Ed. INTEMAC, Madrid, 2003.</p> <p>GARCÍA ERVITI, F. Compendio de Arquitectura Legal. Editorial Reverté.</p> <p>GARCÍA MUÑOZ, G. Precio, Tiempo y Arquitectura. Maireia/ Celeste.</p> <p>GONZÁLEZ PÉREZ, J. Comentarios a la Ley de Ordenación de la Edificación. Ed. Civitas, 1999</p> <p>GUÍAS DE ASISTENCIA TÉCNICA. Colegio Oficial de Arquitectos de Madrid:</p> <ul style="list-style-type: none"> <li>- Redacción de Informes Técnicos sobre el Estado de la Edificación.</li> <li>- Redacción de un Estudio de Seguridad y Salud.</li> </ul> <p>MUÑOZ COSME, A. Iniciación a la Arquitectura. Maireia/Celeste.</p> <p>PROYECTO &amp; GESTIÓN. Marketing para Arquitectos. Gustavo Gili.</p> <p>NORMATIVA VIGENTE:</p> <ul style="list-style-type: none"> <li>- Ley 31/1995 de 8 de noviembre "Prevención de Riesgos Laborales.</li> <li>- Real Decreto 1.627/1997 de 27 de octubre "Disposiciones Mínimas de Seguridad y Salud en las Obras de Construcción".</li> </ul> <p>R.I.A.S. Marketing para arquitectos. Ed. Gustavo Gili, Barcelona, 1996.</p>
Offered (semester and year):	2nd semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	Jiménez Alcalá, Benito (F/T)
Language:	Spanish

Course Number:	<b>A512 (TES)</b>
Course Title:	<b>ADVANCED COURSES</b>
Total Credits Awarded (ECTS):	<b>6</b>
Course Description:	Elective . The student must choose at least among two subjects of three ECTS, in a group of twelve subjects. They are explained below: (subjects codes A441 to A452).
Course Goals & Objectives:	
NAAB Student Performance Criterion/a addressed (list number and title):	They depend on the optional subjects content. (subjects codes A441 to A452)
Topical Outline (include percentage of time in course spent in each subject area):	
Prerequisites:	None
Textbooks/Learning Resources:	
Offered (semester and year):	1st semester, 5th year
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	
Language:	

Course Number:	<b>(PFC)</b>	
Course Title:	<b>FINAL THESIS PROJECT</b>	
Total Credits Awarded (ECTS):	<b>30</b>	
Course Description:	Design and development of a comprehensive professional architectural design which integrates all disciplines and skills acquired, evaluated by a university board.	
Course Goals & Objectives:	Presentation and defence, once all the credits of the degree studies plan have been obtained, of an original exercise realized individually in front of an university board. The board must include at least one highly recognised professional proposed by the professional associations. The exercise will consist of an integral architectural project of professional level. In this project, all the competences acquired during the degree will be integrated and developed to the point of being able to demonstrate enough competence to determine the complete execution of the construction of the building designed following the technical and administrative regulations applicable. (definition of Regulation ECI 3856/2007).	
NAAB Student Performance Criterion/a addressed (list number and title):	<b>A.1 Communication Skills</b> <b>A.2 Design Thinking Skills</b> <b>A.3 Visual Communication Skills</b> <b>A.4 Technical Documentation</b> A.5 Investigative Skills <b>A.6. Fundamental Design Skills</b> A.7 Use of Precedents A.8 Ordering Systems Skills A.9 Historical Traditions and Global Culture A.10 Cultural Diversity A.11 Applied Research <b>B.1 Pre-Design</b> <b>B.2 Accessibility</b> <b>B.3 Sustainability</b> <b>B.4 Site Design</b>	<b>B.5 Life Safety</b> <b>B.6 Comprehensive Design</b> B.7 Financial Considerations <b>B.8 Environmental Systems</b> <b>B.9 Structural Systems</b> <b>B.10 Building Envelope Systems</b> <b>B.11 Building Service Systems</b> <b>B.12 Building Materials and Assemblies</b> C.2 Human Behaviour C.3 Client Role in Architecture C.5 Practice Management C.7 Legal Responsibilities C.8 Ethics and Professional Judgment C.9 Community and Social Responsibility
Topical Outline (include percentage of time in course spent in each subject area):	Tutor sessions (45%) Workshop (45%) Jury (5%) Theory (5%)	
Prerequisites:	In order to attend the Final Project Workshop and elaborate the Final Project, the student must: 1. Be registered or have passed all the subjects of the career. 2. Have passed the subjects of PR5 and PR6. The student will be able to hand-in the Final Project (PFC) once he has passed all the subjects of the five years degree. (300 ECTS).	
Textbooks/Learning Resources:		
Offered (semester and year):	1st semester, 5th year	
Faculty assigned (list all faculty assigned to teach the course during the two academic years prior to the visit and whether each was F/T, P/T, or adjunct):	del Ama Gonzálo, Fernando (F/T) <i>EMS</i> Aramburu Gaviola, Félix (F/T) <i>EMS</i> Blas Gutiérrez de Vega, María J. (F/T) <i>SBD</i> Bresnick Hetch, Adam (P/T) <i>SBD</i> Camacho Díez, Javier (P/T) <i>SBD</i> Castilla Heredia, María Isabel (F/T) <i>BSS</i> Casillas Gamboa, Luis (P/T) <i>SBD</i> Chinchilla Moreno, Izaskun (P/T) <i>SBD</i> Echeverría Trueba, Juan Bautista (P/T) <i>EMS</i> Franco Santa-Cruz, David (F/T) <i>SBD</i> Gálvez Pérez, María Auxiliadora (F/T) <i>SBD</i> García Millán, Juan (P/T) <i>SBD</i> González Lezcano, Roberto (F/T) <i>EMS</i> González Truco, Iván (F/T) <i>BCM</i> Herrera Gómez, Aurora (F/T) <i>SBD</i> Hevia Ochoa de Echagüen, Juan (P/T) <i>SBD</i>	Iglesias Sanz, Carlos Miguel (F/T) <i>SBD</i> Jiménez Alcalá, Benito (F/T) <i>BCM</i> López Gorria, Marta (F/T) <i>BCM</i> Machín Hamalainen, Carlos (F/T) <i>BCM</i> Maciá Torregrosa, María Eugenia (F/T) <i>BCM</i> Martín Baranda, Juan (P/T) <i>SBD</i> Molina Iniesta, Mariano (F/T) <i>BSS</i> Navarro Martínez-Avial, José M. (P/T) <i>BCM</i> Núñez Carrasco, Rodrigo (F/T) <i>EMS</i> Patón Jiménez, Vicente (F/T) <i>SBD</i> Perea Ortega, Andrés (P/T) <i>SBD</i> Picado Fernández, Rubén (F/T) <i>SBD</i> Sáenz Guerra, Francisco Javier (P/T) <i>SBD</i> Sánchez Téllez, Santiago (F/T) <i>BSS</i> Villamil Cajoto, Cristina (F/T) <i>BCM</i>
Language:	Spanish, English	

*EMS Environmental & Mechanical Systems*  
*SBD Site & Building Design*

*BCM Building Construction & Management*  
*BSS Building Structural Systems*

## IV.2 Faculty Resumes

### PhD. MIGUEL ACOSTA LÓPEZ (Assistant Professor)

#### Courses Taught:

- Fall 2012: Anthropology (ANT) (A106)
- Spring 2013:
- Fall 2013: Anthropology (ANT) (A106)
- Spring 2014:

#### Educational Credentials:

- 2008: Executive Master in Professional English (EMIP), Vaughan Systems Institute, Madrid, Spain
- 2001: Doctor of Philosophy, Navarra University, Pamplona, Spain.
- 1998: Degree in Philosophy, Our Lady of the Assumption Catholic University, Asunción, Paraguay
- 1990: Degree of Information Systems Analysis, Our Lady of the Assumption Catholic University, Asunción, Paraguay
- 1984: Technician Computer Programming, Our Lady of the Assumption Catholic University, Asunción, Paraguay

#### Teaching Experience:

- 11 years of teaching experience on Science's History, Philosophy's History, Philosophy of Human Nature, Ethics, Logic and Anthropology of marriage and family at the San Pablo-CEU University and CEU Business School, 4 years on Asunción Catholic University (Paraguay) and teacher on Campoalto School (Asunción, Paraguay)

#### Professional Experience:

- Computer consultant, Administrative Secretary of the Cultural Center Puntarrieles (Asunción, Paraguay), Technical Staff of the Department of Computer Central Bank of Paraguay, Member of the Secretariat of the Central Bank Board of Paraguay

#### Licenses/Registration:

- Not applicable.

#### Selected Publication and Recent Research:

- ACOSTA LÓPEZ, M.: "La epistemología del riesgo la relación ciencia-filosofía", en *Naturaleza y libertad*, 3, 2014, pp. 25-55. ISSN: 2254-9668.
- ACOSTA LÓPEZ, M.: "La intencionalidad en Maritain y Husserl", en *Notes et documents. For a personalist approach*, 24-25, 2013, pp. 20-26. ISSN: 0393-6503.
- ACOSTA LÓPEZ, M.: "Fe y razón en Ortodoxia de Chesterton", en GUTIÉRREZ CARRERAS, P.-ABRADELO DE USERA, M.I. (Eds.): *Chesterton de pie*, CEU Ediciones, Madrid, 2003, pp. 315-326.
- ACOSTA LÓPEZ, M.: "¿Hay algo espiritual en las cosas materiales? Indagación metafísica en el conocimiento connatural del singular", en MURILLO, I. (Ed.): *La filosofía primera*, Ed. Diálogo Filosófico, Salamanca, 2012, pp. 695-705. ISBN: 9788461604456
- ACOSTA LÓPEZ, M.: *Los actos inferiores. Un estudio a partir de Tomás de Aquino*, Publicep, Madrid, 2010, ISBN: 84-609-9084-2.
- ACOSTA LÓPEZ, M.: "La intuición en Jacques Maritain", en ORIOL, M. (Ed.): *Inteligencia y filosofía*, Ed. Marova, Madrid, 2012, pp. 383-400. ISBN: 9788426904676.
- ACOSTA LÓPEZ, M.: *Dimensiones del conocimiento afectivo. Una aproximación desde Tomás de Aquino*, Ed. Universidad de Navarra, Pamplona, 2000, ISSN 1137-2176.
- ACOSTA LÓPEZ, M.: "La "intencio" como clave de la transobjetividad de la inteligencia en la filosofía realista", en ORIOL SALGADO, M., Ed.: *Filosofía de la inteligencia*, CEU Ediciones, Madrid, 2011, ISBN: 978-84-92989-92-8.
- ACOSTA LÓPEZ, M.: "El cambio climático. Estado general de la cuestión y análisis crítico", en *Diálogos educativos con el mundo contemporáneo. Educación y medioambiente*, Fondo Editorial de la Fundación San Pablo-Andalucía (CEU), Sevilla, 2010, ISBN: 84-86117-06-2.
- ACOSTA LÓPEZ, M.: "El relativismo y el principio de inmanencia", en ACOSTA LÓPEZ, M., Ed.: *El relativismo filosófico*, Ed. Instituto de Humanidades Ángel Ayala-CEU, Madrid, 2005, ISBN: 84-86117-06-2

## **JOSÉ LUIS ALONSO PANDO (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Form Analysis I (AF1) (A101).
- Spring 2013 Architectural Form Analysis II (AF2) (A107).
- Fall 2013: Architectural Form Analysis I (AF1) (A101).
- Spring 2014: Architectural Form Analysis II (AF2) (A107).

### **Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto) 1979 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain.

### **Teaching Experience:**

- 2002-present: Form Analysis I and II
- 1988-2002: Form Analysis I, Life Drawing, Analysis and Graphic Ideation (Architectural Graphic Expression Department)

### **Professional Experience:**

- 1978-2012. Founder and partner. Aparicio Alonso y Asociados
- 1979-present. Founder. Aparicio Alonso y Asociados
- 1999-present. Founder. Cap Bosc SL
- 2002-present. Founder. Bosc Taurana S.L.

### **Licenses/Registration:**

- Registered architect. Official Architect's association of Madrid since 1979.

### **Selected Publication and Recent Research:**

- Alonso Pando, José Luis. Soluciones Arquitectónicas de viviendas unifamiliares. Servicio de Publicaciones M.O.P.U. 1983. ISBN 84-7433-247-8 y ISBN 84-7433-251-6.

## PhD. FERNANDO DEL AMA GONZALO (Assistant Professor)

### Courses Taught:

- Fall 2012: Environmental Technology (TEC) (A304), Design of Environmental and Mechanical Systems (PRI) (A509), Thesis Project (PFC).
- Spring 2013: Environmental Technology (TEC) (A304), Design of Mechanical Systems (PRI) (A509), and Thesis Project (PFC).
- Fall 2013: Environmental Technology (TEC) (A304), Design of Environmental and Mechanical Systems (PRI) (A509) and Thesis Project (PFC).
- Spring 2014: Design of Environmental and Mechanical Systems (PRI) (A509) and Thesis Project (PFC)

### Educational Credentials:

- 2011. Master in Renewable Energy. "CEU San Pablo University (Universidad CEU San Pablo)". Madrid. Spain.
- 2005. Doctor of Philosophy in Architecture. "Architecture School of Madrid (Escuela Técnica Superior de Arquitectura de Madrid)" (ETSAM). "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM) Spain. Dissertation: "Spatial perception of an architectural project. Empirical parameters to qualify a Concert Hall".
- 1997. Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (Escuela Técnica Superior de Arquitectura de Madrid) (ETSAM). "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM). Spain.

### Teaching Experience:

- 2010-2012 Senior Lecturer. Master in Interior Design. "Salamanca University (Universidad de Salamanca)".
- 2005-2012 Senior Lecturer. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid.
- 2001-2005 Lecturer. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid.
- 1998-2001 Lecturer "Graduate Center CEU-Architecture (Centro de Estudios Superiores CEU-Arquitectura)" - attached to the "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM).

### Professional Experience:

- 2007 Co-founder of IntelliGlass S.L., a spin off company founded by University researchers, architects and engineers. The company was born with the purpose of exploiting the active glazings technology developed by the founders of IntelliGlass.
- 2005 - 2009: Secretary General at "Graduate Center CEU-Architecture (Centro de Estudios Superiores CEU-Arquitectura)" attached to the "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM).
- 1996 – 2000: Rebel Act Studios S.L. Video Game Designer.

### Licences / Registration:

- Registered Architect, Official Architects' Association of Madrid (Colegio Oficial de Arquitectos de Madrid)

### Selected Publications and Recent Research:

- Publication: 2012. Analytical solution to the one-dimensional non-uniform absorption of solar radiation in uncoated and coated single glass panes. ENERGY AND BUILDINGS. DOI:10.1016/j.enbuild.2011.12.034.
- Research Project: 2011 – 2014: Diseño y desarrollo de modelos para el cálculo y dimensionamiento de sistemas de intercambio geotérmico y acristalamiento activo para edificaciones sostenibles. (Geoglass Energy). MINISTERIO DE CIENCIA E INNOVACIÓN subprograma INNPACTO.
- Research Project: 2010 – 2013: Energy Management System in Buildings with RadiaGlass Technology. (Proyecto SIGLAS. Sistema inteligente de gestión energética en edificios basados en tecnología Radiaglass). Ministerio de Industria, Turismo y Comercio. Subprograma Avanza Competitividad I+D+i.
- Patent: Active Transparent or Translucent Enclosures With Energy Control Capacity. PCT ES/2008/000071, USA 12/545510.

### Professional Memberships:

- Official Architects' Association of Madrid (Colegio Oficial de Arquitectos de Madrid)

## FÉLIX ARAMBURU GAVIOLA (Senior Instructor)

### Courses Taught (Four semesters prior to current visit):

- Fall 2012: Design of Mechanical Systems (PRI) (A509) and Thesis Project (PFC).
- Spring 2013: Design of Mechanical Systems (PRI) (A509) and Thesis Project (PFC).
- Fall 2013: Environmental Systems (TEC) (A304) and Thesis Project (PFC).
- Spring 2014: Design of Environmental and Mechanical Systems (PRI) (A509) and Thesis Project (PFC).

### Educational Credentials:

- 2004. Master in "Building Facilities". Specialization in "Air Conditioning". "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)
- 2003. Master in "Building Facilities". Specialization in "Heating". "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)
- 2003. Master in "Building Facilities". Specialization in "Hydraulic facilities and PCI". "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)
- 2002. Master in "Building Facilities". Specialization in "Electric and Transport Facilities". "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)
- 2000. Diploma of Architect (Título universitario oficial de Arquitecto). "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)

### Teaching Experience:

- 2007-current: Senior Instructor at the "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" in Madrid, Subjects: Environmental Technology, Design of Mechanical Systems, Electrical and Lighting Systems, Mechanical Systems, Civil Engineering and Technology in Natural Areas and Gardens and Thesis Project.
- 2009. Instructor in the master of "Quality in Construction". Subjects: "Control of Mechanical Systems. Sewerage and Ventilation Facilities & Control of Mechanical Systems. Gas Facilities". "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM)

### Professional Experience:

- 2000-current: Managing Partner at GEA Architects (Geotécnia, Estructuras y Arquitecturas, s.l.p. Head of the Facilities project department.
- 1998-2000: Collaborator. Various architectural services.

### Licenses/Registration:

- Registered Architect, Official Architects' Association of Madrid (Colegio Oficial de Arquitectos de Madrid)

### Selected Publications/research:

- Publication: 2012: Co-Author of the book: "Técnicas de acondicionamiento térmico". CEU Ediciones. Madrid.
- Publication: 2011. "Diseño y Cálculo de instalaciones eléctricas en Baja Tensión. Ejercicios resueltos". Munilla-Leria. Madrid, Spain. ISBN # 978-84-89150-95-9
- Publication: 2010. "An opening in a floor". Casa&Campo, Madrid, Spain. ISSN #1889-8246
- Publication: 2002. Escuela Técnica de Minas,. "Condicionantes geotécnicos de los proyectos arquitectónicos". Madrid, Spain. ISBN #84-931292-9-1

### Professional Memberships:

- Official College of Architects of Madrid (COAM)
- Member of the Green Building Council Spain

## JUAN ARANA GIRALT (Instructor)

### Courses Taught:

- Fall 2012: Urban Design I (DU1)(A305)
- Spring 2013: Urban Design I (DU2) (A311)
- Fall 2013: Urban Design I (DU1)(A305)
- Spring 2014: Urban Design I (DU2) (A311)

### Educational Credentials:

- 2004 Diploma of Architect (*Título universitario oficial de Arquitecto*) Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain
- 2000 Arch. Dip. (Distinction) The Bartlett. University College London UCL. U. K.

### Teaching Experience:

- 2007-current: Area of Urban Studies. Escuela Politécnica Superior E.P.S., CEU San Pablo University, Spain

### Professional Experience

- 2003-current: EQUIPO BLOQUE ARQUITECTOS SLP. Associate Architect.
- 2004-2005: ANDRES PEREA ORTEGA ARQUITECTOS. Architect.
- 2000-2001: STUDIO DANIEL LIBESKIND. Architect.

### Licenses/Registration:

OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Registered Architect

### Selected Publications and Recent Research:

- Franchini T and Arana J. (2011) "The Mega Blue Green Network. Madrid River Project" *Proceedings of the 47<sup>th</sup> Congress International Society of City and Regional Planners*. International Society of City and Regional Planners. Wuhan. China.
- Arana J. (2011) "Frozen Flash Mob. ¿Cuál es el espacio público de la contemporaneidad?" Poster presented to the Smart City Expo World Congress. Barcelona, Nov. 29th- Dec 2<sup>nd</sup>
- Equipo Bloque Arquitectos SL (Arana J, Moreno A, Perea L y Ruiz R) "La Saturación Urbana (Sobrevivir a los PAUs). Un instrumento para la revitalización de la ciudad" *Conarquitectura* 14, 2005. p 81-85-
- Equipo Bloque Arquitectos SLP (Arana J, Moreno A, Perea L y Ruiz R) "Problema de Escala" en *Hacia un nuevo espacio público. Ocho propuestas para un Bulevar Bioclimático de Vallecas en Madrid (ENV/E/000198)* Madrid 2005: EMVS p66-79.

## MARÍA DE ARANA AROCA (Senior Instructor)

### Courses Taught (4 last semesters):

- Fall 2012: Architectural Design Studio III (PR3) (A301)
- Spring 2013: Architectural Design Studio IV (PR4)(A307)
- Fall 2013: Architectural Design Studio III (PR3) (A301)
- Spring 2014: Architectural Design Studio IV (PR4)(A307)

### Educational Credentials:

- 1992: Diploma of Architect. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.
- Extraordinary Thesis Project Award, National Architecture Award.

### Teaching Experience:

- 1993-present: Diverse courses in Architectural Design, Architectural Drawing and Theory, History and Criticism of Architecture. San Pablo-CEU University, Technical School. Madrid, Spain.
- 1997-2000: Architectural Design courses. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.

### Professional Experience:

- Competitions, projects and built work:
- 2010 Health Center, Murcia. First prize. Project
- 2009 Multipurpose building, Yebes, Guadalajara. Accesit.
- 2007 Nursery, Torrejón de Ardoz, Madrid. First prize. Built
- 2006 Motorcycle museum. Alcalá de Henares, Madrid. Accesit
- Library, Galapagar, Madrid. Accesit
- 2005 Town Hall, Torres de Cotillas, Murcia. Accesit
- Nursery, Arroyomolinos, Madrid. First prize. Built
- Home for the musician and youth, Guadalajara. First prize. Project
- Nursery, Calpe. Accesit
- 2004 Nursery, Navalcarnero, Madrid. First prize. Project
- 2003 Nursery, Pinto, Madrid. First prize. Built
- 2002 Nursery, Alcalá de Henares, Madrid. First prize. Built
- Housing and Day Care Center for the Elderly, Guadalajara. First prize. Built
- 2001 Faculty of Psychology, Murcia. First prize. Built
- 1999 Nursery, Leganés, Madrid. Leganés Municipality. First prize. Project
- Renovation Santa María la Real, Nájera. First prize. Built
- 1998 University Library, Ponferrada, León. Accesit
- 1997 City of Justice, Valencia. Selected for second stage
- Sala Olimpia Theater, Madrid. Selected for second stage
- 1996 Housing, European 4. Biasca-Pollegio, Suiza. Special Mention
- Town Hall square, Ponferrada, León. Third prize
- 1994 Public Housing, COAM. Third prize
- 1993 Alternatives for social housing, Madrid. Accesit
- New Children's Library, Conde Duque, Madrid. Accesit
- 1991 Home for 2001, COAM. Accesit

### Licenses/Registration:

- Registered Architect, number 10733, Official Architects Association of Madrid (COAM), since 1993.

**MAURICIO BERTET GONZÁLEZ (Senior Instructor)**

**Courses Taught (4 last semesters):**

- Fall 2012:
- Spring 2013:
- Fall 2013: Architectural Design I (PR1) (A201)
- Spring 2014: Architectural Design II (PR2) (A207)

**Educational Credentials:**

- 2002: International Cooperation for the Development of Human Settings in the Third World .Post-graduate Expertise Course. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.
- 1994: Master in Architecture (MArch II). Post-professional Degree. Harvard University, Graduate School of Design (GSD), Cambridge, USA.
- 1991: Diploma of Architect. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.

**Teaching Experience:**

- 2007- present: Architectural Design studios, San Pablo-CEU University, Technical School. Madrid, Spain.
- 1994 – present: Lectures at the Center for European Studies (CES), Harvard University (Cambridge, USA), University of Castilla – La Mancha (Toledo; Spain), SEK University (Segovia, Spain) and Massachusetts Institute of Technology (MIT) (Cambridge, USA).
- 2008: Winner European Urban Design and Regional Planning Awards in the category “Planning between the European Union and other countries” with the project: “Revitalizing Toledo’s Historic Core: Studies by Harvard Students and Faculty” (as a member of the Harvard University faculty, lead by José A. Gómez Ibáñez and Gerald McCue).
- Spring 1994: Architecture and Urban Design Studio teaching assistant of professor Gerald McCue, PhD Architect, Harvard University, Graduate School of Design (GSD), Cambridge, USA.

**Professional Experience:**

- 2001 – present: Own professional practice. Bertet Architecture Office, Madrid, Spain. Won competitions:
- 30 Public Housing units (Alameda de la Sagra, Toledo), Renovation and Extension of a Historic Building for the Castilla – La Mancha Regional Ombudsman (Albacete), Health Care Center (Alcázar de San Juan, Ciudad Real). Elementary and Primary School (Argés, Toledo), Health Care Center (Alovera, Guadalajara), Health Care Center (Rielves, Toledo).
- 2002 – 2003: Collaborating Architect in several international cooperation projects CEAR Foundation, Madrid, Spain.
- 1998 – 2001: Director of Architecture and Store Planning Department. Loewe S.A. (LVMH Group), Madrid, Spain.
- 1994 – 1998: Collaborating Architect . Office of Rafael Moneo, Architect, Madrid, Spain.
- 1994: Collaborating Architect .Office of Benjamin Thompson & Associates, Cambridge MA, USA.

**Licenses/Registration:**

- Registered Architect, number 10185, Official Architects Association of Madrid (COAM), since 1992.

**Selected Publications/Research:**

- On built works:  
Rielves (Toledo) Health Care Center in:  
Mais Arquitectura, Arcatura, Lisboa, January 2008, nº 20 pag. 56-65.  
pcmA'07, 2007 Castilla – La Mancha Architecture Awards Exhibition catalog, Castilla – La Mancha Government and Official Architects Association of Castilla – La Mancha (COACM), Toledo, January 2008, pag. 42-45.

## MARÍA JOSÉ DE BLAS GUTIÉRREZ DE LA VEGA (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Design I (PR1)(A201) and Thesis Project (PFC)
- Spring 2013: Architectural Design II (PR2) (A207) and Thesis Project (PFC)
- Fall 2013: Architectural Design I (PR1)(A201) and Thesis Project (PFC)
- Spring 2014: Architectural Design II (PR2) (A207) and Thesis Project (PFC)

### Educational Credentials

- 1994 Completed coursework PhD in Architecture. Thesis topic approved. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1992 Post graduate course "La Arquitectura Mudéjar en España"(one week). Professor J.M.BORRAS. UNED.
- 1991 Scholarship from ICOMOS INTERNACIONAL. Post-graduate course "Restoration and Conservation of Historic Parks", Internship: Painshill Park. Surrey, GB. Directors: Peter Gordchild/Carmen Añón. York University. (4 months).
- 1991 Seminar. Wiener Architekturseminar (one month) Dir.: Boris Podreca & Juan Navarro Baldeweg. Vienna.
- 1984-90 Diploma of Architect. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1990 Thesis Prize 1989-90 academic year, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### Teaching Experience

- 2008-2012. Coordinator & Founding member of 'Transversal aTelier': Escuela de Arquitectura CEU San Pablo, Madrid.
- 2012. Professor Master in Design for Children, Instituto Europeo di Design, Madrid.
- 2010. Guest Professor, Seminar and Workshop (1 week), Fachhochschule Kärnten, Spittal, Austria.
- 2005-2009. Coordinator Thesis Project Workshop, Escuela de Arquitectura CEU San Pablo, Madrid.
- 2002-2005. Professor of Studio Design. Escuela de Arquitectura CEU San Pablo, Madrid.
- 1991-2001. Professor of Architectural Drawing. Escuela de Arquitectura CEU San Pablo, Madrid.

### Professional Experience

- 2000-2005 Co-curator in series of bimonthly exhibitions "Recent work," COAM Foundation, Madrid.
- 2007 Member of Cultural Commission, COAM, curator exhibition "CRUDO 100%".
- 1990 Co-founder of PICADO-DE BLAS Arquitectos SLP. [www.picadodeblas.com]
- Selected for II Bienal Iberoamericana de Diseño - Bid10, IV Bienal del Paisaje - Barcelona, X Bienal de Arquitectura y Urbanismo Española, IX Bienal de Arquitectura de Venecia
- 2008 PREMIOS COAM 2008 DE DIFUSIÓN DE LA ARQUITECTURA, por las exposiciones "CRUDO 100%"
- 2008 XXII PREMIO DE ARQUITECTURA del AYUNTAMIENTO de MADRID 2000. Centro de Estética en Castelló 67.
- 2008 PREMIO SALONI de Arquitectura, Guardería Municipal 0 a 3 años en Arganda del Rey. Madrid.
- 2008 PREMIO ENOR de Arquitectura, Teatro de San Lorenzo de El Escorial. Madrid.
- 2008 PREMIO DE Arquitectura Piedra 2008, Teatro de San Lorenzo de El Escorial. Feria IFEMA "Piedra 2008".
- 2006 PREMIO DE Arquitectura Piedra 2006. Edificio de Juzgados en Cervera de Pisuerqa. Feria IFEMA "Piedra 2006".

### Selected publications/Research – books

- "EXCEPTO16- PICADO DE BLAS"- Monografía sobre los arquitectos, publicada por el COAM.

### Professional Memberships:

- Affiliate Member, Colegio Oficial de Arquitectos de Madrid (COAM). Colegiado nº9511.

**PhD. ADAM L. BRESNICK (Senior Lecturer)**

**Courses Taught:**

- Fall 2012: Architectural Design III (PR3) (A301) and Thesis Project (PFC)
- Spring 2013: Architectural Design IV (PR4) (A307) and Thesis Project
- Fall 2013: Architectural Design III (PR3) (A301) and Thesis Project
- Spring 2014: Architectural Design IV (PR4) (A307) and Thesis Project

**Educational Credentials:**

- B. Arch summa cum laude, University of Maryland, 1988.
- Magistri in Architecture, Princeton University, 1990.
- Title of Architect recognized by the Spanish Science and Education Department, 1994.
- PhD in Architecture, summa cum laude, ETSAM-UPM, Madrid, Spain. 2008.

**Teaching Experience:**

- Instructor, Instituto Europeo de Diseño, Madrid. 1996-2006.
- Lecturer, Real Escuela Superior de Arte Dramático. 2010-2012.
- Senior Lecturer, Escuela Politécnica Superior, Universidad CEU San Pablo. 2006-2012.

**Professional Experience**

- Owner and Founding Partner, Adam Bresnick, Architects, Madrid. 1998-present.

**Licenses/registration:**

- Madrid, Spain

**Selected Publications (among others):**

- La Diva en Casa: arquitectura para artistas, Ediciones Asimétricas, Madrid. 2011.
- Documentos de Arquitectura, nº 25, Colegio de Arquitectos de Almería, verano 1993. Introduction "Las Matas, Recordando el Presente".
- Arquitectura Viva, nº 50, 1996, page 13. "Más amenazas sobre el patrimonio moderno". nº 43, July-August 1995, page 13. "Entre Pórticos Anda el Juego en Córdoba". nº 33, Noviembre 1993, page 7. "Steven Holl..."
- Arquitectura, nº310, 2º trimestre 1997, pages 36-39. "La Diva en Casa". nº309, 1ª trimestre 1997, pages 102-103. "Adios, Mr. Marshall". nº 298, 2º trimestre 1994, pages 79-80. "El Tiempo en Nueva York: los museos de la ciudad".

**Professional Memberships:**

- COAM, Official Architects' Association of Madrid

## **JORGE JAVIER CAMACHO (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Design VII (PR7) (A501) and Thesis Project (PFC)
- Spring 2013: Architectural Design VII (PR7) (A501) and Thesis Project (PFC)
- Fall 2013: Architectural Design VII (PR7) (A501) and Thesis Project (PFC)
- Spring 2014: Architectural Design VIII (PR8) (A506) and Thesis Project (PFC)

### **Educational Credentials:**

- 1998 Diploma of Architect (Título universitario oficial de Arquitecto) by the Architectural School of Madrid (ETSAM) Technical University of Madrid (UPM).

### **Teaching Experience:**

- Final Thesis Program Tutor. EPS , Universidad San Pablo-CEU 2010-2012
- Assesment Jury member. Final Thesis Project EPS , Universidad San Pablo-CEU 2008-2010
- Architectural Design Teacher , Escuela Politécnica Superior , Universidad San Pablo-CEU 2008-2012
- Final Thesis Program Tutor. C.E.S. CEU-Arquitectura 2006-2009
- Building Construction Teacher, Escuela Politécnica Superior, Universidad San Pablo CEU 2004-2008
- General Secretary C.E.S. CEU-Arquitectura 2004-2005
- Building Construction Coordinator. C.E.S. CEU-Arquitectura 2002-2009
- Teaching Coordinator C.E.S. CEU-Arquitectura 2002-2005
- Final Thesis Program Adviser. C.E.S. CEU-Arquitectura 2002-2006
- Building Construction Teacher. C.E.S. CEU-Arquitectura 1999-2005
- Building Construction Technology, C.E.S. CEU-Arquitectura 1998-2001

### **Professional Experience:**

- FIRST PRIZE International Ideas Competition for 103 Housing Units in Madrid. EMVS. December 2010
- FIRST PRIZE National Ideas Competition for Theater and Concert Hall in Campo de Criptana, Campo de Criptana Municipality. October 2008
- FIRST PRIZE International Ideas Competition for the development of the Olympic Villa, 1690 Housing Units. Madrid 2016, Municipality of Madrid. September 2008
- FIRST PRIZE International Ideas Competition for 5688 Housing Units in Mieres (Proyecto VIVA). Ministry of Housing. November 2006
- FIRST PRIZE National Ideas Competition for Public Housing. VALLECAS ENSANCHE 36. EMVS. June 2005
- FIRST PRIZE National Ideas Competition for Theater, Circus and Cultural Centre "los Castillos" Municipality of Alcorcón. March 2005
- FIRST PRIZE National Ideas Competition for Public Housing. VALLECAS ENSANCHE 16. COAM in collaboration with EMVS. December 2003
- Selection. Spanish representation at the SUSTAINABLE BUILDING 2011. Helsinki, Finland
- Selection. XI Spanish Biennale for Architecture and Urbanism. July 2011
- International Real Estate Prize ASPRIMA-SIMA 2009, May 2009
- Selection. Spanish representation at the SUSTAINABLE BUILDING 2008. Melbourne, Australia

### **Licenses/Registration:**

- Registered Architect. Official Architects' Association of Madrid.

## PH.D. PABLO CAMPOS CALVO-SOTELO (Associate Professor)

### Courses taught:

- Fall 2012: Introduction to Architecture (IAR) (A103)
- Spring 2013: Architectural Composition (COM) (A411)
- Fall 2013: Introduction to Architecture (IAR) (A103)
- Spring 2014: History of Architecture III (HA3) (A312), Architectural Composition (COM) (A411)

### Educational credentials

- Ph.D. in Architecture, ETSAM - UPM, Madrid. 1997.
- Diploma of Architect, ETSAM - UPM, 1986.

### Teaching experience

- Department of Theory and Projects in Architecture and Urbanism - Escuela Politécnica Superior – Universidad CEU-San Pablo – Madrid (Spain): 2005-present
- Department of Architecture – Universidad Camilo José - Madrid (Spain): 2001-2005
- Conferences and courses taught as visiting professor (1999-present): Stanford University, UCLA, University of Virginia, Columbia University, McGill University, University of Illinois at Chicago, Cervantes Institutes (Lisbon, Utrecht), TEC Monterrey (Mexico), La Sapienza (Italy), New York University, University of Pittsburgh, New York City College of Technology, New Jersey Institute of Technology, SCUP, American Institute of Architects, CEFPI, University of Niš, Delft University of Technology or OECD-Center for Effective Learning Environments (CELE)

### Professional experience

- Recipient of the international Award “Education Leadership Award” – World Education Congress (Mumbai, India, 2012)
- Consultancy for the Spanish Ministry of Education (2008-2011)
- Director of the international firm UTOPLAN, S.L. (University Campus Planning&Design): 2006-present
- Campus planning projects: University in Estepona (1993) - La Rioja (1999) - Polytechnic University of Cartagena (2000) - University of Salamanca (2005) – University of Alcalá (2008) University of La Laguna (2008) - University of A Coruña (2009) – University of Girona (2012) – University of Málaga (2012)

### Selected Publication and Recent Research

- Author of 10 books about Campus Planning (2000-present); amongst them:
- Book: “Frontiers In Higher Education” - Chapter: “European University” - American Campus: Bridges between Cultures, (Novascience P. New York, 2007-ISBN: 1-60021-113-5)
- Book: “The Journey of Utopia” (Novascience P. New York, 2006-ISBN 1-59454-515-4)
- Book “Spain Campus of International Excellence” (Ministry of Education, Spain, 2010-ISBN 978-84-369-4864-6)
- Author of numerous articles published in national and international Reviews of Architecture and Education; amongst them:
- CAMPOS, Pablo, “The Journeys Toward Utopia” Review: Planning for Higher Education” Society for College and University Planning (SCUP) - Vol 30 n° 2 – Winter 2001-2002 - ISSN: 0736-0983
- CAMPOS, Pablo, The architecture of education. University spatial models at the doors of the twenty first century - UNESCO - International Association of Universities (IAU) - Review “Higher Education Policy” – Volume 14, Number 2, June 2001 - Elsevier Science-Palgrave-Journals, UK - ISSN: 0952-8733
- Research Project: Lead Principal Investigator – 1 year Research Project “Innovative spaces for university excellence: A study of paradigms of optimization in teaching and adaptation to the European Higher Education Area” - The Spanish Ministry of Education, 2010-2011

### Professional memberships

- Colegio de Arquitectos de Madrid (Official architects' association of Madrid), 1987
- Colegio de Arquitectos de Galicia (Official architects' association of Galicia), 1996
- Colegio de Arquitectos de Castilla y León (Official architects' association of Madrid of Castilla y León), 2007

## **VALERIO CANALS REVILLA (Instructor)**

### **Courses Taught** (Four semesters prior to current visit):

- Fall 2012: Architectural Design (PR3) (A301)
- Spring 2013: Architectural Design (PR4) (A307)
- Fall 2013: Architectural Design VII (PR7) (A501)
- Spring 2014: Architectural Design VIII (PR8) (A506)

### **Educational Credentials:**

- Degree in Architecture. E.T.S.A.M Madrid, Spain. (Nov. 2001)
- Ph.D. candidate PhD Candidate. E.T.S.A.M Madrid.

### **Teaching Experience:**

- Four years of teaching in Architecture Studio Units, San Pablo CEU University.
- Seminars and juries in national and international architecture meetings.

### **Professional Experience:**

- In 1999 collaborator in José María Torres Nadal architecture office, Murcia (Spain)
- Since January 2002 to present, intern Architect in Rafael Moneo architecture office, Madrid (Spain). Architect in charged of the Deusto Library Building, Bilbao (Spain) completed 2009 and Neuroscience and Psychology Building Princeton University, Princeton, USA, under construction.
- In 2005 opens his own professional practice with Clara Moneo Feduchi

### **Licenses/Registration:**

- Licensed Architect since November 2001

### **Selected Publications and Recent Research:**

- Mutación Escalar. Tomo V de Paisajes Domésticos. 2009. Ed. SEPES. ISBN 978-84-613-5764-2
- Proyecto ViVa. Concurso para la construcción de 5680 viviendas protegidas. Ea! Ediciones. 2008
- Concurso Internacional de Ideas para la Construcción de 5.688 Viviendas Protegidas. Proyectos ganadores. Ed. SEPES. Ministerio de Vivienda, 2007.
- 12 Concursos de Arquitectura 2005-2006 (Volumen VII). Ed. Empresa Municipal de la Vivienda y Suelo de Madrid 2007. ISBN 978-84-935142-9-7
- AV Proyectos N<sup>o</sup> 017, 2006. ISSN 1697-493X
- Memorial Masieri, Venecia, 1953 F. LL. Wright [Arquitecturas Ausentes del s.XX.] with Carmen Díez, under the supervision of Rafael Moneo. Ed. Ministerio de Vivienda 2004. ISBN 84-7207-168-5
- European 7 España. El reto suburbano. 2004. ISBN 84-931656-6-2

### **Professional Memberships:**

- Member of the OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID from February 2002

## **DIEGO CANO LASSO PINTOS (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Design V (PR5) (A401)
- Spring 2013: Architectural Design VI (PR6) (A407)
- Fall 2013: Architectural Design V (PR5) (A401)
- Spring 2014: Architectural Design VI (PR6) (A407)

### **Educational Credentials:**

- 1978: Graduated Architect of the Escuela Técnica Superior de Arquitectura.
- PhD. Candidate: Approximation to creation in the moment between abstraction and reality (In process)
- 2004: Participation in the Diccionario Biográfico Español de la Real Academia de la Historia, with three biographies: Julio Cano Lasso, Fernando Higuera Díaz and Carlos Ferreira de la Torre.
- 2005: Epilogue for the book "El Libro de las curvas". Fundación Eseyco. Madrid. 2005.

### **Teaching Experience:**

- 26 years of teaching Architecture Studio courses and Drawing at Universidad San Pablo Ceu. Madrid.
- Conferences in Spain and Europe: Société Française des Architectes. Paris. 2010/ Escuela Técnica Superior de Arquitectura de Madrid. "The site and its references" 2009/. Conference at the Politécnico de Cagliari. Italia. "Recent works". 2005/. Trienal de Milán. 1997/. Politécnica La Sapienza. Roma. "Estudio Cano Lasso". 1997/ Palacio Real de Nápoles. "Estudio Cano Lasso". 1996.
- Masters of Architecture. Summer 2007. Scuola Superiore Europea de Architettura Urbana. Naples. Italy.
- Fachhochschule Technikum Kärnten. Spittal. Austria. 20 hours teaching and lecture "Idea's activation in the Estudio Cano Lasso's projects". (Erasmus Code: E Madrid 21)

### **Professional Experience:**

- University Campus in Guadalajara. Alcalá de Henares University. Construction Documents. 2010.
- Communication Centre for the UN at Quart de Poblet. Valencia. Construction Documents. 2009/10.
- Athletics Stadium + Sport Facilities Vallehermoso. Madrid. Construction Documents 2008. Construction Works 1<sup>o</sup>phase. 2008 - .
- Urban Space and Parking lot Romareda. Zaragoza. 2008. Built.
- MADRID ARENA. Multipurpose facility. (Rockódromo) Casa de Campo. Madrid. 2002/05. Built.
- 41 First Prizes in Architecture Competition which are worth mentioning: Empresa Municipal de Transportes de Madrid (Public Transport Authority Headquarters). 2002/04. Built / Royal Collections Museum. Madrid. Construction Documents 2000 / First Prize in the International European Competition European 5. Proposal in Almería. 1998.

### **Licenses/Registration:**

- Colegio Oficial de Arquitectos de Madrid (Official Architects' Association of Madrid). Member No 4821.

### **Selected Publications:**

- Monoespacios – Estudio Cano Lasso Fundación Coam. 2005.
- Huellas en el sendero (Footprints in the Path) Author Limited Edition (Diego Cano Pintos). 2003.
- Works ESTUDIO CANO LASSO. T6 Ediciones. E.T.S.A. Navarra. 2001.
- ESTUDIO CANO LASSO. Electa Milán. 1997.
- Published Works: 35+ Arquitectura Española. 1975-2010. Fundación ACS. 2012/ Arquitectura Española/Spanish Architecture (1997-2008). ICEX, CSCAE, CA-GROUP. 2010/ Concrete Architecture. Catherine Croft. Laurence King Publishing Ltd. 2004./ Bauwelt 40-41.06./ Archiour CA Group. "Spanish Architecture (1997-2007)" in the year of Spain in China. 2008./ Bauwelt 3/00. 2000/ db Deutsche Bauzeitung. 2/2000/ Bauwelt 28./ Controspazio Architettura, Urbanistica. n°5. 1990.

### **Recent Research:**

- Ministerio de Ciencia e Investigación scholarship "Espacios para la Enseñanza" (Spaces for Teaching) (Principal Researcher Alejandro Gómez)

### **Professional Memberships:**

- Official Architects' Association of Madrid. (C.O.A.M)

## GUADALUPE CANTARERO GARCÍA (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Form Analysis I (AF1) (A101), Architectural Form Analysis II (AF2) (A107)
- Spring 2013: Architectural Form Analysis II (AF2) (A107)
- Fall 2013: Architectural Form Analysis I (AF1) (A101)
- Spring 2014: Architectural Form Analysis II (AF2) (A107)

### Educational Credentials:

- Erasmus scholarship at the Urban French Institut. (*Institut Francais d'Urbanisme – IFU*). Paris
- Diploma of Architect (Título universitario oficial de Arquitecto) 2001 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain
- Executive Master of Management EMM at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), 2006
- Master of Management in Art Exhibitions. Architecture Center. Antonio Camuñas Foundation, 2001
- Ph.D. at Polytechnic School of Madrid ETSAM

### Teaching Experience:

- 2007-present: Form Analysis I and II and Life Drawing(Architectural Graphic Expression Department)

### Professional Experience:

- 2000-2005. Architect in the Heritage Department. Fundación Universitaria San Pablo CEU
- 2002-present. National (BCN, Zaragoza, Málaga, MAD) and International (Paris, Bérghamo) Art Exhibitions
- 2006-2006. Architect. Guimez S.L. Castellón
- 2007-present. Founder and partner. Cantarero Arquitectos- Architecture Studio

### Licenses/Registration:

- Colegio Oficial de Arquitectos de Madrid (Official Architects' Association of Madrid), member No. 15576

### Selected Publication and Recent Research:

- "Changing policies of social development before and after the civil war in the Royal Site of El Pardo, in Madrid, Spain". The International Journal of Interdisciplinary Civic and Political Studies, Common Ground Publishing, vl.7 issue 4 ISSN 2327-0071, Champaign, Illinois, USA, 2013
- "Zaragoza a través de la retina de la artista Cantarero", Cantarero interviewed by Ana Rosa Bel. ABC journal, Aragón, 2012
- "Construir pensando en el Medio Ambiente", Cantarero interviewed by Ignacio Serrano, cover of the ABC Inmobiliario, ABC Madrid, 2008
- "Edificación sostenible y arquitectura bioclimática", Infodomus, 14 p. 94, M-36155-2006 ISSN 18868762, Madrid, 2007

### Professional Memberships:

- Member of the Association of the Executive Master of Management EMM at Polytechnic School of Madrid ETSAM
- Member and referee of the Common Ground Publishers
- Member of the research group "Drawing and Architecture" Graphic Expression Department EPS

## **ROCÍO CARVAJAL ALCAIDE (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Descriptive Geometry I (GD1) (A102), Descriptive Geometry II (GD2) (A108),
- Spring 2013: Descriptive Geometry II (GD2) (A108), Drawing and Geometry (DGA) (A208)
- Fall 2013: Descriptive Geometry I (GD1) (A102)
- Spring 2014: Descriptive Geometry II (GD2) (A108), Drawing and Geometry (DGA) (A208)

### **Educational Credentials:**

- 1997: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM)
- Teaching Experience:
- 2003-current: Senior Instructor Descriptive Geometry, EPS Universidad San Pablo CEU.
- 2010: Computer graphics instructor.Learning Architectural Drawing. Summer School University CEU San Pablo.
- 2007: Computer graphics instructor.The Art of Stone. Theory and practice of masonry. Summer School University CEU San Pablo.
- 2010: Computer graphics instructor.Learning Architectural Drawing. Summer School University CEU San Pablo.
- 1998-2003: Instructor Descriptive Geometry. CES CEU Arquitectura.

### **Professional Experience:**

- 1998-2007: Team Director. NEWAR S.L.
- Selected Publications/research:
- Carvajal Alcaide, R (2011) Stairs in the Architecture Notebook of Juan de Portor y Castro: An Insight into Ruled Surfaces. Nexus Network Journal Volume 13 Number 3. Berlín Birkhäuser. ISSN 1590-5896
- Carvajal Alcaide, R (2011) Estructura y singularidad del cuaderno de arquitectura de Juan de Portor y Castro (1708-1719) in Actas del VII Congreso Nacional de Historia de la Construcción, Vol. I. Instituto Juan de Herrera. ISBN: 978-84-9728-371-7
- Participant in the research project "Stonecutting technology in the Atlantic areas. Survey and analysis of built examples", financed by the Spanish Ministerio de Educación y Ciencia, whose principal researcher is Enrique Rabasa Díaz (2010-2012).

## **LUIS CASILLAS GAMBOA (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Design V (PR5) (A401) and Thesis Project (PFC)
- Spring 2013: Architectural Design VI (PR6) (A407) and Thesis Project (PFC)
- Fall 2013: Architectural Design V (PR5) (A401) and Thesis Project (PFC)
- Spring 2014: Architectural Design VI (PR6) (A407) and Thesis Project (PFC)

### **Educational Credentials**

- 2012 Preparing PhD dissertation: "City of Sun – city of Air: the City as the Interrelation of Urban Images. The city without urbanism and projects without a city". Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1994 Completed coursework PhD in Architecture. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1992-93 Scholarship from the Official College of Architects of Madrid (COAM) to train professors at the Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Research project: "Madrid, the city that could be."
- 1991 Scholarship from the Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain, to attend summer programs Universidad Complutense de Madrid entitled "Architecture and urban identity." Directed by Professor Francisco Sáenz de Oiza, PhD. San Lorenzo del Escorial. Madrid. Spain.
- 1990 Master in Construction & Business Management. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1989 Award for Best Thesis Design Project, Extraordinary Thesis Prize, 1988-89 academic year, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1981-88 Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### **Teaching Experience**

- 2008 Founding member Transversal aTelier: studio design course at the Escuela de Arquitectura, Universidad San Pablo CEU of Madrid.
- 2005-to present Studio Design Professor and Thesis Project advisor, Escuela de Arquitectura, Universidad San Pablo CEU of Madrid.
- 1990 Professor in tandem with Alberto Campo Baeza, ETSAM Summer School, program entitled: Tectonic drawing: experimental architecture and landscape intervention in Montoro – Cardeña. Organized by the Colegio Oficial de Arquitectos de Madrid and the Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### **Professional Experience**

- 1990 Co-founder of LOC Arquitectos. [[www.locarquitectos.com](http://www.locarquitectos.com)]

### **Licenses/Registration**

- Registered Architect, Colegio Oficial de Arquitectos de Madrid.

### **Selected publications/Research**

- books
- TT Cocinando Espacios. Taller Transversal. Proyectos del curso 2010-2011. Nueva Delhi 2012.
- Escenaris a Lithica. Proyectos de arquitectura. Ediciones Munilla Lería. Madrid 2011.
- Un objeto en la palma de la mano. CEU Ediciones. Madrid 2010.
- 100% Arquitectura. Casas Cabo en Menorca. España. FUCOAM Ediciones. Madrid 2009.
- Viaje a Oporto. 40 años de arquitectura portuguesa. CEU Ediciones. Madrid 2008.
- Vivienda Colectiva II. Catálogos de Arquitectura. Ediciones Munilla Lería. Pág.: 106-111. Madrid 2003.
- Obra Reciente ciclo exposiciones 2000-2002. FUCOAM. Pág. 42-43.

### **Professional Memberships:**

- Affiliate Member, Colegio Oficial de Arquitectos de Madrid (COAM).
- Affiliate Member, Consejo Superior de Arquitectos de España.

## ISABEL CASTILLA HEREDIA (Instructor)

### Courses Taught:

- Fall 2012: Solid Mechanics (MEC) (A203) and Thesis Project (PFC)
- Spring 2013: Structural Systems (SES) (A210), Dimensioning of Structures (DES) (A402) and Thesis Project (PFC)
- Fall 2013: Solid Mechanics (MEC) (A203) and Thesis Project (PFC)
- Spring 2014: Structural Systems (SES) (A210) and Thesis Project (PFC)

### Educational Credentials:

- 2012: Master degree in Education and Information Technologies. Universitat Oberta de Catalunya (UOC).
- 2005: Diploma of Architecture (Título universitario oficial de Arquitecto). Technical University of Madrid (UPM).
- 2001-2002: Pre-doctoral fellowship at the Architecture School of Madrid (ETSAM-UPM), awarded by the Spanish Ministry of Education, Culture and Sports.
- 1999: Emilio Larrodera Prize in Urbanism, awarded by the Foundation of the Official Architects' Association of Madrid.

### Teaching Experience:

- 2007-2008: Instructor at the Architecture School in SEK University. Segovia, Spain.
- 2000-2003: Teaching fellow at the Architecture School of Madrid (ETSAM).

### Professional Experience:

- Independent architect and structural consultant since 2005.
- 2006-2009: Project manager at AEPO SA Ingenieros Consultores.
- 2003-2006: Collaborator at the architectural office of Javier Fuster

### Licenses/Registration:

- Licensed Architect.

### Selected Publications and Recent Research:

- 2009-2011: Member of the Strategic Research Project BALI (Building Acoustic Living), sponsored by the European Union. Budget: 7,2M euros.
- 2004-2008: Member of the Research Project "HABITAT 2030: Development of new technologies and components", sponsored by the Spanish Ministry of Science and Innovation. Budget: 6,5M euros.
- Oscar Liébana, Isabel Castilla. "Sedec. Software para la estimación de la vida útil en hormigón" and "Vulnerabilidad de edificios deteriorados por corrosión". Papers submitted to the Fourth National Congress of Bridges and Building Structures. Organized by the Spanish Scientific-Technical Association of Structural Concrete (ACHE). Valencia 2008. ISBN 978-84-89670-62-4.

### Professional Memberships:

- Official Architects' Association of Madrid. Affiliated member #16327.

## **GRACIA CID BLASCO (Senior Instructor)**

### **Courses Taught**

- Fall 2012: City and Territorial Planning I (PU1) (OTM) (A503)
- Spring 2013:
- Fall 2013: City and Territorial Planning I (PU1) (OTM) (A503)
- Spring 2014:

### **Educational Credentials:**

- 1996 Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid E.T.S.A.M. Universidad Politécnica de Madrid U.P.M. Spain

### **Teaching Experience:**

- 1997- current: Area of Urban Studies (2nd, 3rd and 5th years), Escuela Politécnica Superior E.P.S., CEU San Pablo University, Spain

### **Professional Experience**

- 1997-current: Researcher & Urban specialist. FUNDACIÓN METRÓPOLI. Architect.
- 2002-current. Coordination Manager. Congress of Urbanism Euskal Hiria (Bilbao, Vitoria and San Sebastián, Spain). FUNDACIÓN METRÓPOLI. Architect
- 1996-2000: Urban Designer & Territorial planner/researcher TALLER DE IDEAS.S.L. Architect
- 1990-1996: Assistant in Urbanism & Territorial Planning for TALLER DE IDEAS.S.L. Internship.

### **Licenses/Registration:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Registered Architect

### **Selected Publications and Recent Research:**

- Cities Knowledge Platform Research Project. Lead Investigator: Vegara, Alfonso. 2011-2012 TECNALIA and Fundación Metrópoli
- Bintan Ecoisland, Indonesia. Research Project. Lead Investigator: Vegara, Alfonso. 2010-2011. Fundación Metrópoli. Funded by Gallant Venture Corp. (Singapur)
- Elcano 2.0. Motor de innovación Urbana. Research Project. Lead Investigator: Vegara, Alfonso. 2010-2011. Fundación Metrópoli / Foster + Partners. Funded by SEPI
- EcoCity of Sarriguren 2008. European Urban and Regional Planning Awards, Winner: Environment/Sustainable Development Category. 2000 UN Habitat. Best Practices for Sustainable Development.
- Euskal Hiria, VI European Urbanism, 2006. Awards: Euskal Hiria, Regional Strategy for the Basque Country.
- Elche. Proyecto Ciudad. Fundación Metrópoli 2011. Madrid: Fundación Metrópoli. p1-234
- Landscape Intelligence. Fundación Metrópoli 2010. Madrid: Fundación Metrópoli. p1-366
- Qualia Sitges. EspaiCreatiu del Mediterrani. Fundación Metrópoli 2010. Madrid: Fundación Metrópoli. p1-336

## PHD. RICARDO DÍAZ MARTÍN (Professor)

### Courses Taught:

- Fall 2012: Fundamentals of Physics in Architecture I (FF1) (A105), Fundamentals of Physics in Architecture II (FF2) (A111)
- Spring 2013: Fundamentals of Physics in Architecture II (FF2) (A111)
- Fall 2013: Fundamentals of Physics in Architecture I (FF1) (A105)
- Spring 2014: Fundamentals of Physics in Architecture II (FF2) (A111)

### Educational Credentials:

- 2001: Doctor of Philosophy in Chemistry (Materials Science and Metallurgical Engineering). Universidad Complutense de Madrid (UCM).
- 1992: Bachelor Degree in Chemistry (Materials Science and Metallurgical Engineering).
- Universidad Complutense de Madrid (UCM).

### Teaching Experience:

- Head of the Master Program on Workplace Hazard Prevention.
- 2004: Best assessments on anonymous surveys of students in CEU San Pablo University.
- 2010: Director of the PhD dissertation *Análisis y simulación numérica de la interrupción de ensayos de tracción dinámica*, by Roberto A. González Lezcano. CEU San Pablo University.
- 2010: Director of the PhD dissertation *El papel de la Teoría cultural en el Análisis de Ciclo de Vida: Indicadores, modelo de daño y ponderación. Aplicación sobre aceros empleados en turbinas de vapor supercrítico de plantas de producción de energía*, by Eduardo J. López Fernández. CEU San Pablo University.
- 2009: Director of the PhD dissertation *Análisis de Ciclo de Vida de Materiales de Plantas de Producción Energética*, by Gastón Sanglier Contreras. CEU San Pablo University.

### Professional Experience:

- Head of Research and Development in Ecowood Logic since 1999.
- 2002-2009: Technical Responsible for Quality Assurance in Health Products. Algía Médica.

### Licenses/Registration:

### Selected Publications and Recent Research:

- Jiménez, P.A. Troya, M. Llinares, F. Díaz, R. "Degradation assay of lignocellulosic compounds in combination with polyurethane resin by CECT fungi". *Microorganisms in Industry and Environment*, December 2010, pp. 303-307. World Scientific Publishing, London. ISBN-13: 978-981-4322-10-2.
- Trilleros J.A. Redondo, P. Díaz, R. CHISA 2006. Thermal tracer versus laser doppler velocimetry: tools for measuring the liquid superficial velocities in the internal airlift loop reactors, vol. E3.3, pp. 1-19. Czech Society of Chemical Engineering. Praha, 2006.
- Díaz Martín, Ricardo. Gámez de la Torre, Manuel. García González, Daniel. *Diseño, Implantación Y Auditoría De Los Sistemas De Gestión Ambientales*, 3 volumes. Ediciones Roble. Madrid, 2006. ISBN: 84-96306-90-9.
- Díaz Martín, Ricardo. García González, Daniel. Redondo Martín, Pablo. *Diseño, Implantación Y Auditoría De Los Sistemas De Gestión De La Calidad*, 3 volumes. Ediciones Roble. Madrid, 2006. ISBN: 84-96306-94-1.
- Trilleros J.A. Díaz, R. Redondo, P. "Three-phase airlift internal loop reactor: correlations for predicting the main fluid dynamic parameters". *Journal of Chemical Technology and Biotechnology*, vol. 80, pp. 515-522. Society of Chemical Industry. London, 2005. ISSN: 0268-2575.
- Martínez Domínguez, Carlos. Díaz Martín, Ricardo. Maldonado Montoya, Juan Pablo. *Coordinación De Seguridad Y Salud En Obras De Construcción*, 3 volumes. Ediciones Roble. Madrid, 2004. ISBN: 84-96306-05-4.
- Martínez Domínguez, Carlos. Díaz Martín, Ricardo. Arcones Tejedor, Belén. *Curso Superior En Prevención De Riesgos Laborales*, 11 volumes. Ediciones Roble, Madrid, 2003. ISBN: 84-933573-0-8.

**PILAR DIAZ-PINÉS VALENTÍN (Senior instructor)**

**Courses taught:**

- Fall 2012: History of Architecture I (HA1) (A206)
- Spring 2013: History of Architecture II (HA2) (A212), History of Architecture III (HA3) (A312)
- Fall 2013: History of Architecture I (HA1) (A206)
- Spring 2014: History of Architecture II (HA2) (A212)

**Educational credentials**

- Bachelor's Degree in Geography and History. History of Art - Universidad Autónoma de Madrid, Facultad de Filosofía y Letras - 1983

**Teaching experience**

- Department of Theory and Projects in Architecture and Urbanism - Escuela Politécnica Superior – Universidad CEU-San Pablo – Madrid (Spain): 2005-present
- Fundación Universitaria San Pablo-CEU: (1984-1997)

**Professional experience**

- Cultural consultant Fundación Cultural de Castilla-La Mancha 1984-1986
- Collaborator of Research Projects – Escuela Técnica Superior de Arquitectura de Madrid – Universidad Politécnica de Madrid-UPM (Technical University of Madrid): 1995-1997

**Selected Publication and Recent Research**

- DÍAZ-PINÉS, Pilar, "Aranjuez, paisaje urbano" en Itinerarios artísticos. Aranjuez: Ayuntamiento de Aranjuez (Aranjuez Town Hall) 2004
- DÍAZ-PINÉS, Pilar, "Palladio y Palladianismo" en Revista de Geografía e Historia. Madrid 2002
- DÍAZ-PINÉS, Pilar, "La cultura en Castilla-La Mancha y sus raíces". Madrid: Ed. Fundación Castilla-La Mancha - 1984.

**Licenses/registration**

- Bachelor's Degree in Geography and History. History of Art.
- Universidad Complutense de Madrid, Facultad Filosofía y Letras. 1983

**Professional memberships**

- Association of Bachelor's of Geography and History (History of Art). Madrid – 1983

**PHD. GUILLERMO DIERSSEN SOTOS (Senior Instructor)**

**Courses Taught:**

- Fall 2012
- Spring 2013: Foundations (CIM) (A409)
- Fall 2013
- Spring 2014: Foundations (CIM) (A409)

**Educational Credentials:**

- 1985: Diploma of Civil Engineering (Título universitario oficial de Ingeniero de Caminos, Canales y Puertos), specialized in Foundations and Structures. University of Cantabria, Santander (Spain).
- 1993: Dr.-Ing. (PhD) in Civil Engineering. Civil Engineering Faculty. University of Karlsruhe (Federal Republic of Germany).

**Teaching Experience:**

- 2007-2014: Instructor at the CEU-San Pablo University.

**Professional Experience:**

- 1994- present: Project Manager. SENER Ingeniería y Sistemas. Madrid. Spain.
- 1986-1994: Research Assistant (wissenschaftlicher Mitarbeiter) University of Karlsruhe. Federal Republic of Germany.
- 1986: Junior Engineer. Fundación Torres Quevedo. Universidad de Cantabria. Santander.

**Licenses/Registration:**

- Licensed Civil Engineer, Spain. Colegio de Ingenieros de Caminos, Canales y Puertos #8720 .
- Professional Engineer (Civil), California (USA); Board of Professional Engineers and Land Surveyors #81627.

**Selected Publications and Recent Research:**

## PH.D. JUAN B. ECHEVERRIA (Senior Lecturer)

### Courses Taught:

- Fall 2012: Mechanical Systems (IST) (A403) and Thesis Project (PFC)
- Spring 2013: Thesis Project (PFC)
- Fall 2013: Mechanical Systems (IST) (A403) and Thesis Project (PFC)
- Spring 2014: Thesis Project (PFC)

### Educational Credentials:

- 2011. Graduate Certificate in Fire Protection Engineering. Worcester Polytechnic Institute, MA, USA.
- 1999: Doctor of Philosophy in Architecture (Ph. D). "Architecture School of Navarra University (Escuela Técnica Superior de Arquitectura, Universidad de Navarra)". Pamplona, Spain. Thesis: "The Edition of a dream: cinema sight in architecture".
- 1988: M.S. in Architecture and Building Design. Columbia University, NY, USA.
- 1988: Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (Escuela Técnica Superior de Arquitectura de Madrid) (ETSAM). "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM). Spain.

### Teaching Experience:

- 2006-current: Senior Lecturer at the "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" in Madrid. Subjects: Professional Practica in Architecture, Mechanical Systems and Thesis Project.
- 2009-current: Senior Lecturer at "Architecture School and the Building Engineering School of Navarra University (Escuela Técnica Superior de Arquitectura e Ingeniería, Universidad de Navarra)". Subjects: Mechanical Systems I and II.
- 2009-current: Senior Lecturer Master in Fire Protection Engineering, ICAI-APICI.
- 2011-current: Senior Lecturer Master in Advanced Architectural Projects Design, UEM.

### Professional Experience:

- 2007-2011. Consultancy for CSCAE to answer technical questions on Spanish Building Code.
- 1999-2008. Contracted by "Official Architects' Association of Navarra and Vasque Country (Colegio Oficial de Arquitectos Vasco-Navarro)" (COAVN) to review projects, provide technical assistance, organize professional courses and improve quality management ().

### Licenses/Registration:

- Registered Architect, Consejo Superior de Colegios de Arquitectos de España

### Selected Publication and Recent Research:

- Oral presentation: 2012. "Development of a Risk-Informed Performance-Based Approach to Addressing Fire Safety in Existing Buildings". Oral presentation. 9th International Conference on Performance-Based Codes and Fire Safety Design Methods (SFPE), Hong Kong (CHINA). Brian J. Meacham, Juan B. Echeverría. To be published in the conference proceedings.
- Oral presentation: 2012. "Cold and Hot Water Supply Simultaneity Optimization according to Spanish Building Code". Oral presentation. First International Congress on Water, Waste and Energy, Salamanca (SPAIN). Juan B. Echeverría, Roberto A. González, Marta Benito, Rocío Sancho. ISBN # 978-84-615-8786
- Oral presentation: 2011. "Risky Business: design of areas of refuge in buildings: parameters to consider". International Scientific and Technical Conference "Emergency Evacuation of People from Buildings" (EMEVAC), Warsaw (POLAND). Juan B. Echeverría, Mariana Llinares, Virginia Gallego. ISBN # 978-83-61208-83-9
- Oral presentation: 2011. Evacuation by elevators. Oral Presentation. 6th International Conference on Fire Safety Engineering: Performance-based design: advances and new challenges, Madrid (SPAIN). Juan B. Echeverría.

### Professional Membership:

- Society of Fire Protection Engineers, since 2010
- APICI (Asociación Profesional de Protección Contra Incendios), since 2007

## PhD. TERESA FRANCHINI (Associate Professor)

### Courses Taught

- Fall 2012: Urban Design I (DU1) (A305), Urban Planning I (PL1) (A404)
- Spring 2013: Urban Design II (DU2) (A311), Urban Planning II (PL2) (A410)
- Fall 2013: Urban Design I (DU1) (A305), Urban Planning (PL1) (A404)
- Spring 2014: Urban Design II (DU2) (A311)

### Educational Credentials:

- 1989: Ph. D. in Architecture, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain
- 1986: Diploma, Urban Technician, Local Administration Studies Institute, Spain
- 1985: M.Sc. Urban Development Planning, Faculty of Economics, University of London, United Kingdom
- 1978: Diploma in Development Planning, Inter-American Centre for Regional Planning, Maracaibo, Venezuela
- 1975: Diploma of Architect (Título universitario oficial de Arquitecto), Faculty of Architecture and Planning, Northeast National University, Argentina

### Teaching Experience:

- 2002-current: Area of Urban Studies. Escuela Politécnica Superior (EPS), CEU San Pablo University, Spain
- 2000-2003: Centre for Integrated Studies in Architecture, SEK University, Spain
- 2002-2004: CEU Architecture, Spain
- 1997-1985: Faculty of Architecture and Planning, Northeast National University, Argentina

### Professional Experience

- 1998-current: Consultant for universities and local administrations
- 1991-1995: BM Arquitectos
- 1989-1991: Taller de Ideas
- 1989-1990: Tecurban
- 1979-1984: National Environmental Planning Fund, Chaco, Argentina
- 1977-1979: Provincial Institute for Urban Development and Housing. Chaco, Argentina

### Licenses/Registration:

### Selected Publications and Recent Research:

- Franchini, T. (2011). "Madrid historic centre. Municipal strategies towards rehabilitation" In Mironowicz I., Ryser J. Urban Change, The prospect of transformation. UN Habitat, Association of European Schools of Planning, Poland
- Franchini, T. Martín Lou M. A. (2009). "Sostenibilidad y Agendas Locales 21. Las Auditorías Territoriales". Revista Ecosostenible. Spain.
- Ryser, J. Franchini, T. (2008). International Manual of Planning Practice. International Society of City and Regional Planners. The Netherlands
- Franchini, T. (2006). "Construyendo la ciudad sostenible: los nuevos barrios". In: Desarrollo urbano sostenible en España. Fundación para la Investigación y el Desarrollo Ambiental. Spain
- Franchini, Teresa. (2003). "Ciudades y sostenibilidad: nuevas ideas, nuevos retos". In: Papeles para la Sostenibilidad. Fundación para la Investigación y el Desarrollo Ambiental, FIDA, Spain
- Salas J. and Franchini, T. research project coordinators (2010): Investigation for the objective determination of the pertinence, necessity and urgency in the quantitative evaluation of results of projects, programs and cooperation agreements for basic habitability development. Financed by Red Universitaria de Investigación y Cooperación, Comunidad de Madrid.

### Professional Memberships:

- International Society of City and Regional Planning (ISOCARP)
- AETU. Spanish Association of Planners (AETU)

## **JOSÉ LUIS GAHONA FRAGA (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Design V (PR5) (A401)
- Spring 2013: Architectural Design VI (PR6) (A407)
- Fall 2013: Architectural Design V (PR5) (A401)
- Spring 2014: Architectural Design VI (PR6) (A407)

### **Educational Credentials:**

- Degree in Architecture. Cornell University, School of Architecture, Ithaca, U.S.A. 1991
- Masters in Architecture. Harvard University, (GSD), Cambridge. MA, U.S.A. 1994
- PhD Candidate. E.T.S.A.M Madrid.

### **Teaching Experience:**

- Senior Instructor. Seven years of teaching experience in Architecture Studio at Alfonso X University, Madrid. 2000-2007
- Senior instructor. E.P.S San Pablo C.E.U, Madrid. Five years of teaching experience in Architecture Studio. 2007-present.

### **Professional Experience:**

- Intern Architect. Cesar Portela, Pontevedra, Spain. 1995
- Intern Architect. Rafael Moneo, Madrid, Spain. 1995- 2000
- Architect, Founding Partner. DARRO 18 ARQUITECTOS, Madrid. 2000- Present

### **Awards:**

- Private Residence, Madrid. FIRST PRIZE, 2011
- Neanderthal Museum in Piloña. MENTION, 2010
- 98 Social Housing Building. Valencia. FIRST PRIZE, 2007
- 40 Social Housing Building. Madrid. FIRST PRIZE, 2006
- 28 Social Housing Building. Pontevedra, FIRST PRIZE, 2005
- 18 Social Housing Building. Daimiel. FIRST PRIZE, 2005
- 16 Social Dwellings. Cuenca. FIRST PRIZE, 2004
- Fuente del Berro Sporting Facilities. Madrid. THIRD PRIZE, 2004
- 20 Social Dwellings. Cuenca. SECOND PRIZE, 2004
- Caldas de Reis Exhibition Center. Pontevedra. SECOND PRIZE, 2002
- A Cañiza Exhibition Center. Pontevedra. FIRST PRIZE, 1996

### **Licenses/Registration:**

- Licensed Architect. Official Architects' Association of Galicia. 1994- Present
- Licensed Architect. Official Architects' Association of Madrid. (C.O.A.M), 1994- Present

### **Selected Publications and Recent Research:**

- Exhibition Center. Lugo, Spain. Obradoiro 26, 1997 p. 142-143
- A Cañiza Exhibition Center. Pontevedra. Obradoiro 26, 1997 p. 147
- Caldas de Reis Exhibition Center. Pontevedra. Obradoiro 30, 2003 p. 109
- 65 unit Social Housing Building. Valencia:
- 5688 Paisajes Domésticos, SEPES 2009 p. 66, 70-77
- Proyecto Viva, 2008, SEPES/COAM, p. 220-223
- Habitat Futura 17, 2008, p. 32
- AV Proyectos 17, 2006, p. 58-59

### **Professional Memberships:**

- Official Architects' Association of Galicia
- Official Architects' Association of Madrid

## PhD. MARÍA AUXILIADORA GÁLVEZ PÉREZ (Senior Lecturer)

### Courses Taught:

- Fall 2012: Architectural Design V (PR5) (A401) and Thesis Project (PFC)
- Spring 2013: Spring 2014: Architectural Design VI (PR6) (A407) and Thesis Project
- Fall 2013: Architectural Design V (PR5) (A401) and Thesis Project (PFC)
- Spring 2014: Architectural Design VI (PR6) (A407) and Thesis Project

### Educational Credentials:

- Degree in Architecture. E.T.S.A.M Madrid, Spain. 1998.
- PhD Candidate. E.T.S.A.M Madrid.
- D.E.A (Advanced Studies Diploma: Research Sufficiency in the area of knowledge of Architectural Projects). 2003
- Date of the defense of the doctoral thesis: November 2012.
- Teaching Experience:
- Teaching Grant for 2 years. Geometry and Technical Drawing. C.E.U Arquitectura, San Pablo University, Madrid. 1997- 1999.
- Instructor. Three years of teaching experience in Geometry and Technical Drawing. C.E.U Arquitectura, San Pablo University, Madrid. 1999- 2002.
- Senior instructor. E.P.S University San Pablo C.E.U, Madrid. Eleven years of teaching experience in Geometry, Technical Drawing, Architectonical Drawing, Architecture Analysis, Architecture Studio, Landscape Studio, and Diploma Thesis Architecture Studio. 2001- present.
- Instructor at the Master in Collective Housing in E.T.S.A.M Madrid. 2008- present.
- Director of different Architecture Studio Workshops in Spain, Argentina or Panamá.

### Professional Experience:

- Intern Architect. Abalos & Herreros. 1998- 2000.
- Free-lance Architect. 2000- 2003
- Architect, founding partner. Galvez+Wieczorek Architecture. [www.galvez-wieczorek.com](http://www.galvez-wieczorek.com) 2003- present
- Scientific Committee European Spain. 2004- 2006.
- Coordinator for Panama in the International Cooperation Programme developed by the Andalucía Regional Government, Spain. 2006- 2010
- Scientific Committee: Middle Class Housing in Perspective. From Post-war Construction to Post-millennial Urban Landscape (Milan, 22-23 November 2012).

### Licenses/Registration:

- Licensed Architect. Official Architects' Association of Madrid. (C.O.A.M)

### Selected Publications and Recent Research:

- AA.VV: Diálogos Entre- cruzados. Categorías para un diagnóstico del arte español contemporáneo, Arts Institut Foundation, Madrid, 2001.
- AA.VV: Vivienda y Espacio domestico en el siglo XXI, Casa Encendida. Caja Madrid, Madrid, 2008.
- Gálvez, M<sup>a</sup> Auxiliadora / Wieczorek, Izabela: Excepto 21. Gálvez+Wieczorek Cartografías Activas. Monography, ea! Ediciones de Arquitectura, 2008.
- AA.VV: Laboratorio Gran Vía, Fundación Telefónica, Madrid, 2010. FAD Award and Distinciones Award.
- Research Grant for the PhD investigation at the Academy of Fine Arts in Vienna. 2010. Two articles forthcoming about the research:
- AA.VV: Catalogue of the exhibition The Backdrop explodes. Friedrich Kiesler and the Theater, "Kunsthistorisches Museum mit MVK und ÖTM", Vienna, forthcoming in autumn 2012.
- Gálvez, M<sup>a</sup> Auxiliadora: Procesos compartidos: El nuevo paisaje o los constructores de eventos, forthcoming in autumn 2012 in Cuadernos de Arquitectura.

### Professional Memberships:

- Official Architects' Association of Madrid. (C.O.A.M)

## PhD. MAYKA GARCIA HÍPOLA (Assistant Professor)

### Courses Taught:

- Fall 2012: Architectural Design V (PR35) (A301), Architectural Design V (PR5) (A401)
- Spring 2013: Architectural Design IV (PR4) (A307)
- Fall 2013: Architectural Design III (PR3) (A301)
- Spring 2014: Architectural Design IV (PR4) (A307)

### Education Credentials:

- PhD, School of Architecture Madrid (ETSAM), Polytechnic University (UPM), Spain. European Doctorate. Extraordinary Doctorate Prize from UPM. 2008.
- MDesS, Graduate School of Design GSD, Harvard University. USA. Fulbright Scholar. 2001.
- Master in Architectural Restoration, ETSAM, UPM, Spain. 1999.
- Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. 1999.

### Teaching Experience:

- Universidad San Pablo CEU. Studio and Drawing Instructor. 9 years. 2003-2012.
- Universidad Camilo Jose Cela. Studio instructor. 1 semester. 2003.
- ETSAM. Teaching Assistant Navarro Baldeweg's Studio. 4 years. 2001-2005.
- GSD. Studio Instructor in the Career Discovery Program. 1 semestre. 2001.
- Boston Architectural Center. Tectónica Studio Instructor. 1 semester. 2001.
- GSD. Teaching Assistant in the subject Building Technology. 1 semester. 2000.

### Professional Experience

- Invited to participate in the Venice Architecture Biennial, 2002.
- First prizes in architectural design competitions: a Kindergarten in Silillos (Cordoba), a High School in Rinconada (Sevilla), a Public Housing Project (VPO) in Ubeda and in another for Arquillos (Jaen).
- Second prizes: a VPO in Baeza, Center of Interpretation in Olavide (Jaen) and in Restoration Spaces in Punta Umbria (Huelva).
- Third prizes: competition Toyo Park design in Almería, Bus stops and Boulevard design in Puente Génave (Jaén), a multifunctional building for the Town Hall of Punta Umbria (Huelva) and a Center of Interpretation Olavide.

### Licenses/registration:

- Colegio Oficial de Arquitectos de Huelva, since 1999

### Selected Publications:

- "Peter Eisenman: Von der Syntax des Gegenstands zur Poetik der Landschaft", Strukturelle Architektur, Bielefeld, Transcript Verlagpp, 2012.
- "Madrid's Landscape Through its Cornice. From its Façade to its Kinetic Section", Revista de Expresión Gráfica Arquitectónica, 17 (2011)
- Structural Architectures. Geometry, Code and Design, Technische Universität Kaiserslautern, 2011.
- "City of Culture of Galicia", Future Architectures, 19-20 (2009)
- "Why Peter Eisenman designs such good drawings? Tactics, strategies and stratagems", EGA. Revista de Expresión Gráfica Arquitectónica, 14 (2009)
- "Design Strategies and Graphic Tools. Conversations with Peter Eisenman", EGA. Revista de Expresión Gráfica Arquitectónica, 14 (2009)
- "The Excitation of the Void. Landscape through its Geo-ectomy", Conceptual actions in the Landscape. Dimension of the Memory, Madrid, Gráficas Palermo, 2007.
- "Des-dibujar-des-motivar", Arquitectura Viva, 94-95 (2004): p130.
- "Paisajes Internos. Procesos Internos", Catálogo Bienal de Venecia 2002, Madrid, Rueda, 2002.

### Professional Memberships:

- Member of the Research group entitled Cultural Landscape at ETSAM
- Member of the Research group Architecture, Restoration, Landscape at CEU San Pablo.

## JUAN GARCÍA MILLÁN (Senior instructor)

### Courses taught:

- Fall 2012: Thesis Project (PFC)
- Spring 2013: Architectural Design VI (PR6) (A407) and Thesis Project
- Fall 2013: Thesis Project (PFC)
- Spring 2014: Thesis Project (PFC)

### Educational credentials

- 1993-2006: PhD Studies - Universidad Politécnica de Madrid UPM (Technical University of Madrid-UPM)
- Thesis title "Radical Architecture in Spain. 1960-1975" (working progress)
- Research ability trial: 2010
- 1992: Diploma of Architect (Título universitario oficial de Arquitecto) Universidad Politécnica de Madrid UPM (Technical University of Madrid-UPM)
- Teaching experience
- Department of Theory and Projects in Architecture and Urbanism - Escuela Politécnica Superior – Universidad CEU-San Pablo – Madrid (Spain): 2005-present

### Professional experience

- Founder and principal of the publisher "Ediciones Asimétricas" (2007-present)
- Editor in chief of the Review "Arquitectura COAM". (2000-2008)
- 84 social housing buildings in Mina del Morro area, Bilbao (2000-2008). [with L. Díaz-Mauriño and E. Belzunce]. Project: EUROPAN IV competition 1996 winner. Building: 10th Spanish Architecture and Urbanism Biennial 2009 selected work; Premio Enor 2009 selected work; EUROPAN Implementation Prize for experimental housing 2006 selected work
- Crystallography Studies Laboratory for Scientific Researches High Center (Centro Superior de Investigaciones Científicas CSIC), Granada. (2003-2006). [with E. Belzunce, P. Díaz-Romeral and F. Santos]
- Urban Planning modification for developing 50.000 m2 of social housing, offices, retail spaces, parking and social facilities of Mina del Morro area (4'8 has), Bilbao (1997-1999). [with L. Díaz-Mauriño and E. Belzunce]
- 60 social housing building, Madrid, (1997-1999). Project: First prize in competition [with A. Capitel, M. Alberola and C. Martorell].

### Selected Publication and Recent Research

- Member of the Research team for the project: "España y los CIAM" ("Spain and the CIAM")
- Member of the Research team for the project: "Arquitectura docente española" ("Educational Architecture in Spain")
- GARCIA MILLÁN, Juan: "Materia y energía" in La materia de la arquitectura; The matter of architecture, Actas I Congreso Internacional de Arquitectura de la Fundación Miguel Fisac. Edited: Fundación Miguel Fisac, Ciudad Real, 2009. ISBN: 978-84-613-4513-7
- GARCIA MILLÁN, Juan: "Hans Scharoun, cuando lo natural es heterodoxo", preface of Scharoun. Edited: Taschen, col. Descubrir el Arte, Madrid 2008. ISBN: 978-3-8228-2776-5
- GARCIA MILLÁN, Juan: "Métodos, sistemas, procedimientos" in ¿Renovarse o morir? Experiencias, apuestas y paradojas de la intervención en la arquitectura del Movimiento Moderno, Actas VI Congreso DOCOMOMO Ibérico, Edit: Fundación DOCOMOMO Ibérico, Barcelona, 2007. ISBN 978-84-612-1891-2
- GARCIA MILLÁN, Juan: "El orden de la materia. La arquitectura de Víctor López Coteló" in Artistas gallegos arquitectos. Edit: Nova Galicia Edicions, Vigo 2004. ISBN 978-84-960-7093-6

### Licenses/registration

- Architectural degree ETSAM – Universidad Politécnica de Madrid 1992
- Professional practice as architect (1992-present)
- Member of Colegio Oficial de Arquitectos de Madrid COAM (Official architects' association of Madrid) (1992-present)

### Professional memberships

- Member of Colegio Oficial de Arquitectos de Madrid COAM (Official architects' association of Madrid) (1992-present)

## **DIEGO GARCÍA-SETIÉN TEROL (Senior Instructor)**

### **Courses Taught**

- Fall 2012: Architectural Design III (PR3) (A301)
- Spring 2013: Architectural Design IV (PR4) (A307)
- Fall 2013: Architectural Design V (PR5) (A401)
- Spring 2014: Architectural Design VI (PR6) (A407)

### **Educational Credentials:**

- 2000- 2005: Advanced Studies Diploma (D.E.A.) for Ph.D courses
- 1992- 2000: Bachelor of Architecture. Superior Technical School of Architecture (ETSAM), Politechnic University of Madrid (UPM), 6 year Professional Degree in Architecture.
- Project Design Thesis: Social and cultural Equipment for Mecó (Madrid).
- 1997-1998 coursed abroad, Erasmus scholarship at Istituto Universitario di Architettura di Venezia.

### **Teaching Experience:**

- 2000-2006: Architecture Studio Design Department (Polytechnic University Madrid)
- 2007-2012: Architecture Studio Design Department (San Pablo-CEU University)
- 2006-2012: Master in Collective Housing (MCH) (Polytechnic University Madrid)

### **Professional Experience:**

- 2002-2007: ecosistema urbano architects. Co-director in Architecture
- 2007-2012: gaSSz architects. Co-Director in Architecture

### **Licenses/Registration:**

- Registered Architect (Colegio de Arquitectos de Madrid), Spanish Association of Architects

### **Selected Publications and Recent Research:**

- Ribot A., Borrego I., García-Germán J., García-Setién D. CoLaboratorio 10/11. Maira Libros. Madrid 2011. ISBN: 978-84-92641-93-2.
- Ribot A., Borrego I., García-Germán J., García-Setién D. CoLaboratorio ETSAM 2009. Maira Libros 109 pág. Madrid 2010. ISBN: 978-84-92641-37-6
- European 10. European results. Viena. Editions European. Paris 2010. ISBN: 2-914296-18-5.
- García-Setién, Diego. NWSB Columbia. Moneo & Moneo+Brock. Tectónica Nº 35. Madrid 2011. ISSN: 1136-0062.
- García-Setién, Diego. Nottingham contemporary. Caruso St John. Tectónica Nº 34 Madrid 2011. ISSN: 1136-0062.
- García-Setién, Diego. Del edificio-máquina a la respiración exacta. Arquitectos Nº 189. 2010. ISSN: 0210-0673.
- Monoespacios 8. [ecosistema urbano]. ea! Fundación COAM. Madrid 2006. ISBN: 978-8488496958

### **Professional Memberships:**

- Registered Architect (Colegio de Arquitectos de Madrid), Spanish Association of Architects

**JUAN CARLOS GARRO (Senior Instructor)**

**Courses Taught:**

- Fall 2012:
- Spring 2013:
- Fall 2013: Fundamentals of Mathematics in Architecture I (FM1) (A104)
- Spring 2014: Fundamentals of Mathematics in Architecture II (FM2) (A110), Fundamentals of Mathematics in Architecture III (FM3) (A209)

**Educational Credentials:**

- Bachelor Degree in Sciences (Mathematics), Universidad Autónoma de Madrid (Spain), 29-06-1990

**Teaching Experience:**

- Senior Instructor, Escuela Politécnica Superior, Universidad CEU-San Pablo (Spain) 2000-2012
- Profesor Asociado, Departamento de Matemáticas e Informática Aplicada a la Ingeniería Civil. E.T.S.I. Caminos, Canales y Puertos, Universidad Politécnica de Madrid (Spain) 1999-2004
- Profesor, Colegio Universitario CEU-ARQUITECTURA (adscrito a la Universidad Politécnica de Madrid) (Spain) 1992-2004.

**Selected Publication and Recent Research:**

- Garro, J.C.; Rojo, J.; Luz y gravedad. (Reflexiones geométricas sobre cáusticas y lentes gravitacionales). Actas de las Jornadas Internacionales Matemáticas Everywhere, Madrid, 2010
- Garro, J.C.; Rojo, J.; Victoria, S. . Geometría y dinámica sobre una bola de tenis. Actas de las Jornadas Internacionales de Didáctica de las Matemáticas en la Ingeniería, Madrid, 2009
- Zoido R.J.; de la Torre, C.; Rojo J.; Garro J.C.; Geometría y ornamentación estructural en el metro de París. Journal of Mathematics & Design, 8, Number 2, 2008

## **AITOR GOITIA CRUZ (Senior instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Drawing I (DA1) (A109), Architectural Drawing II (DA2) (A1202)
- Spring 2013: Architectural Drawing I (DA1) (A109), Drawing and Geometry(DGA) (A208)
- Fall 2013: Architectural Drawing II (DA2) (A202)
- Spring 2014: Architectural Drawing I (DA1) (A109), Drawing and Geometry(DGA) (A208)

### **Educational Credentials:**

- 1989: Diploma of Architect (Título universitario oficial de Arquitecto). Technical University of Madrid.
- 2100: Grasshopper applied to Architecture Design. Frikearq authorized Rhino Trainer.
- 2007: Communication for specific purposes. University CEU San Pablo.
- 2005: Estratégias metodológicas para dinamizar el aula universitaria. Instituto de Ciencias de la Educación, Technical University of Madrid (UPM).
- 2005: La inteligencia emocional en los equipos docentes. Instituto de Ciencias de la Educación, Technical University of Madrid (UPM)

### **Teaching Experience:**

- 2001- current: Institute of Technoloy (EPS). University CEU San Pablo. Madrid.
- 1992-2005: Architecture School of Madrid (ETSAM). Technical University of Madrid (UPM).
- 1989-2001: CEU Arquitectura, Centro Adscrito a la Universidad Politécnica de Madrid.

### **Professional Experience:**

- 1989-2005: Partner Architect. Architects Studio.
- 1990: Project Architect. Empresa Municipal Campo de las Naciones S. A. Madrid.

### **Licenses/Registration:**

- Official Architects' Association of Madrid. Nº 8.972

### **Selected Publications and Recent Research:**

- GOITIA CRUZ, AITOR. 2012. "El concurso de 1769 para la Puerta de Alcalá de Madrid.
- Las propuestas de Francisco Sabatini y Ventura Rodríguez". Actas del XIV Congreso Internacional de Expresión Gráfica Arquitectónica, Universidad de Valladolid – Universidade Lusíada Porto.
- GOITIA CRUZ, AITOR. 2010. Norman Foster. Unidad Editorial, S.L.U, Madrid. ISBN 9788492638697.
- GOITIA CRUZ, AITOR. 2010. "Restituir, redibujar, aventurar. Estrategias para documentar tres puertas monumentales de Madrid". EGA Expresión Gráfica Arquitectónica nº 15, pp.74-83. ISSN 1133-6137.
- GOITIA CRUZ, AITOR. 2010. "Soft Show". Actas del XIII Congreso Internacional de Expresión Gráfica Arquitectónica, vol.2, pp. 91-96. Universidad Politécnica de Valencia. ISBN 9788483635513.
- GOITIA CRUZ, AITOR. 2008. "To render or not to render". Actas del XII Congreso Internacional de Expresión Gráfica Arquitectónica, pp. 391-398. Universidad Politécnica de Madrid. ISBN 9788497282703.
- GOITIA CRUZ, AITOR. 2007. "Efímero y perdurable. Entradas triunfales en el Madrid cortesano: las puertas de Alcalá y Atocha". Anales del Instituto de Estudios Madrileños, XLVII, pp. 465-493. Consejo Superior de Investigaciones Científicas, Madrid. ISSN 0584-6374.
- 2012- current. Member of Drawing and Architecture Research Group. University CEU San Pablo.

### **Professional Memberships:**

- Official Architects' Association of Madrid.

## **MARÍA BELÉN GÓMEZ GÓMEZ (Senior Instructor)**

### **Courses Taught:**

- Fall 2012:
- Spring 2013: History of Architecture II (HA2) (A212)
- Fall 2013: Building Construction Design I (PC1) (A502)
- Spring 2014: Building Construction Design II (PC2) (A507), History of Architecture III (HA3) (A312)

### **Educational Credentials:**

- 1999: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).
- 2010: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), and CEU San Pablo University, Spain. Doctoral Thesis in progress.

### **Teaching Experience:**

- Theory of the project Department, Branch of Composition. Institute of Technology of CEU San Pablo University, Madrid, Spain.

### **Professional Experience:**

- 2011 – present: Town Councillor for Urbanism and Movility at Hoyo de Manzanares Town Hall, Spain.
- 2006 – present: Instructor at the Institute of Technology at CEU San Pablo University.
- 1999 – present: Freelance Architect (new projects and rehabilitation).
- 2002 – 2007: Several works in Accessibility for Fundación ONCE, and several enterprises.
- Special Intervention Plan for Accessibility for the Town of Crevillente (Alicante) and Miguelesteban (Toledo).
- Special Intervention Plan for Accessibility at the Natural Park of (Huesca) and the Natural Park of Doñana (Huelva).
- 2000 – 2001: Scholarship at the “Eduardo Torroja” de Ciencias de la Construcción Institute for the Investigation Project “development of a system of provisional housing in case of emergency”.

### **Licenses/Registration:**

- Registered Architect, Official Architects’ Association of Madrid (COAM).

### **Selected Publication and Recent Research:**

### **Professional Memberships:**

- Town Councillor for Urbanism and Movility at Hoyo de Manzanares Town Hall, Spain.

**RICARDO GÓMEZ-CARDOSO AIRAS (Senior Instructor)**

**Courses Taught:**

- Fall 2012: : Descriptive Geometry I (GD1) (A102)
- Spring 2013: Descriptive Geometry II (GD2) (A108)
- Fall 2013:
- Spring 2014: Descriptive Geometry II (GD2) (A108), Drawing and Geometry (DGA) (A208)

**Educational Credentials:**

- 1993: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM) Technical University of Madrid (UPM)

**Teaching Experience:**

- 2005-2012: Instructor, Architecture EPS University CEU San Pablo.
- 2009: Instructor Elementary Digital photography in Architecture course. EPS University CEU San Pablo
- 2007: Computer graphics instructor. The Art of Stone. Theory and practice OF masonry. Summer School University CEU San Pablo.
- 1999: Instructor in Computer Aided Design course. Spanish Railroads Foundation. Subventioned by the European Social Fund.

**Professional Experience:**

- 1989: Preliminary design for the Political, Social and Economic Sciences Campus, University of Salamanca and Ministry of Education and Science. First Price.
- 1992: Architectural competition for the design of the Agustín Lara square and surroundings. First Price.

**Selected Publications and Recent Research:**

**Professional Memberships:**

- Registered Architect # 11022 OFFICIAL ARCHITECTS ASSOCIATION OF MADRID

## PHD. ALEJANDRO GÓMEZ GARCÍA (Associate Professor)

### Courses taught:

- Fall 2012: Introduction to Architecture (IAR) (A103)
- Spring 2013: Architectural Composition(COM) (A411)
- Fall 2013: History of Architecture (HA4) (A405), Introduction to Architecture (IAR) (A103)
- Spring 2014: Architectural Composition(COM) (A411)

### Educational credentials

- 2002: Doctor of Philosophy in Architecture (Ph.D. in Architecture) - Universidad Politécnica de Madrid UPM (Technical University of Madrid-UPM)
- 1988: Diploma of Architect (Título universitario oficial de Arquitecto) Universidad Politécnica de Madrid UPM (Technical University of Madrid-UPM)

### Teaching experience

- Department of Theory and Projects in Architecture and Urbanism - Escuela Politécnica Superior – Universidad CEU-San Pablo – Madrid (Spain): 2001-present
- Centro de Estudios Superiores CEU-Arquitectura: (1990-2001)
- Conferences and courses taught as visiting professor (2007-present): Stroganov Academy of Art, Strelka Institute, Moscow – Edinburgh College of Art, Edinburgh - Center Studium Generale Marcianum, Venice

### Professional experience

- 1988-2012 Professional practice as architect: over 100 works built or projected, amongst them:
- 2011-2012: 142 public housing NS9\_Vallecas (1st Award International Competition)
- 2006-2011: 144 public housing “Virgen de la Encina” (1st Award International Competition)
- 2000: Scenography of National Conference (1st Award Competition)
- 1996-2006: Refurbishment of commercial shop units in Madrid for Nuzzi
- 2004-2007: 91 Housing in Valdemoro
- 2003-2006 33 Attached Housing in Aranjuez

### Selected Publication and Recent Research

- Lead Principal Investigator – 2 years Research Work: “Espacios para la Enseñanza” (Spaces for Learning) Spain Ministry of Science and Innovation 2012-2014
- Member of the Research Team for the project “ESPAÑA Y LOS C.I.A.M.” (Spain and the C.I.A.M.) 2008-2010
- Several books and chapters, since 2005; amongst them:
- GÓMEZ, Alejandro, “Route Le Corbusier. Cuaderno de Viaje”. Madrid, CEU Ediciones 2008 – ISBN: 978-84-612-4799-8
- GÓMEZ, Alejandro, “Espacio de lectura y Espacio de visión en el Cubismo. Sobre el concepto de Representación Artística de Adolf Von Hildebrand”. Madrid, CEU Ediciones 2006
- GÓMEZ, Alejandro, El sentido de protección en las casas de Sáenz de Oíza. Historia y Teoría de la Arquitectura (History and Theory of Architecture), Seville, University of Seville 2011. ISSN: 1576-5628

### Licenses/registration

- Professional practice as architect (1988-present)
- Founding member of ABESTUDIO ARQUITECTURA SLP [www.abestudio.com](http://www.abestudio.com)

### Professional memberships

- Colegio de Arquitectos de Madrid (Official architects' association of Madrid), 1988
- Colegio de Arquitectos de Castilla-La Mancha (Official architects' association of Castilla-La Mancha), 1988

## PHD. MARÍA DOLORES GÓMEZ PULIDO (Lecturer)

### Courses Taught:

- Fall 2012: Advanced Structural Design (ESP) (A512)
- Spring 2013: Advanced Structural Design (ESP) (A512)
- Fall 2013: Advanced Structural Design (ESP) (A512)
- Spring 2014: Advanced Structural Design (ESP) (A512)

### Educational Credentials:

- 2004: Doctor of Philosophy in Civil Engineering. PhD dissertation: Contribuciones a la simulación numérica del fallo material en grandes deformaciones. Technical University of Catalonia (UPC).
- 1993: Master Degree in Numerical Methods applied to Engineering Calculation and Design. International Center for Numerical Methods in Engineering (CIMNE-UPC).
- 1989: Diploma of Civil Engineering (Título universitario oficial de Ingeniero de Caminos, Canales y Puertos), specialized in Foundations and Structures. Technical University of Madrid (UPM).

### Teaching Experience:

- 2000-2007: Lecturer at the Civil Engineering School of the Technical University of Catalonia (UPC).
- Lecturer at the International Center for Numerical Methods in Engineering (CIMNE) since 2001. Technical University of Catalonia (UPC).
- Lecturer on Composite Materials in Civil Engineering and Building since 1998. Technical Foundation of Catalonia.
- Best assessments on anonymous surveys of students in CEU San Pablo University in the 2009-2010 academic year.

### Professional Experience:

- 1994-2008: Founder and principal of Pedelta S.L, Structural Engineering.
- 1992-1993: Design engineer in Taller D'Enginyeries S.A. Barcelona.
- 1990-1992: Design engineer in Esteyco S.A. Barcelona-Madrid.
- 1989-1990: Project Manager in Dragados y Construcciones S.A.

### Licenses/Registration:

- Licensed Civil Engineer.

### Selected Publications and Recent Research:

- D. Pulido and J. Oliver. "Contribuciones a la simulación numérica del fallo material en deformaciones finitas. Modelos elastoplásticos". Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería, vol. 23, #1, pp. 89-115. Barcelona, 2007. ISSN 0213-1315.
- A. E. Huespe, J. Oliver, M. D. G. Pulido, S. Blanco and D. Linero. "On the fracture models determined by the continuum-strong discontinuity approach". International Journal of Fracture, #137, pp. 211-229. The Netherlands, 2006. ISSN 0376-9429.
- J. Oliver, A. E. Huespe, M. D. G. Pulido and S. Blanco. "Computational modeling of cracking of concrete in strong discontinuity settings". Journal of Computers & Concrete, vol. 1, pp. 61-76. Korea, 2003. ISSN 1598-8198.
- J. A. Sobrino and M. Dolores G. Pulido. "Towards advanced composite material footbridge". Structural Engineering International, vol. 12, pp. 84-86. Switzerland, 2002. ISSN 1016-8664.
- Tenured Researcher at the National Spanish Research Council (CSIC) since 2009.
- 2006-2013: Main researcher in six research projects sponsored by the Spanish Ministry of Science and Technology.
- "Soluciones estructurales a base de materiales compuestos". Lecture delivered at the Congress on Design, Rehabilitation and Monitoring of Structures. Spanish Group of the International Association for Bridge and Structural Engineering and CIAS (Centro Internazionale di Aggiornamento Sperimentale Scientifico). Madrid, 2010.
- "Full FRP structures". Lecture delivered at the Congress on Composites for Civil Construction. AICO (Associazione Italiana Compositi). Carrara, Italy, 2008.

### Professional Memberships:

- Official Civil Engineers' Association. Affiliated member #9983.
- Member of the Spanish Scientific-Technical Association for Structural Concrete (ACHE).
- Member of the Spanish Society for Numerical Methods in Engineering (SEMNI).
- Member of the International Institute for FRP Construction (IIFC).

## **IVÁN GONZÁLEZ TRUCO (Instructor)**

### **Courses Taught:**

- Fall 2012: Building Technologies I (COI)(1302) and Thesis Project (PFC)
- Spring 2013: Building Technologies II (COII) (1402) and Thesis Project (PFC)
- Fall 2013: Building Construction II (COI) (1302) and Thesis Project (PFC)
- Spring 2014: Building Construction Analysis (ACO) (A408) and Thesis Project (PFC)

### **Educational Credentials:**

- 2010: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Doctoral Thesis in progress.
- 2005: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).

### **Teaching Experience:**

- 2009 – present: Architectural Constructions. Building Engineering Department. Institute of Technology of CEU San Pablo University, Madrid, Spain.
- 2007 – 2009: Teacher of Technology and Art. High School course at Monte Tabor School.

### **Professional Experience:**

- 2005 – present: Freelance architect.
- 2003 – 2004: Preliminary drawings, refurbishments of premises for urban spas. Enterprise: D.R.V, S.A División Bañerios Urbanos
- 2005 – 2007: Monge y Santos S.L, Architecture studio; Consultores de Proyectos y Diseño S.A; Consultores de Arquitectura Aplicada S.L.
- 2006: Lunatus Comunicación Audiovisual: Design and Assembling of the Expo LOG`07. Logroño, La Rioja, Spain.

### **Licenses/Registration:**

- Registered Architect, Official Architects´ Association of Madrid (COAM).

### **Selected Publication and Recent Research:**

- 2010: Article "Arquitectura Natural". DT platinum magazine #161. Focus Ediciones S.L. Pages 186 – 193. Madrid, Spain. ISSN 1575-3360.
- 2010: Article "Doble firma". NOXX vanguardia singular magazine #14. Focus Ediciones S.L. Pages 154 – 161. Madrid, Spain. ISSN 1576-6163.
- 2004: Gómez Jurado, F., González Truco, I. Article "Fósforo". 12 Concursos de Arquitectura 2003/2004. Pages 42 – 43. Empresa Municipal de la Vivienda. Madrid, Spain. ISB 84-931832-9-6.
- 2003: Gómez Jurado, F., González Truco, I. Article "&CO.". 12 Concursos de Arquitectura 2003. Page 69. Empresa Municipal de la Vivienda. Madrid, Spain. ISB 84- 931832-8-8.

**PHD. ROBERTO ALONSO GONZÁLEZ LEZCANO (Assistant Professor)**

**Courses Taught (Four semesters prior to current visit):**

- Fall 2012: Mechanical Systems (IST) (A403) and Thesis Project (PFC).
- Spring 2013: Electrical and Lighting System (ELE) and Thesis Project (PFC).
- Fall 2013: Mechanical Systems (IST) (A403) and Thesis Project (PFC).
- Spring 2014: Electrical and Lighting System (ELE) (A310) and Thesis Project

**Educational Credentials:**

- 2010. Doctor of Philosophy in Industrial Engineering. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid. Dissertation: "Numerical analysis of interruption of dynamic tensile tests".
- 2007. Master in Mathematical Engineering. "Carlos III University (Universidad Carlos III)". Madrid. Spain.
- 2000. Master in University Teaching. Universidad Latina de Panamá.
- 1998. Master in Mechanical Engineering. "Technology University of Panama (Universidad Tecnológica de Panamá)".
- 1996. Diploma of Industrial Engineering. "Technology University of Panama (Universidad Tecnológica de Panamá)".

**Teaching Experience:**

- 2011-2012 Assistant Professor. Escuela "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid. Subjects: Electrical and Lighting System, Mechanical Systems, and Thesis Project.
- 2010-2011 Senior Lecturer. Escuela "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid. Subjects: Electrical and Lighting System, Mechanical Systems, and Thesis Project.
- 2005-2010 Lecturer. Escuela "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid. Subjects: Electrical and Lighting System, Mechanical Systems, and Thesis Project.

**Selected Publications and Recent Research:**

- Publication: 2012. 'Managing Sustainability through Risk Characterization in the Built Environment'. The International Journal of Environmental, Cultural, Economic and Social Sustainability.
- Oral presentation: 2012. "Cold & Hot Water Supply Simultaneity Optimization According to Spanish Building Code" International Congress & Fair on Water, Waste and Energy. Salamanca, Spain. 23 to 25 May 2012
- Oral presentation: 2011 "Energetic considerations with application to the Technical Code of the Building". 4th International Congress on Energy and Environment Engineering and Management. Mérida, Spain, 25 to 27 May 2011.
- Oral presentation: 2010 Energy performance in existing buildings: code considerations and performance-based approach 5th Energy Forum on Solar Building Skins. Bressanone, Italy. 2 to 3 December 2010
- Research Projects: 2006-2007. Light CP05-structures for energy absorption and impact protection. Funded by: Comunidad de Madrid-UC3M. Entity: "Carlos III University (Universidad Carlos III)".
- Research Projects: 2004-2007. Numerical and experimental study of the mechanical behavior and damage process of Metal Matrix Composites reinforced with particles. Funded by: Ministerio de Ciencia y Tecnología. Entity: Universidad Carlos III de Madrid.
- Research Projects: 2004-2005. Obtaining constitutive equations based PMMC's Aluminium and Titanium with a procedure based on measuring the temperature rise associated with plastic deformation. Funded by: CAM. Entity: Universidad Carlos III de Madrid.
- Research Projects: 2004-2005. Study of the effects of thermally induced residual stresses in the mechanical behavior of metal matrix composites. (Integrated Action). Funded by: Ministerio de Ciencia y Tecnología. Participating Entities: Universidad Carlos III de Madrid y Universidad de Aveiro, Portugal.

## JUAN HEVIA OCHOA DE ECHAGÜEN (Senior Instructor)

### Courses Taught

- Fall 2012: Architectural Design III (PR3) and Thesis Project (PFC).
- Spring 2013: Architectural Design IV (PR4) (A307) and Thesis Project (PFC)..
- Fall 2013: Architectural Design III (PR3) (A301) and Thesis Project (PFC).
- Spring 2014: Architectural Design IV (PR4) (A307) and Thesis Project (PFC).

### Educational Credentials:

- 2012 Preparing PhD dissertation: "Postdamer Platz - souks of Beirut, Post-traumatic architecture."
- Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 2010-11: Master of Advanced Architecture, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1985: Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### Teaching Experience:

- Escuela Politécnica Superior, Universidad CEU San Pablo Escuela de Arquitectura. Studio Design Professor, Thesis Director, 2005- to the present.
- Universidad Europea de Madrid, Visiting Instructor Jury Final Projects, 2009.
- Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Visiting Instructor. "Pre-projected housing," 2004.
- School of architecture and urbanism, SEK University. Segovia, Visiting Instructor, "Residential pattern: European 5,"

### Profesional Experience:

- 2001-current. Njhevia architecture. slp, Madrid. Founding Partner.
- 1998-2001. CMYK architecture. sl, Madrid. Partner.
- 1994-2002. Rafael Moneo. Madrid. Architecture Director.
- 1992-1994. Ramón Araujo. Madrid. Architecture Director.
- 1989-1992. Salvador Pérez Arroyo. Madrid. Architecture Director.
- Development of architecture and urban proposals: master planning, conceptual designs, Urban planning, collective + individual housing developments, cultural infrastructures, prefabrication + standardization + sustainability.
- Competition First Prizes
- Primer Premio Concurso Internacional European 5, DESARROLLO URBANO DE LA UA Nº3 LOS MATEOS. CARTAGENA.1998
- Primer Premio Concurso Restringidote Anteproyecto, EDIFICIO DE OFICINAS PARA CAIXA CATALANA ALCOBENDAS. MADRID. 1999
- Primer Premio Concurso Restringidote Anteproyectos.EDIFICIO DE VIVIENDAS Y OFICINAS EN EL ÁREA DE INTERVENCIÓN G-2-1 DEL CASCO HISTORICO DE ZARAGOZA. 2003
- Primer Premio Concurso de enajenación de parcelas.108 VIVIENDAS DE PROTECCIÓN PÚBLICA EN LA PARCELA RC04. MARITURRI. VITORIA-GASTEIZ 2005
- Primer Premio Concurso de enajenación de parcelas.136 VIVIENDAS DE PROTECCIÓN PÚBLICA EN LA PARCELA RC04 DE ALDAIA. VITORIA-GASTEIZ. 2006
- Primer Premio Concurso Internacional de Ideas. PROYECTO DEL SECTOR AMPLIACION DE AGUAS VIVAS. GUADALAJARA 2006
- Primer Premio Concurso Internacional de Ideas. 134 VIVIENDAS DE PROTECCIÓN PÚBLICA EN LA PARCELA RC7 DE AGUAS VIVAS. GUADALAJARA. 2006

### Licenses /Registration:

- Registered Architect, Colegio Oficial de Arquitectos de Madrid since 1992. Madrid, Spain

### Selected Publications/research:

- AV Monografías. nº.83. "Young European Architects: Cantera española," 2000
- Pasajes de Arquitectura. nº.34. "Nuevas Arquitecturas." Pages 10-11, 2002
- ArquitecturaCOAM. nº.352 Revista de Arquitectura y Urbanismo. Pages 66- 68, 2008
- Mutación escalar. "5.688 Paisajes Domésticos." Vol.5. Pages 54- 61, 2009

**BELEN HERMIDA RODRÍGUEZ (Senior Instructor)**

**Courses Taught (Four semesters prior to current visit):**

- Fall 2012: Architectural Design VII (PR7) (A501)
- Spring 2013: Architectural Design VIII (PR8) (A506)
- Fall 2013: Architectural Design VII (PR7) (A501).
- Spring 2014: Architectural Design VIII (PR8) (A506).

**Educational Credentials:**

- 1993 Master in Computer Science applied to Architecture, Urbanism and Building Management. ETSAM (UPM)
- 1990 Title of Architect approved by the Ministry of Education and Science, Spain.
- 1988 Massachusetts Institute of Technology, USA. Master of Architecture.
- 1988 AIA /AIA Foundation Scholarship Award for Excellence in Scholarly Pursuit in the Field of Architecture.
- 1986 Wellesley College, USA. Bachelor of Arts in Architecture and Studio Art.

**Teaching Experience:**

- 2005-present: Senior Instructor. University San Pablo-CEU.
- 1988: Teaching Assistant, Massachusetts Institute of Technology.
- 
- 2012-present: Co-Director Master in Urban Interior Design [ID]: Design of the Public Realm in Contemporary Cities. Double degree University San Pablo-CEU, Madrid + Politecnico di Milano, Italy.
- 2007-present: Coordinator, Bilingual Program in Architecture. University San Pablo-CEU.
- 1987-88: Coordinator, Student Lecture Series, Massachusetts Institute of Technology.

**Professional Experience:**

- 1990-present: Estudio Belén Hermida. Owner and founding partner.
- 1989-2007: Project Architect, Rafael Moneo Architects, Madrid.
- 1988-89: Architect at CFP/Domench&Kicks, Inc., Boston, USA.

**Licenses/Registration:**

- Madrid, Spain

**Professional Memberships:**

- 1991-present: COAM, Official Architects' Association of Madrid.

## **CARLOS GREGORIO HERNÁNDEZ HERNÁNDEZ (Senior Instructor)**

### **Courses Taught:**

- Fall 2012:
- Spring 2013: History and Society (HYS) (A112)
- Fall 2013:
- Spring 2014: History and Society (HYS) (A112)

### **Educational Credentials:**

- Actually he is finishing his doctorate on History of the Contemporary Spain with the thesis "Manuel Delgado Barreto (1878-1936)" under the direction of the Dr. D. Alfonso Bullón de Mendoza.
- 2012: Contemporary History MA, Complutense University of Madrid, Spain
- 2005: Diploma Advanced Studies (DEA), La Laguna University, Spain.
- 2002: Degree of History, La Laguna University, La Laguna, Spain

### **Teaching Experience:**

- 8 years of experience teaching subjects related to Universal History (History of Civilizations) and History of the Contemporary Spain. Has also taught master's in Social and Religious Information at CEU-San Pablo University.

### **Professional Experience:**

- Not Applicable

### **Licenses/Registration:**

- Not Applicable

### **Selected Publication and Recent Research:**

- HERNÁNDEZ HERNÁNDEZ, C. G.: "La Unión Liberal y el ocaso de la monarquía isabelina (1858-1868)", en PAREDES ALONSO, Francisco Javier (Coord.): Historia de España contemporánea, Ed. Ariel, Barcelona, 2012, pp. 341-380, ISBN 9788434469327.
- HERNÁNDEZ HERNÁNDEZ, C. G.: "La represión frentepopulista: análisis de su impacto en la redacción del diario La Nación", en BULLÓN DE MENDOZA, Alfonso y TOGORES, Luis (Coords.): La otra memoria, Ed. Actas, Madrid, 2011, pp. 423-436, ISBN: 9788497391139.
- HERNÁNDEZ HERNÁNDEZ, C. G.: "La Unión Liberal y el ocaso de la monarquía isabelina (1858-1868)", en PAREDES ALONSO, Francisco Javier (Coord.): Historia de España contemporánea, Ed. Sello, Barcelona, 2009, pp. 341-380, ISBN 978-84-937381-0-5.
- HERNÁNDEZ HERNÁNDEZ, C. G.: "La conquista, 1808", en ORELLA MARTÍNEZ, José Luis (Ed.): Retratos de la Guerra de la Independencia, Ed. Sekotia, Madrid, 2008, pp. 23-46. ISBN: 978-84-96899-28-5.
- HERNÁNDEZ HERNÁNDEZ, C. G.: "Las repercusiones del 98 en Canarias", Aportes: Revista de historia contemporánea, ISSN: 0213-5868, nº. 62, 2006, pp. 18-25.
- HERNÁNDEZ HERNÁNDEZ, C. G.: Leopoldo Matos Massieu (1878-1936), Parlamento de Canarias/Fundación Canaria Víctor Zurita Soler, Santa Cruz de Tenerife/Las Palmas de Gran Canaria, 2005. ISBN: 8468924385.
- HERNÁNDEZ HERNÁNDEZ, C. G.: "Contribución a los estudios sobre la represión republicana. El entorno de Delgado Barreto", Aportes. Revista de historia contemporánea, ISSN 0213-5868, nº. 54, 2004, pp. 29-45.

### **Professional Memberships:**

- Doctors and Graduates of Arts and Sciences Association, Community of Madrid (Colegio Oficial de Doctores y Licenciados en Filosofía y Letras y en Ciencias de la Comunidad de Madrid)
- Association of Contemporary History (Asociación de Historia Contemporánea)

## PHD. FÉLIX HERNANDO MANSILLA (Associate Professor)

### Courses Taught:

- Fall 2012: Solid Mechanics (MEC) (A203 Solid Mechanics (MEC) (A203)
- Spring 2013: Structural Systems (SES) (A210).
- Fall 2013: Solid Mechanics (MEC) (A203).
- Spring 2014: Structural Systems (SES) (A210).

### Educational Credentials:

- 1990: Doctor of Philosophy in Civil Engineering. Technical University of Madrid (UPM).
- 1988: Bachelor Degree in Physics, specialized in Industrial Physics. National Distance Education University (UNED).
- 1983: Diploma of Civil Engineering (Título universitario oficial de Ingeniero de Caminos, Canales y Puertos), specialized in Foundations and Structures. Technical University of Madrid (UPM).

### Teaching Experience:

- 2001-2006/2009-2012: Dean of the Polytechnic School of the CEU San Pablo University
- Head of the Department of Structures at CEU-Arquitectura College between 1988 and 2001, and since 2001 at CEU San Pablo University.
- 24 years of teaching experience. Responsible for the organization and implementation of 13 courses in Architecture and Telecommunication Engineering.
- Best assessments on anonymous surveys of students in both CEU-Arquitectura College and CEU San Pablo University.
- Guest professor in the Master Program on Building Structures at the Technical University of Madrid (UPM), Master Program on Analysis, Execution and Control Technologies at the Technical University of Catalonia (UPC), and the Master Program on Architecture and City at the University of Alcalá de Henares (UAH).

### Professional Experience:

- Director of Information Technologies. CEU San Pablo University.
- Independent consultant in Civil Engineering.
- Consultant in Ansaldo-Aerimpianti for the nuclear plants of Alto Lacio y Trino-Vercellese.
- Director of Structural Engineering at the nuclear plant of Trillo.

### Licenses/Registration:

- Licensed Civil Engineer.

### Selected Publications and Recent Research:

- José Carlos Bellido, Juan Antonio Hernández, Félix Hernando, Juan Ignacio Sanz. Campos y Ondas. Docutec FUSP-CEU. Madrid, 1998.
- Juan Antonio Hernández, Félix Hernando, Juan Ignacio Sanz. Mecánica. Docutec FUSP-CEU. Madrid, 1998.
- Juan Antonio Hernández, Félix Hernando, Juan Ignacio Sanz. Termodinámica y Fluidos. Docutec FUSP-CEU. Madrid, 1998.
- Félix Hernando Mansilla, Federico de Isidro Gordejuela. "Propuesta de una metodología de cálculo para muros estructurales de fábricas de ladrillo y bloque cerámico". Nueva Arquitectura, vol. 1, pp. 72-78. Faenza Editrice Iberica, Madrid, 1995. ISBN: 84-87683-09-6.
- 2003: Guest lecturer at the College of Engineering. Florida International University.
- 2010: Speaker at the USP-Zhejiang Workshop. "Wind Dynamic Loading on Slender Structures". Zhejiang University (Hangzhou, China)
- 2009-2011: Member of the Strategic Research Project BALI (Building Acoustic Living), sponsored by the European Union. Budget: 7,2M euros.
- 2001-2003: Member of the World Space Observatory, sponsored by the European Space Agency. Budget: 2,9M euros.
- 1994-2000: Main researcher of five projects on the characterization of physical and mechanical properties of masonry bearing walls and the application of the European Code EC-6.

### Professional Memberships:

- Official Civil Engineers' Association. Affiliated member #7626.
- Trust of the Centro Superior de Arquitectura at the Antonio Camuñas Foundation.
- Representative of the CEU San Pablo University at the Latin American and Caribbean Consortium of Engineering Institutions.

**PhD. AURORA HERRERA GÓMEZ (Assistant Professor)**

**Courses Taught (Four semesters prior to current visit):**

- Fall 2012: Architectural Design VII (PR7) (A501) and Thesis Project
- Spring 2013: Architectural Design VIII (PR8) (A506) and Thesis Project.
- Fall 2013: Architectural Design VII (PR7) (A501) and Thesis Project.
- Spring 2014: Architectural Design VIII (PR8) (A506) and Thesis Project.

**Educational Credentials:**

- 2004 Doctor of Philosophy in Architecture. ETSAM-UPM. Polytechnic University of Madrid.
- 1985 Diploma of Architect. ETSAM-UPM. Polytechnic University of Madrid.

**Teaching Experience:**

- 2005-2012: Assistant Professor, Architectural Design and Final Thesis Project. University San Pablo-CEU.
- 1988-2006: Senior Instructor, Architectural Design and Final Thesis Project. Architecture Center CEU.
- 1990-2008: Senior Instructor, Architectural Design. ETSAM-UPM. Polytechnic University of Madrid.
- 1989-1999: Instructor, Form Analysis. Architecture Center CEU.
- 2011-2012 Co-director. Master in Advanced Studies of Architectural Design. University San Pablo-CEU.
- 2010-2012 Coordinator. "Architecture and Cinema" Summer School. University San Pablo-CEU.

**Professional Experience:**

- 1992-present. Estudio Aurora Herrera. Owner and founding partner, specializing in designing exhibitions. Works for: Juan March Foundation, Caja Madrid Foundation, National Art Museum Reina Sofia, Cuenca Abstract Art Museum, COAM Foundation, etc.
- 1994-1995. Member of the Board of editors of Arquitectura Magazine. COAM. Official Architects' Association of Madrid.
- 2008. First Prize. Exhibition about Cities for the Future. Casa Encendida, Fundación Caja Madrid.
- 2008. First Prize. Carmen Thyssen Bornemisza Museum in Malaga. Malaga City Council.
- 1999. First Prize. Square in Pelayo de la Presa, Spain. Pelayo de la Presa City Council.
- 1996. First Prize. Temporary Interventions. Urbanism and Architecture Prizes of Madrid City Council.
- 1995. First Prize. Terrace in Atocha Competition. RENFE.
- 1990. First Prize. Porzheim Technological Park International Competition. With Enrique Bardají Álvarez.

**Licenses/Registration:**

- COAM, since 1985. Official Architects' Association of Madrid.

**Selected Publication and Recent Research:**

- 1992-present. Curator and Designer: Catalogs of several exhibitions.
- Book: Edward Gordon Craig, El espacio como espectáculo. La Casa Encendida. Madrid, 2009.
- Article: Construcción mental de una calle escaparate. Arquitectura n. 296. Madrid 1993.
- Article: La ciudad del saber. Arquitectura n. 286. Madrid 1993.
- Article: Luis Barragán. Arquitectura n. 300. Madrid 1995.
- Article: Félix Candela. Arquitectura n. 202. Madrid 1995.
- Article: La Arquitectura en Escena. Programa de Rehabilitación de teatros españoles del s. XIX. AV Magazine. Madrid, November 1992.

**Professional Memberships:**

- COAM, since 1985. Official Architects' Association of Madrid.

**DANIEL HORCAJADA DIAZ (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Architectural Form Analysis I (AF1) (A101).
- Spring 2013: Architectural Form Analysis II (AF2) (A107).
- Fall 2013: Architectural Form Analysis I (AF1) (A101).
- Spring 2014: Architectural Form Analysis II (AF2) (A107).

**Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto) 2000 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain.

**Teaching Experience:**

- 2005-present: Form Analysis I and II and Life Drawing (Architectural Graphic Expression Department)

**Professional Experience:**

- 2000-present. Partner of GHT Arquitectura

**Licenses/Registration:**

- Registered architect. Official Architect's association of Madrid since 2000

## CARLOS MIGUEL IGLESIAS SANZ (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Design I (PR1) (A201) and Thesis Project (PFC).
- Spring 2013: Architectural Design II (PR2) (A207) and Thesis Project (PFC).
- Fall 2013: Architectural Design III (PR3) (A301) and Thesis Project (PFC).
- Spring 2014: Architectural Design IV (PR4) (A307) and Thesis Project (PFC).

### Educational Credentials:

- 1988: Bachelor of Architecture and Urbanism. Escuela Técnica Superior de Arquitectura de Madrid, Universidad Politécnica de Madrid, Spain. 15.11.1988.
- 1990. Master of Pathology, reinforcement and rehabilitation of structures of reinforced concrete. Intemac-Consejo Superior. Laboratorios Intemac, Madrid, Spain. 16.03.1990.
- 1990. Master Specialist in Pathology, Conservation and Building restoration. Escuela Técnica Superior de Arquitectura de Madrid, Universidad Politécnica de Madrid, Spain. 15.07.1990.
- Doctoral Thesis in Progress: "Creativity and Teaching. Technologies and Resources in the processes of to Project", Directed by the Doctor Architect, Titular Teacher and Assistant director of the Department of Architectural Ideación Gráfica, of the Technical Top School of Architecture (ETSAM), D. Francisco Raposo Grau.
- Seminar on Architectural Design Teaching Pedagogy, conducted by Prof. Andrés Perea Ortega, E.P.S. CEU SAN PABLO University, Madrid, Spain, 2011.
- Seminar on Sustainability, conducted by Prof. Andrés Perea Ortega, E.P.S. CEU SAN PABLO University, Madrid, Spain, 2012.

### Teaching Experience:

- 22 years of teaching courses in CEU SAN PABLO University (EPS), Madrid, on design fundamentals, graphic tools, technical tools, design methods and theories, architectural programming/briefing, applications of creativity resources in processes of to Project since first academic levels to last Workshop Project End of Career.
- Summer courses: Congress "Architecture and Glass ", Title "Transparency and Opaqueness "National museum of the Glass. San Ildefonso's Farm. Segovia, Spain. July 2001.
- Summer courses: Congress "Architecture and Landscape ", Title "Urban Crystallographies ".National museum of the Glass. San Ildefonso's Farm. Segovia, Spain. July 2002.

### Professional Experience:

- Architect Planner for the Architectural Project + Facilities + Key in hand. Prefabricated and modular systems. Institution DATA AMBIENT. Madrid, Spain. 1991-1993.
- co. META Architect Office (CARLOS M. IGLESIAS SANZ), Madrid, Spain. 1990-2012.

### Licenses/Registration:

- Registered Architect, number 8601, Madrid Architects Professional Association (COAM), November 1988.

### Selected Publications/Research:

- ARKhé10, "The project of a shared architecture", CEU Ediciones, Madrid, Spain, 2011. ISBN: 978-84-15382-14-0.
- "Made In Japan", Cuaderno de Viajes nº 2: Tradición versus modernity, Japón 2010, CEU Ediciones, Madrid, Spain, 2011. ISBN: 978-84-92989-88-1.
- "Connecting the World, the Bering Strait Project. The Foundation for Peace and Unification F.P.U, Seoul, Republic of Korea, 2009. ISBN: 978-89-961722-3-9.
- "Diagraming", Cuadernos de Docencia. 2009-2010, Project Course. CEU SAN PABLO University (EPS), Madrid, Spain, 2012.

### Professional Memberships:

- Brotherhood of top architects of Spain.
- Forensic Architect. Member of the Group of Expert and Forensic Architects of the COAM, Madrid.

## PhD. FEDERICO DE ISIDRO GORDEJUELA (Assistant Professor)

### Courses Taught:

- Fall 2012: Building Construction Materials (MCO) (A204).
- Spring 2013: Building ConstructionII (SC2) (A308).
- Fall 2013: Building Construction Materials (MCO) (A204)
- Spring 2014: Building ConstructionII (SC2) (A308).

### Educational Credentials:

- 2003: Ph.D. in Architecture. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Dissertation: "Determinación de la expansión por humedad de los productos cerámicos empleados en elementos estructurales".
- 1987: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).

### Teaching Experience:

- 1987 –present: CES CEU Arquitectura and Institute of Technology of CEU San Pablo University. Courses on Building Materials and Building Technologies.

### Professional Experience:

- 1987 –present: Freelance Architect.

### Licenses/Registration:

- Registered Architect, Official Architects' Association of Madrid (COAM).
- Registered Architect, Official Architects' Association of País Vasco (COAVN).
- Registered Architect, Official Architects' Association of La Rioja (COAR).
- Registered Architect, Official Architects' Association of Castilla León (COACyLE).

### Selected Publication and Recent Research:

- 2009 – 2011: Member of the Investigation Team for BALI" Sistemas y Edificios Acústicamente Eficientes Y Saludables". PSE-380000-2009-6.
- 2009: Member of the team for the project "Estudio del comportamiento a altas temperaturas de diversos materiales de construcción". Collaboration between CSIC and the Institute of Technology (San Pablo CEU University).
- 2005: de Isidro Gordejuela, F. Chapter of the book Interpretación experimental de la magnitud de la expansión por humedad en productos cerámicos. I Jornadas de investigación en construcción. AMIET / IETcc (CSIC). Pages 435 – 446. ISBN # 94-931709-4-1.
- 2004 – 2005: Member of the Investigation Team for " Desarrollo y validación de un método general de cálculo para la determinación de la resistencia al fuego de las estructuras de fábrica". CSIC – FUSP.
- 1999: de Isidro Gordejuela, F. "Manual para el Uso del Bloque Termoarcilla". Hispalyt – Consorcio Termoarcilla. Madrid.
- 1994: de Isidro Gordejuela, F., Machín Hamalainen, C. "Moisture expansion of structural ceramics: a Spanish Experience". Forum on New Materials, World Ceramics Congress 8th CIMTEC, International Symposium A: Ceramics in Architecture (Production). Vicenzini, P., Ed. Monographs in materials and society, 1,. Florence, Italy.
- 1992 – present: Investigation project: "Estructuras de muros de fábrica de ladrillo y bloque cerámico". CES CEU Arquitectura, Technical University of Madrid (UPM) and CEU San Pablo University.

### Professional Memberships:

- 1990 – present: Member of the Committee AEN/CTN140/SC6. Structural Eurocodes: Design of Masonry Structures. AENOR.
- 1991 – 1998: Consultant of the Committee CTN136 for the standards UNE60736 and UNE67036:1999 AENOR – HISPALYT.
- 1997 – 2001: Assistant Principal and Head of Studies for CES CEU Arquitectura, Technical University of Madrid (UPM) and FUSP.

## PhD. SONIA IZQUIERDO ESTEBAN (Assistant Professor)

### Courses Taught:

- Fall 2012: Architectural Drawing II (DA2) (A202)
- Spring 2013: Architectural Drawing I (DA1) (A109)
- Fall 2013: Architectural Drawing II (DA2) (A202)
- Spring 2014: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)

### Educational Credentials:

- 1997. Diploma of Architect (Título universitario oficial de Arquitecto). Urbanism. School of Architecture of Madrid (ETSAM) of Technical University of Madrid (UPM).
- 1999. Architectural Restoration MBA. School of Architecture of Madrid (ETSAM) of Technical University of Madrid (UPM).
- 2004. PhD. in Architecture. School of Architecture of Madrid (ETSAM) of Technical University of Madrid (UPM).
- 2006. Pedagogical Aptitude Certificate (Certificado de aptitud pedagógica). Instituto de Ciencias de la Educación de la Universidad Complutense de Madrid.
- 2008. Accreditation Professor. of Private University and Professor of Public University (Profesor doctor de la Universidad privada y profesor contratado doctor). ACAP.

### Teaching Experience:

- 1995-98. Assistant. Centro de enseñanza superior CEU-Arquitectura of Technical University of Madrid (UPM).
- 1999-2003. Instructor. Centro de enseñanza superior CEU-Arquitectura of Technical University of Madrid (UPM).
- 2002-2004. Senior instructor. University CEU San Pablo. Institute of Technology (EPS).
- 2004-2009. Senior Lecturer. University CEU San Pablo. Institute of Technology (EPS).
- 2009-2012. Assistant Professor. University CEU San Pablo. Institute of Technology (EPS).

### Professional Experience:

- 2000-2003. Appraisals. Valtecnic.
- 1998-2004. Collaborations with architects offices. D. Diego Pérez. D. Luís Moya y D. Javier Carvajal
- 2007-2008. Expert advice and technical reports.
- 2008-.Design and building of a house at Boadilla del Monte.

### Licenses/Registration:

- Oficial Architects' Association of Madrid. (COAM) 12.304

### Selected Publications and Recent Research:

#### Congress papers:

- IZQUIERDO,S., (2006) "International and Universal Exhibitions: New Building Construction Techniques in Spanish Pavilions from 1937 to 2000", The Construction History Society Congress, Cambridge, UK.
- IZQUIERDO,S., (2006) "De la expresión gráfica en la arquitectura expositiva"
- IZQUIERDO,S., (2006), "El dibujo del detalle constructivo en los pabellones españoles a partir de 1937"
- IZQUIERDO,S.,(2006), "Arquitectura hispanoamericana de los siglos XVI, XVII y XVIII en Tunja, Boyaca".

#### Publications:

- IZQUIERDO, S., (2007) "Tres pabellones y tres destinos". Revista Cercha, Revista de los Aparejadores y Arquitectos Técnicos. DL. M18.993-1990
- IZQUIERDO, S., (2007)"Arquitecturas efímeras", Revista Arquitectura 347, COAM. ISSN 0004-706
- IZQUIERDO, S., (2008), "Los antecedentes: pabellones de España" en "Pabellones de España", Arquitectura Viva. . ISBN 978-84-612-4460-7
- IZQUIERDO, S., (2012), "El proyecto de una arquitectura compartida". CEU Ediciones.978-84-15382-14-0

### Professional Memberships:

- 2006- Representative member of University CEU San Pablo in the academic membership APEGA.

## PH.D. BENITO JIMÉNEZ ALCALÁ (Assistant Professor)

### Courses Taught:

- Fall 2012: Thesis Project (PFC).
- Spring 2013: Professional Practise in Architecture I (OF1) (A504), Professional Practise in Architecture II (OF2) (A511) ad Thesis Project (PFC)
- Fall 2013: Professional Practise in Architecture I (OFA) (A504), Building Construction Design I (PC1) (A502) and Thesis Project.
- Spring 2014: Building Construction Design I (PC1) (A502), Professional Practise in Architecture II (OF2) (A511), and Thesis Project.

### Educational Credentials:

- 2002: Ph.D. in Architecture. Architectural Association. School of Architecture (UK), Dissertation: Environmental Aspects of Hispano-Islamic Architecture
- 2006: Masters Degree in Conservation and Restoration of Architectural and Urban Patrimony. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1992: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Valencia (ETSAV), Technical University of Valencia (UPV), Spain. (6 year Professional Degree in Architecture).

### Teaching Experience:

- 2004 – present: Architectural Constructions and History of Architecture. Institute of Technology of CEU San Pablo University, Madrid, Spain.

### Professional Experience:

- 2006 – present: Technical Assistance for the Arts Sector of Madrid's City Council.
- 2001 – 2004: Responsible for Execution Control, Construction Control Organization of Castilla-La Mancha, Spain.
- 1994 – 1995: Architect. Module for Promotion and Development for the region of Alcaraz, Spain.
- 1994 – 1995: Instructor of Technology of Stonework. School – workshop "Andrés de Vandelvira", Alcaraz, Spain.

### Licenses/Registration:

- Registered Architect, Official Architects' Association of Valencia (COACV).
- Registered Architect, Official Architects' Association of Castilla La Mancha (COACM).

### Selected Publication and Recent Research:

- 2014: JIMÉNEZ ALCALÁ, Benito. "Interpretation of the Urban Area around the Convent of San Francisco el Grande in Madrid". IV International Conference on Heritage and Sustainable Development, organizado por Green Line Institute. Guimarães, Portugal
- 2013: Rodríguez Romero, Eva J. y Jiménez Alcalá, Benito. "Water Visibility, Convents, Monasteries and Madrid Urban Development". Catania (Italia).
- 2011: Jiménez Alcalá, B. Environmental Aspects of Hispano-Islamic Architecture, VDM Verlag Dr. Müller e.K., ISBN 978-3-639-33624-5.
- 2011: Jiménez Alcalá, B., García-Hipola, M., Rodríguez Romero, E., Antón Barco, M. Article "El Paisaje de Madrid a través de su Cornisa. Del Alzado a la Sección Cinética", Expresión Gráfica Arquitectónica (EGA), ISSN 1133-6137.
- 1999: Jiménez Alcalá, B. Article "Aspectos bioclimáticos de la arquitectura hispanomusulmana", Cuadernos de la Alhambra. ISSN 0590-1987.
- 2011: Paper "Thermal Mass in Hot Dry Mediterranean Climates: The Case study of Hispano-Islamic Architecture", 4th International Congress on Energy and Environment Engineering and Management (CIEM). Mérida, Spain.
- 2008: Jiménez Alcalá, B. Lasso de la Vega, M., Rodríguez Romero, E., Tejela Juez, J. Paper "La Huella de los Conventos en Madrid", EURAU-08 (Paisaje Cultural). Madrid, Spain.
- 2000: Paper "Environmental Performance of the Sequence Patio-Portico-Tower in Hispano-Moslem Architecture", PLEA-2000 (Passive Low Energy Architecture). Cambridge, UK.
- 2000: Paper "Natural Cooling in the Generalife (Granada)", PLEA-2000 (Passive Low Energy Architecture). Cambridge, UK.

**CARLOS LAHOZ PALACIO** (Senior Instructor)

**Courses Taught**

- Fall 2012:
- Spring 2013: City and Territorial Planning II (OTM) (PU2) (510)
- Fall 2013:
- Spring 2014: City and Territorial Planning II (OTM) (PU2) (510)

**Educational Credentials:**

- Ph. D. Studies. Completion Expected on June 2013. , Escuela Politécnica Superior E.P.S., CEU San Pablo University, Spain
- 2002 Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid E.T.S.A.M., Technical University of Madrid (UPM), Spain

**Teaching Experience:**

- 2004-current: Area of Urban Studies, E.P.S., CEU San Pablo University, Spain
- 2011-current: M Arch Landscape Architecture. E.P.S., CEU San Pablo University, Spain
- 2011-current: M Arch. Architecture and Interior Design. Faculty of Arts. Salamanca University. Spain.

**Professional Experience:**

- 2011-current: MADRID THINK TANK. Director
- 2010- current: URBAN NETWORKS S.L. Co-founder Associate
- 2004-2008: FUNDACIÓN METRÓPOLI. Design L.A:A:B Director.
- 2004-current: TALLER DE IDEAS.S.L. Associate Director
- 2003-2004: SINERGIA ARQUITECTURA Co-founder. Associate
- 2002-2003: FOSTER AND PARTNERS. London, United Kingdom
- 2000-2002: ANDRES PEREA ORTEGA ARQUITECTOS Madrid, Spain.
- 1998-1999: HATCH COLASSUONO ARCHITECTURE AND PLANNING STUDIO Los Angeles. USA.
- 1997-1998: STEVEN EHRLICH ARCHITECTS STUDIO, Los Angeles, U.S.A

**Licenses/Registration:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Registered Architect

**Selected Publications and Recent Research:**

- Lahoz C. and Martínez-Arrarás C. 2010. Eje Elche-Alicante, Territorio de Innovación. Fundación Metrópoli and CEU ediciones. Madrid.
- 2009 Ecoaldea Daroca. Ibi, Alicante Fundación Metrópoli y Grupo Empresarial La Cañanda
- 2009 Málaga, Ecosistema de Innovación. Fundación Metrópoli, Ayto. Málaga, Club Málaga Valley y BBVA
- Lahoz C. and Martínez-Arrarás C. 2009. Mar Menor, Propuestas de Futuro. Fundación Metrópoli, Gobierno de la Región de Murcia, Asmoa CEU. Madrid.
- Fundación Metrópoli 2009. Provincia de Alicante. Programa Innovación+Territorio. Fundación Metrópoli, Diputación de Alicante, SUMA y CAM. Madrid.
- Fundación Metrópoli 2009. Sarriguren, Fundación Metrópoli y Gobierno de Navarra
- Fundación Metrópoli 2008. Building the European Diagonal. Fundación Metrópoli, Penn University, Lincoln Institute, RPA, Parque Expo, Madrid Global, Generalitat de Catalunya, Institut de la Méditerranée, Politecnico di Miliano, Ajuntament de Valencia, Ville de Casablanca, OCDE
- 2008. "La Isla de la Innovación", Fundación Metrópoli, Gobierno del Principado de Asturias y SOGEPESA.

**Professional Memberships:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Member of the Permanent Commission
- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Chairman of the Planning and Urban Studies Commission
- ARCHITECTURE FOUNDATION. OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Trustee.
- MUNICIPALITY OF MADRID. Representative of the Official Architects' Association Of Madrid in the Commission in charge of Madrid's New General Plan.

**Dr. EDUARDO JOSÉ LÓPEZ FERNÁNDEZ (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Mechanical Systems (IST)(403)
- Spring 2013: Design of Mechanical Systems (PRI)(509)
- Fall 2013: Mechanical Systems (IST) (403).
- Spring 2014: Design of Mechanical Systems (PRI) (509)
- 

**Educational Credentials:**

- 2010. Doctor of Philosophy in Civyl Engineering. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid. Spain. Dissertation: "El papel de la Teoría cultural en el Análisis de Ciclo de Vida: Indicadores, modelo de daño y ponderación. Aplicación sobre aceros empleados en turbinas de vapor supercrítico de plantas de producción de energía".
- 2007. Diploma of Civil Engineering (Título universitario oficial de Ingeniero de Caminos, Canales y Puertos), specialized in Hydraulic and Energy. "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM). Spain.

**Teaching Experience:**

- 2010-2012 Senior Lecturer. Postgraduate Course in Operation at Water-Treatment Plants. "Technical University of Madrid (Universidad Politécnica de Madrid)" (UPM). Spain.
- 2010-2012 Senior Lecturer. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid.
- 2008-2010 Lecturer. "Institute of Technology, CEU San Pablo University (Escuela Politécnica Superior de la Universidad CEU San Pablo)" Madrid.

**Professional Experience:**

- 2007 - 2014 Consultant Engineer. Project Manager
- 2008 Engineer at Scientific-Technical Environmental and Roads Council of World Road Association (Asociación Técnica de la Carretera. ATC-AIPCR).
- 2009 Engineer at Scientific-Technical Risks Management Council of World Road Association (Asociación Técnica de la Carretera. ATC-AIPCR).
- 2004-2007 Assistant Scholar at Spanish Scientific-Technical Council of World Road Association (Asociación Técnica de la Carretera. ATC-AIPCR).

**Licences / Registration:**

- Licensed Civil Engineer.

**Selected Publications and Recent Research:**

- Díaz Martín, R., Redondo Martín, P., Sanglier Contreras, G., López Fernández E.J., González Izquierdo, M. "Análisis comparativo del ciclo de vida medioambiental de elementos de contención fabricados en acero-madera y acero-composite para carreteras de alta montaña". Rutas 157 Octubre-Diciembre 2013, pp. 54-61. ISSN-1130-7102.
- 2011: Díaz Martín, R., Gómez de Salazar, J.M., López Fernández, E.J., Castañeda Martín, E.
- "Ergonomía y Psicosociología Social Aplicada". Editorial: Ediciones Roble, S.L. pages: 1-169. ISBN 978-84-15908-06-7.
- 2011: Pérez Trujillo, F.J., Gómez de Salazar, J.M., Díaz Martín, R., López Fernández, E.J.
- "Higiene Industrial". Editorial: Ediciones Roble, S.L. pages: 1-148. ISBN 978-84-15339-00-7.
- 2011: Castañeda Martín, E., Díaz Martín, R., Pérez Trujillo, F.J., López Fernández, E.J.
- "Seguridad en el Trabajo". Editorial: Ediciones Roble, S.L. pages: 1-108. ISBN 978-84-15908-05-0.

**Professional Memberships:**

- Official Civil Engineers' Association. Affiliated member #24881.(Colegio Oficial de Ingenieros de Caminos, Canales Y Puertos. Spain)

## MARTA LÓPEZ GORRIA (Senior Instructor)

### Courses Taught:

- Fall 2012 Building Construction I (SC1) (A302), Building Construction Design I (PC1) (A502) and Thesis Project
- Spring 2013: Building Construction Design II (PC2) (A507) and Thesis Project
- Fall 2013: Building Construction I (SC1) (A302), Building Construction Design I (PC1) (A502) and Thesis Project (PFC)
- Spring 2014: Building Construction Design II (PC2) (A507) (COII) and Thesis Project (PFC).

### Educational Credentials:

- 1996: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).
- 1996: Course on Investigation, Diagnosis and Report Drafting in the Studies for Pathology. Of Concrete. Technical University of Madrid (UPM), Spain.
- 2000: CDM Coordinator Course. AECOM and CAM.
- 2001: Technical Course in Prevention of Labor Risks (Intermediate-level). AECOM.
- 2006: Course in "Analysis, Quality Control and Pathology of Building Structures". Technical University of Madrid (UPM), Spain.
- 2011: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Doctoral Thesis in progress.

### Teaching Experience:

- 1995 – 1996: Assistant Professor for "DISEÑO Y TALLER DE ARQUITECTURA". Universidad Autónoma de Aguascalientes. Mexico.
- 1998 – 2005: Masonry work and Construction. Escuelas Taller, Comunidad de Madrid. Spain.
- 2006 – present: Architectural Constructions. Institute of Technology of CEU San Pablo University, Madrid, Spain.
- 2009 – 2012: Office of Secretary for the Building Engineering Department. Institute of Technology of CEU San Pablo University, Madrid, Spain.

### Professional Experience:

- 1989 – 1994: Editor-in-chief and designer for the magazine "Arquitectura Viva y Monografías A&V".
- 1996 – 1997: Site Architect for LUGARCE S.L.
- 1997 – 2000: Architect for CAJA MADRID.
- 1998 – 2000: Architect. Construction Drawings and Documents and Site Inspection for Manzanares el Real Castle. IMAF Comunidad de Madrid. Spain.
- 2000 – 2005: Architect. Construction Drawings and Documents for site of Vista Alegre. IMAF Comunidad de Madrid, Spain.
- 2000 – 2010: Legal Expert in Architecture. Spain.
- 1996 – present: Freelance architect.

### Licenses/Registration:

- Registered Architect, Official Architects' Association of Madrid (COAM).
- Registered Architect, Official Architects' Association of Toledo (COACM).

### Selected Publication and Recent Research:

- 2011: Member of the Investigation Team for "Ingeniería ambiental y tecnologías para el desarrollo sostenible". Ministerio de Educación, Foster Wheeler, Ministerio de Ciencia e Innovación, CEU San Pablo University. Subprograma INNPACTO.
- Member of the Investigation Team for the Precompetition Project "Estudio de Soluciones Prestacionales para el cumplimiento del Objetivo de Seguridad en Caso de Incendio y la Accesibilidad en edificios de Uso Hospitalario. (ESPIA-H)".
- 2013. "Materiales y Técnicas en uso hospitalario". Proyecto ESPIA-H. Semana de la Ciencia. EPS-Universidad Ceu San Pablo.
- 2014. "La construcción de los espacios públicos de la Hispania romana". I Congreso Internacional sobre Investigación en Construcción y Tecnología Arquitectónicas,

**EDUARDO LOPEZ RAMIREZ (Senior instructor)**

**Courses Taught:**

- Fall 2012: Fundamentals of Mathematics in Architecture I (FM1) (A104)
- Spring 2013: Fundamentals of Mathematics in Architecture II (FM2) (A110)
- Fall 2013
- Spring 2014

**Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto). Specialitation in Building. Architecture School of Madrid (ETSAM). Technical University of Madrid (UPM), Spain. 1992.
- Especialista en Valoración del suelo y de la Edificación. Architecture School of Madrid (ETSAM). Technical University of Madrid (UPM), Spain. 1993.
- Master in Real State. Camuñas Foundation. San Pablo CEU University. Spain. 2004
- (Técnico Superior en Prevención de Riesgos Laborales. Especialidades en Seguridad, Ergonomía e Higiene). NOVOTEC. Madrid. Spain. 2009.
- Doctoral Thesis. "Análisis del ciclo de vida de elementos prefabricados de hormigón. Paneles prefabricados con HAC".

**Teaching Experience:**

- 19 years of teaching courses on Mathematics and Statistics in Architecture, Business and Economics, Psicologist and Nursing programs.
- 1993-1994: Professor, Colegio Universitario San Pablo, Fundación Universitaria San Pablo CEU.
- 1994-2012: Business and Economics School, Technical School, Facultad de Farmacia, Facultad de Medicina, San Pablo CEU University.

**Professional Experience:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID
- Instituto de Renovación Urbana IRU. Colaboración en redacción de proyectos urbanísticos. 2004-2005

## COVADONGA LORENZO CUEVA (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Drawing II (DA2) (A202)
- Spring 2013: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)
- Fall 2013: Descriptive Geometry I (GD1) (A102), Architectural Drawing II (DA2) (A202)
- Spring 2014: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)

### Educational Credentials:

- 2006-present. PhD. School of Architecture of Madrid (ETSAM), Technical University of Madrid (UPM)
- 2002. Master in Architectural Design (MAD). School of Architecture (ETSA), Universidad de Navarra (UNAV).
- 2001. Advanced Diploma: Cooperation for the Development of Human Settlements in the Third World. Escuela Técnica Superior de Arquitectura (ETSAM), Universidad Politécnica de Madrid (UPM)
- 2001. Diploma of Architect (Título universitario oficial de Arquitecto). School of Architecture of Madrid (ETSAM), Technical University of Madrid (UPM)

### Teaching Experience:

- 2006-present: Senior Instructor. Institute of Technology (EPS). University CEU-San Pablo.

### Professional Experience:

- 2006-2011. Editor. Arquitectura Viva & AV Monographs Magazines, Madrid, Spain.
- 2005-2006. Architect. AB Arquitectos, Madrid, Spain.
- 2003-2005. Architect. CBG Arquitectos. Navarra, Spain.
- 2003. Architect. Berlin PlanDesign, Berlin, Germany.
- 2002. Architect. Francisco Mangado & Asociados, Navarra, Spain.

### Licenses/Registration:

### Selected Publications and Recent Research:

- "Casa para una intersección. Los dibujos de Juan Navarro Baldeweg para el Schinkenchiku Residential Design Competition (1976)", Actas del Congreso Internacional de Expresión Gráfica Arquitectónica, ETSAMadrid, UPM, Madrid, 2012. ISBN: 84-608-0142-X
- "In Balance with the Environment. The Architecture of Juan Navarro Baldeweg", ELSA, Environment, Land and Society (Arquitectonics), vol II (III,IV), Switzerland, 2010. ISBN: 978-2-8399-0426-1
- "Project, City and Landscape. Juan Navarro Baldeweg's Conference and Exhibition Hall in Salamanca", ELSA, Environment, Land and Society (Arquitectonics), vol I (III,IV), Switzerland, 2008. ISBN: 978-2-8399-0426-1
- "Adaptable Morphology in Architectural Design", Adaptability in Design and Construction, Eindhoven University of Technology, Eindhoven, 2006. ISBN: 90-72152-03-4
- "Steel lattice space structures on Architectural Design", Shell and Spatial Structures, from Model to Realization, Laboratoire de Mécanique et Génie Civil, Université Montpellier II, 2004. ISBN: 2-912261-22-8.III.

### Professional Memberships:

- 2010-present: Member of the Architectural Association (Alumni)

## **BEGOÑA RODRÍGUEZ LÓPEZ (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Form Analysis I (AF1) (A101)
- Spring 2013: Architectural Form Analysis II (AF2) (A107)
- Fall 2013: Architectural Form Analysis I (AF1) (A101)
- Spring 2014: Architectural Form Analysis II (AF2) (A107)

### **Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto) 1989 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain.

### **Teaching Experience:**

- 2002-present: Form Analysis I and II
- 1990-2002: Form Analysis I, Life Drawing, Analysis and Graphic Ideation, Architectural Design Studio (Architectural Graphic Expression Department)

### **Professional Experience:**

- Founder and partner of AB Estudio
- Intern architect at Javier Carvajal arquitectos
- Intern architect at Alberto Campo Baeza
- Intern architect at Estudio Amagranz
- Intern architect at Estudio Serrat
- Intern architect at AA arquitectos

### **Licenses/Registration:**

- Registered architect. Official Architect's association of Madrid since 1991

### **Selected Publication and Recent Research:**

- Rodríguez López, Begoña. TT0 TOROS. CEU Ediciones. 2012. ISBN 978-84-15382-21-8
- Rodríguez López, Begoña (co-author). EDIN 2010. CEU Ediciones. 2011. ISBN 979-84-92989-87-4
- Rodríguez López, Begoña (co-author). Vivienda en Brihuega (article). Arquitectura COAM magazine. 2008. ISBN 0004-2706
- Member of the Research Group "Drawing and Architecture". Graphic Expression Department. EPS CEU San Pablo University.
- Co-director of the workshop "Movement, perception and Stage design."

**CARLOS MACHÍN HAMALAINEN (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Building Construction Materials (MCO) (A204) and Thesis Project
- Spring 2013: Building Technologies II (1402) and Thesis Project
- Fall 2013: Building Construction Materials (MCO) (A204), Building ConstructionI (SC1) (A302) and Thesis Project.
- Spring 2014: Building ConstructionII (SC2) (A308) and Thesis Project.

**Educational Credentials:**

- 2007: Degree in Architectural Engineering. Institute of Technology of CEU San Pablo University, Madrid, Spain.
- 2003: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Doctoral Thesis in progress.
- 1997: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).
- 1994: Masters Course: Theory, History, Legislation and Intervention in Rehabilitation. Architectural Construction and Technology Department. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

**Teaching Experience:**

- 1997 – present: CES CEU Arquitectura and Institute of Technology of CEU San Pablo University. Courses in Building Materials and Building Technologies; counselor for Building Technologies for the Final Project.

**Professional Experience:**

- Practising architect (principal and part-time, freelance) with several architectural firms. Responsibilities included: Preliminary and Construction Drawings of Projects for family housing, small shops, office refurbishments, office buildings and small schools for private clients. Estimation of the bill of quantities and budget. Site inspection and supervision of the construction works.

**Licenses/Registration:**

- Registered Architect, Official Architects' Association of Madrid (COAM).
- Registered Architectural Engineer, Official Architectural Engineers' Association of Madrid (COAATM).

**Selected Publication and Recent Research:**

- Tejela Juez,J., Navas Delgado, D. & Machín Hamalainen, C. (2011). Rehabilitación, mantenimiento y conservación de cubiertas. Tornapunta Ediciones. Madrid, Spain. ISBN # 978-84-15205-02-9.
- Tejela Juez,J., Navas Delgado, D. & Machín Hamalainen, C. (2011). Rehabilitación, mantenimiento y conservación de estructuras. Tornapunta Ediciones. Madrid, Spain. ISBN # 978-84-15205-36-4.
- Tejela Juez,J., Navas Delgado, D. & Machín Hamalainen, C. (2010). Rehabilitación, mantenimiento y conservación de fachadas. Tornapunta Ediciones. Madrid, Spain. ISBN # 978-84-92686-86-5.
- 2009: Member of the team for the project "Estudio del comportamiento a altas temperaturas de diversos materiales de construcción". Collaboration between CSIC and the Polytechnic School (San Pablo CEU University).

**Professional Memberships:**

- 2003 – 2012: Secretary of the Committee AEN/CTN140/SC6. Structural Eurocodes: Design of Masonry Structures. AENOR.

## PHD. MARÍA EUGENIA MACIÁ TORREGROSA (Senior Lecturer)

### Courses Taught:

- Fall 2012: Building Construction Analysis (ACO)(A408) and Thesis Project
- Spring 2013: Thesis Project
- Fall 2013: Building Construction Design I (PC1) (A502) and Thesis Project.
- Spring 2014: Building Construction Design II (PC2) (A507) and Thesis Project.

### Educación:

- 2011: Ph.D. in Architecture, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Dissertation: "Metodología para el análisis del comportamiento de las estructuras de fábrica sometidas a la acción del fuego".
- 2000: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).

Specialty courses: Over 40 specialty courses in:

- Study of structural elements for buildings under accidental fire.
- Thermo-structural analysis of several building materials under high temperatures.
- Codes based on performance: Methods of evaluation and constructive solutions for buildings.

### Teaching Experience:

- 2006 – present: Subject Area: Architectural Construction. Department of Building Engineering. EPS, USP CEU, Madrid, Spain.

### Professional Experience:

- 2000 – present: Architect at Camacho-Maciá Arquitectos, Madrid, Spain.
- Collaboration in the office of Architecture Camacho+Maciá Arquitectos, associated with Javier Camacho Díez, and development of numerous projects which have obtained several international prizes (National competition for the Auditorium and Theater of Campo de Criptana (Ciudad Real-Spain), International competition of projects for the development of the Olympic Village (Madrid), International ideas competition for 5.688 housing project (VIVA) in Mieres (Asturias), National competition for VPP (social housing) in Vallecas Ensanche 36 residential building (Madrid), National contest of ideas for building of houses of VPP (social housing) in Vallecas Ensanche 16 (Madrid)). All work has been exhibited in several cities: Madrid, London, Berlin, Melbourne, Shanghai ...

### Licenses/Registration:

- Registered Architect, Official Architects' Association of Madrid (COAM).

### Selected Publications and Recent Research:

- 2012: Anaya Gil, P., Andrade Perdrix, M<sup>a</sup> C., Castillo Talavera, A., Maciá Torregrosa, M<sup>a</sup> E. "Hormigones autocompactantes en la prefabricación. Comportamiento a altas temperaturas". Conference Proceedings. Seminar #7: New opportunities in prefabrication. Specialty Course: S5E. Energetic sustainability, building and structure evaluation. ITTcc-CISDEM-CSIC. Madrid 2012. Pages 44.54. ISBN: 978-84-695-3410-6.
- 2012: Maciá Torregrosa, M<sup>a</sup> E., Rolando Ayuso, A. "Variación del Módulo de Young en un elemento de fábrica de ladrillo sometido a altas temperaturas". Materiales de Construcción (On Line: <http://materconstrucc.revistas.csic.es>). eISSN: 1988-3226. DOI: 10.3989/mc.2012.02311.
- 2011: Maciá Torregrosa, M<sup>a</sup> E., Rolando Ayuso, A. "Is it possible to reuse a brick masonry structure after a fire according to UNE EN 1996-1-2:2005?". Conference Proceedings of the 12th International Conference on Durability of Building Materials and Components, XII DBMC. Volume 2. Porto, 12-15 April, 2011. Pages 673-679. ISBN: 978-972-752-132-6.
- 2010: Maciá Torregrosa, M<sup>a</sup> E., Rolando Ayuso, A. "Estudio sobre la Resistencia característica a compresión de elementos de fábrica sometidos a altas temperaturas". Libro de Resúmenes de Ponencias del II Congreso Nacional de Investigación en Edificación. Escuela Universitaria de Arquitectura Técnica. Universidad Politécnica de Madrid. Madrid. ISBN: 978-84-693-82.

### Memberships:

- 2002 – present: Coordinator of the Horizontal Group for Fire, for the Technical Standards Committee AEN/CTN 140 "Structural Eurocodes", AENOR.

**CLARA EUGENIA MAESTRE GALINDO (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Architectural Drawing II (DA2) (A202)
- Spring 2013: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)
- Fall 2013: Architectural Drawing II (DA2) (A202)
- Spring 2014: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)

**Educational Credentials:**

- 1988: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM) Technical University of Madrid (UPM)

**Teaching Experience:**

- 1988-2001: Instructor-Senior instructor at Centro de Estudios Superiores CEU Arquitectura, attached to Technical University of Madrid (UPM)
- 2001-2012: Senior instructor at EPS, University CEU San Pablo

**Professional Experience:**

- 1990-2010 MR ARQUITECTOS.
- 1996-1998 Assistant on Cultural Area, Official Architects Association of Madrid Foundation.
- 1989-2001 Assistant on Architectural Exhibitions, Ministerio de Fomento.

**Selected Publications and Recent Research:**

- Maestre Galindo, C.E. (2011) Larkin de Nuevo/Larkin again. CEU ediciones, Madrid ISBN # 978-84-15382-00-3
- Maestre Galindo, C.E. (2008) Hoffmann, joyas edificadas. Hoffmann. Taschen- Arlanza, Madrid ISBN # 978-84-95503-82-4
- Maestre Galindo, C.E. (2011) Proyecto de casa para Billy Wilder:1950, Eames House. Unidad Editorial, Revistas S.L.U., Madrid, ISSN # 1578-9047
- Maestre Galindo, C.E. (2011) Van der Rohe: la belleza cerebral en acero y vidrio, Casa Tugendhat, Unidad Editorial, Revistas S.L.U., Madrid, ISSN # 1578-9047
- Maestre Galindo, C.E. (2011) Casa Székely: 1934, Casa Schroeder, Unidad Editorial, Revistas S.L.U., Madrid, ISSN # 1578-9047

**Professional Memberships:**

- Registered Architect # 8596 OFFICIAL ARCHITECTS ASSOCIATION OF MADRID

## **JOSÉ MARÍA MARSÁ GONZÁLEZ (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Descriptive Geometry I (GD1) (A102)
- Spring 2013: Descriptive Geometry II (GD2) (A108)
- Fall 2013: Descriptive Geometry I (GD1) (A102)
- Spring 2014: Descriptive Geometry II (GD2) (A108)

### **Educational Credentials:**

- 1983: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM)

### **Teaching Experience:**

- 2001-current: Senior Instructor Descriptive Geometry, EPS Universidad San Pablo CEU
- 1972-2001: Senior instructor Descriptive Geometry. CES CEU Arquitectura.
- 1990-1992: Professor Master in gardening and landscape. Architecture School of Madrid (ETSAM)
- 1984-1996: Instructor Architecture School of Madrid (ETSAM)
- 1972-2001: Instructor Descriptive Geometry. CES CEU Arquitectura.

### **Professional Experience:**

- 1983-2012: Estudio de Arquitectura Marsá SLP

### **Selected Publications/research:**

- Marsá González, J.M. (2004) Rehabilitación Palacio Duque del Infantado. Forma en la Villa de Madrid. Soporte gráfico para la información histórica de la ciudad. Fundación Caja Madrid. Consejería de Cultura y Deporte. Madrid, ISBN # 84451-2704
- Marsá González, J.M (1991) Medios y sistemas constructivos en el primer periodo Románico en Cataluña. Madrid. Fundación Camuñas.
- Marsá González, J.M. (1987) Edificio del Nuncio en Toledo. Rehabilitación. Proyectos de intervención en edificios históricos y recintos históricos. Publicaciones COAM. Madrid, ISBN # 847740-003-2
- Marsá González, J.M, Gentil, J.M, Cabeza, G.(1985) Monografía. La rehabilitación del edificio del Nuncio. Dragados. Consejería de Política Territorial. Castilla-La Mancha.
- Marsá González, J.M, Rodríguez Partearroyo, F. (1985) La representación gráfica arquitectónica. Sevilla. Primeras Jornadas de Expresión Gráfica.

### **Professional Memberships:**

- Registered Architect #6867 OFFICIAL ARCHITECTS ASSOCIATION OF MADRID

**JUAN MARTÍN BARANDA (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Thesis Project (PFC)
- Spring 2013: Thesis Project (PFC)
- Fall 2013: Thesis Project (PFC)
- Spring 2014: Thesis Project (PFC)

**Educational Credentials:**

- 1971 Diploma of Architect (Título universitario oficial de Arquitecto) by the Architectural School of Madrid (ETSAM) Technical University of Madrid (UPM).

**Teaching Experience:**

- 1968-1971. Architectural Forma Analysis. C.E.S. CEU-Arquitectura
- 1971-1985. Architectural Design I,II,III and IV. C.E.S. CEU-Arquitectura 1990-2010.
- Architectural Design I, II,III and IV. Escuela Politécnica Superior, Universidad San Pablo CEU
- 2010-2011. Architectural Design I, II and PFC. Escuela Politécnica Superior, Universidad San Pablo CEU
- 2011-2012. Final Thesis Project. Escuela Politécnica Superior, Universidad San Pablo CEU

**Professional Experience:**

- Has been directing his own practice since 1973.
- FIRST PRIZE Ideas Competition Laboratories and Engineers School Building. U.A.M. 2003
- FIRST PRIZE Ideas Competition University Centre for Material Analyzing. U.A.M. 1999
- FIRST PRIZE Ideas Competition Ibiza Gran Hotel. 1998
- FIRST PRIZE Ideas Competition Computer Science School Building U.A.M. 1993
- FIRST PRIZE Ideas Competition Transportation Hub in Plaza de Castilla. 1992
- FIRST PRIZE Ideas Competition Electric Company Laboratories 1990
- FIRST PRIZE Ideas Competition Fire Department Building in Burgos 1986
- FIRST PRIZE Ideas Competition New Urban Center in Riaño 1982
- FIRST PRIZE Ideas Competition New Urban Center in Riaño 1982
- FIRST PRIZE Ideas Competition Commercial Center and Offices in Caracas (Venezuela) 1979
- FIRST PRIZE Ideas Competition Spanish Embassy in Kuwait 1978

**Licenses/Registration (habilitación profesional):**

- Registered Architect since 1971. Official Architects' Association of Madrid.

**Selected Publication and Recent Research (selección de publicaciones e investigación reciente):**

**Professional Memberships (asociaciones profesionales a que pertenece):**

- Official Architects' Association of Madrid.

**ANTONIO MARTÍN ESCUDERO (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Structural Analysis I (AE1) (A303), Dimensioning of Structures (DES) (A402)
- Spring 2013: Structural Analysis I (AE1) (A303), Dimensioning of Structures (DES) (A402)
- Fall 2013: Dimensioning of Structures (DES) (A402) and Thesis Project
- Spring 2014: Dimensioning of Structures (DES) (A402) and Thesis Project

**Educational Credentials:**

- 1980: Diploma of Architecture (Título universitario oficial de Arquitecto). Technical University of Madrid (UPM).

**Teaching Experience:**

- 1983-1987: Instructor in Mathematics at the Architecture School of Madrid (ETSAM).
- 1987-2005: Instructor in Structures at the Architecture School of Madrid (ETSAM).
- Best assessments on anonymous surveys of students in CEU San Pablo University in the 2004-2005 academic year.

**Professional Experience:**

- Independent architect and structural consultant since 1980.

**Licenses/Registration:**

- Licensed Architect.

**Selected Publications and Recent Research:**

- Enrique Martínez Sierra, Óscar Liébana Carrasco, Antonio Martín Escudero. Cálculo y dimensionado de elementos de hormigón: Aplicación de EHE08-CTE. Colección Textos Docentes nº 5, CEU Ediciones, Madrid 2010. ISBN: 978-84-92989-48-5.

**Professional Memberships:**

- Official Architects' Association of Madrid. Affiliated member #6577.

**COVADONGA MARTÍNEZ-PEÑALVER GÓMEZ (Instructor)**

**Courses Taught :**

- Fall 2012: Architectural Design III (PR3) (A301)
- Spring 2013: Architectural Design IV (PR4) (A401)
- Fall 2013: Architectural Design V (PR5) (A401)
- Spring 2014:

**Educational Credentials:**

- Degree in Architecture. E.T.S.A.M Madrid, Spain. 2002.
- PhD Candidate. E.T.S.A.M Madrid. 2005- Present

**Teaching Experience:**

- Instructor. Two years of teaching experience in Architecture Studio. E.P.S University San Pablo C.E.U, Madrid.
- Instructor. Two years of teaching experience in Architecture Studio. Camilo José Cela University, Madrid.
- Teaching scholarship. Two years of teaching experience in Architecture Studio. E.T.S.A.M Madrid.

**Professional Experience:**

- Head of mu own office with David Archilla since 2003. 15 Projects built, 15 prizes in competitions. The Office's work have been exhibit in Madrid, Barcelona, Bogotá, Buenos Aires, Brussels, London, Ibiza, Zaragoza, Vitoria, Segovia and León.
- Curators of different Lecture Series.

**Licenses/Registration:**

- Licensed Architect since 2003. OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID (COAM)

**Selected Publications and Recent Research:**

- MTEZ-PEÑALVER, Covadonga. "Con-Textos", in García-Germán, Javier y Mtez-Peñalver, Covadonga, eds, Con-Textos 2008, hacia un nuevo entorno energético. University Camilo José Cela, Madrid, 2008, pp. 10.
- MTEZ-PEÑALVER, Covadonga. "Estructuras de trabajo", "Acción transdisciplinar", "Innovación construida" y "Reformulación del Territorio". In [www.corto-circuitos.blogspot.com](http://www.corto-circuitos.blogspot.com), 2009.
- MTEZ-PEÑALVER, Covadonga. "From holiday way of life to everyday routine." Congress TOURBANISM. Paper accepted for its presentation in Barcelona, January 25th, 2012.

**Professional Memberships:**

- AFFILIATE MEMBER, COAM SINCE 2003
- MEMBER, MOVIMIENTO DISFRUTISTA SINCE 2008

## **CARLOS MARTÍNEZ-ARRARÁS CARO (Senior Instructor)**

### **Courses Taught**

- Fall 2012
- Spring 2013: City and Territorial Planning II (PU2) (A510)
- Fall 2013
- Spring 2014: City and Territorial Planning II (PU2) (A510)

### **Educational Credentials:**

- 1986 Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid E.T.S.A.M., Technical University of Madrid (UPM), Spain
- 2012 M.F.A. Faculty of Fine Arts. Universidad Complutense de Madrid. Spain (expected finalization September 2012)

### **Teaching Experience:**

- 1999-current: Area of Urban Studies, Escuela Politécnica Superior E.P.S., CEU San Pablo University, Spain
- 1991-current: Master of Urbanism and Territorial Management. Escuela de Negocios. Fundación Universitaria San Pablo-CEU. Spain.
- 2011-current: M Arch. Architecture and Interior Design. Faculty of Arts. Salamanca University. Spain.
- 2000-2007: Area of Landscape Architecture, CES CEU. Architecture, CEU San Pablo University, Spain

### **Professional Experience:**

- 2010- current: URBAN NETWORKS S.L. Co-founder , Architect, Concept designer.
- 1998-current: FUNDACIÓN METRÓPOLI. Adviser.
- 1998-current: TALLER DE IDEAS.S.L. Co-founder. Associate Director

### **Licenses/Registration:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Registered Architect N° 7882

### **Selected Publications and Recent Research:**

- Lahoz C and Martínez-Arrarás C 2010. Eje Elche-Alicante, Territorio de Innovación. Fundación Metrópoli and CEU ediciones. Madrid.
- Lahoz C and Martínez-Arrarás C 2009. Mar Menor, Propuestas de Futuro. Fundación Metrópoli, Gobierno de la Región de Murcia, Asmoa CEU. Madrid.
- Fundación Metrópoli 2009. "Sarriguren", Fundación Metrópoli y Gobierno de Navarra
- Lahoz C and Martínez-Arrarás C 2007. Golfo San Jorge. Propuestas Urbanas para la Patagonia. Editorial Fundación Metrópoli, FINES, Pan American Energy CEU Ediciones.
- Barrero LI, Lahoz C and Martínez-Arrarás C 2006. A Salamanca le faltan flores. Propuestas Urbanas para Salamanca. Ordenación Territorial y Metropolitana. 2006. C.O.A.I., U.S.A.L., E.P.S. C.E.U. San Pablo, C.E.S. C.E.U. Madrid.
- Taller de Ideas. 1998 Alcobendas Centro Histórico. Un Proyecto de Recuperación. Ayuntamiento de Alcobendas. 1998. (Official Architects' Prize 1998)
- Taller de Ideas -Comunidad de Madrid. 1995 Una Estrategia de Ecodesarrollo para la Sierra de Guadarrama (Commended by European Council of Spatial Planners 1995)
- VVAA. 1994 Directrices de Ordenación Territorial C.A. País Vasco. Gobierno Vasco. 1994. (Highly Commended by European Council of Spatial Planners 1995)

**PH.D. JUAN MILLAN LÓPEZ (Assistant Professor )**

**Courses Taught (4 last semesters):**

- Fall 2012: Architectural Design I (PR1) (A201),
- Spring 2013: Architectural Design II (PR2) (A207)
- Fall 2013: Architectural Design I (PR1) (A201), Architectural Design V (PR5) (A401)
- Spring 2014: Architectural Design II (PR2) (A207), Architectural Design VI (PR6) (A407)

**Educational Credentials:**

- 2010-2011: Seminar on Architectural Design Teaching Pedagogy, conducted by Prof. Andrés Perea Ortega, San Pablo-CEU University, Technical School. Madrid, Spain.
- 2008: Postdoctoral Scholarship. Technische Universität, FFA, Kaiserslautern, Germany,
- 2006: Postdoctoral Scholarship. Technische Universität, FFA, Karlsruhe, Germany,
- 2002: PhD in Architecture. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.
- 1977: Diploma of Architect. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.
- 1975: Pre-doctoral Scholarship Bohelaf/Deutsches Kulturinstitut, Madrid, Spain,
- 1975: Pre-doctoral Scholarship/ The International Association I.A.E.S.T.E., Athens, Greece,
- 1971-1972: Pre-doctoral Scholarship/ Colegio Universitario Centro de Altos Estudios FAE, Madrid, Spain,

**Teaching Experience:**

- 1989-present: Diverse courses in Architectural Design and Architectural Drawing. San Pablo-CEU University, Technical School. Madrid, Spain.
- 2008: Architectural Design workshop: " Pfälzer Wald ", Technische Universität, Fachbereich Architektur, Kaiserslautern, Germany, 2008.
- 2006: Architectural Design jury, Fakultät für Architektur, Universität Karlsruhe, Germany.
- 1978: Theory of Knowledge course, London University Board, united World College of the Atlantic, Llantwit Mayor, UK.
- 1975: Building Materials Research I.A.E.S.T.E. Insulation and Protection S.A., Athens and Koropi Attikis, Greece.

**Professional Experience:**

- 1978-present: JUAN MILLAN Architect Office, Madrid, Spain.
- 1985: 1st prize (Heritage entry) National Competition on Nature and Historic Heritage Preservation, the Preservation Foundation and Ford España S.A.
- 1982: Assistant Site Manager. Fomento de Obras y Construcciones S.A. Madrid, Spain.

**Licenses/Registration:**

- Registered Architect, number 4694, Official Architects Association of Madrid (COAM), since 1978.

**Selected Publications/Research (from 2005):**

- LANDSCAPE AND ALLIANCE, Congress MIND THE GAP, " Landscapes For A New Era " EFLA 2011, Congress Proceedings, Tallinn, Estonia, 2012. (Paper + Poster)
- (7 Mb.) Vol. 3 (15 Mb.), UPM Electronic publishing, ID Code: 7626, Madrid, Spain, 2011. (Book)
- COMENTARIO CRÍTICO, Cuaderno de Investigación Nº 03: ARKhé10, El Proyecto de una Arquitectura Compartida, CEU Ediciones, 2011. (Article)
- JAPAN: THE SACRED SPACE, Cuaderno de Investigación Nº 2: Tradición versus Modernidad, Japón 2010, p 8-11, ISBN: 978-84-92989-88-1, CEU Ediciones, Madrid, Spain, 2011. (Article)
- CONNECTING THE WORLD, THE BERING STRAIT PROJECT p.107, ISBN 978-89-961722-3-9, The Foundation for Peace and Unification F.P.U., Seoul, Republic of Korea, 2009. (Book Chapter)
- SE SUUT SUTOT, CONCURSO INTERNACIONAL DE IDEAS CAMPUS DE LA JUSTICIA, p.143, M-50592-2005, Fundación COAM Nº 176, Madrid, Spain, 2005. (Book Chapter)
- EL REGALO DE LOS LÖW BEER, Ra REVISTA DE ARQUITECTURA Nº 7, ISSN 1138 – 5596, p. 41-52, E.S. de Arquitectura de la Universidad de Navarra, Pamplona, Spain, 2005. (Article)

**Professional Memberships:**

- Elected representative, Board of Representatives Official Architects Association of Madrid (COAM).

## MARIANO MOLINA INIESTA (Senior Instructor)

### Courses Taught:

- Fall 2012: Structural Analysis I (AE1) (A303), and Thesis Project (PFC)
- Spring 2013: Structural Analysis II (AE2) (A309), Advanced Structural Design (ESP) (A512) and Thesis Project (PFC)
- Fall 2013: Structural Analysis I (AE1) (A303), Design of Building Structures (PES) (A508) and Thesis Project (PFC)
- Spring 2014: Structural Analysis II (AE2) (A309), Design of Building Structures (PES) (A508) and Thesis Project (PFC)

### Educational Credentials:

- Doctor of Philosophy in Architecture. PhD dissertation: La idea de Monumentalidad en la Segunda Posguerra: Debates y Propuestas. Technical University of Madrid (UPM). Submission expected by the end of 2012.
- 2002: Master in Architecture with Distinction. Harvard University.
- 2002: Kevin V. Kieran Prize, awarded by the Department of Architecture in recognition of the highest level of academic achievement among students graduating from the postprofessional Master in Architecture (MArch II) program. Harvard University.
- 2000: Fellowship awarded by La Caixa Savings Bank for attending a post-professional master program in the US.
- 1997: Diploma of Architecture (Título universitario oficial de Arquitecto). Technical University of Madrid (UPM).
- 1997: First National Prize of Architecture, awarded by the Spanish Ministry of Education and Culture to the best academic records among graduating students from all schools of architecture in the country.
- 1993: Prize for the Academic Performance awarded by the Technical University of Madrid.

### Teaching Experience:

- Guest lecturer at the Master Program in Structures of the Escuela de la Edificación Foundation and the Technical University of Madrid (UPM) since 2004.
- 2012: External advisor for Thesis Project at the School of Architecture Luigi Vanvitelli. Seconda Università degli Studi di Napoli, Italy.

### Professional Experience:

- Independent architect since 2002.
- 1997-2000: Collaborator at the architectural office of José Rafael Moneo Vallés.

### Licenses/Registration:

- Licensed Architect.

### Selected Publications and Recent Research:

- El Memorial de la Paz de Hiroshima. Definición de una monumentalidad japonesa de posguerra. Lecture delivered at the Torroja Seminars, organized by the National Spanish Research Council. Madrid, December 15, 2011.
- Mariano Molina, Luis Sergio Carrillo. "9 VPP/Lorca, Murcia". Conarquitectura, vol. 33, pp. 65-72. Conarquitectura ediciones SL. Madrid, 2010. ISSN-1578-0201.
- "La idea de monumento cívico en la obra y el discurso teórico de José Luis Sert". Presencia de las migraciones europeas en la arquitectura latinoamericana del siglo XX, pp. 236-261. Universidad Nacional Autónoma de México, México DF, 2009. ISBN: 978-607-02-0857-7.
- Mariano Molina, Luis Sergio Carrillo. "Hotel en Aguaderas. Lorca". Catálogos de Arquitectura, vol. 18, pp. 110-111. Colegio Oficial de Arquitectos de Murcia, 2006. ISSN-1138-2430.
- Lecturer at the 53th International Congress of Americanists. Universidad Iberoamericana, México DF, 2009.

### Professional Memberships:

- Official Architects' Association of Murcia. Affiliated member #1201.

**PHD. SANTIAGO DE MOLINA RODRÍGUEZ (Assistant Professor)**

**Courses Taught:**

- Fall 2012: Architectural Design Studio III (PR3) (A301)
- Spring 2013: Architectural Design Studio IV (PR4)(A307)
- Fall 2013: Architectural Design Studio III (PR3) (A301)
- Spring 2014: Architectural Design Studio IV (PR4)(A307)

**Educational Credentials:**

- 2001: PhD cum laude in Architecture. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain. Thesis titled Collage and Architecture awarded with the extraordinary prize of PhD studies of the UPM.
- 1997: Diploma of Architect. Technical University (UPM), Architecture School (ETSAM), Madrid, Spain.

**Teaching Experience:**

- Visiting Professor and Guest Professor at UAX, ETSAM, ESAYT, ETSAS and ETSAC in Spain, and PUC, Desarrollo University and Central University of Santiago de Chile.

**Professional Experience:**

- 2007-present: Own professional practice. Competitions, projects and built work:
- 30 Public Housing units. Carabanchel, Madrid, Spain. First prize in open competition. Under construction.
- Won competitions: Serrería Belga, Madrid, Spain, Mixed-used Tower, Algeciras, Spain, and EA Monographies of Madrid Architects Professional Association (COAM).

**Licenses/Registration:**

- Registered Architect, number 12292, Official Architects Association of Madrid (COAM), since 1997.

**Selected Publications/Research:**

- Writer at "La Ciudad Viva".
- Editor in chief of "Múltiples Estrategias de Arquitectura" ([www.santiagodemolina.com](http://www.santiagodemolina.com)), selected in 2011 and 2012 as one of the three best world architectural publications in spanish by Wikio Ranking.
- Director of "Context in Architecture" research group, and Co-Director of The Master in Advanced Studies of Architectural Projects (MASAP), at San Pablo-CEU University, Technical School. Madrid, Spain.

## **BLANCA MURO VILLALBA (Senior instructor)**

### **Courses taught:**

- Fall 2012: History of Architecture I (HA1) (A206)
- Spring 2013: : History of Architecture II (HA2) (A212), History of Architecture III (HA3) (A312)
- Fall 2013: History of Architecture I (HA1) (A206)
- Spring 2014: History of Architecture II (HA2) (A212), History of Architecture III (HA3) (A312)

### **Educational credentials**

- 1995-1999 Doctorate Courses. Universidad Politécnica de Madrid. Escuela Superior de Arquitectura.
- Tesis de Licenciatura: "Enrique María Repullés y Vargas (1845-1922). Obra en Madrid"
- 1977-1982: Bachelor's Degree in Geography and History. History of Art - Universidad Autónoma de Madrid, Facultad de Filosofía y Letras. 1977/82

### **Teaching experience**

- Department of Theory and Projects in Architecture and Urbanism - Escuela Politécnica Superior – Universidad CEU-San Pablo – Madrid (Spain): 2001-present
- Centro de Estudios Superiores CEU-Arquitectura: (1989-2002)
- Duke University in Madrid programme: 1997-present

### **Professional experience**

- Collaborator of the Studies: "Anteproyecto del Ensanche de Barcelona", "Teoría de la Construcción de la Ciudad de Barcelona" and "Teoría de la Viabilidad Urbana de Madrid", for the Instituto de Administración Local - Ministerio de Administraciones Públicas - 1989 - 1991
- Collaborator of the Research team "Entre la manzana y el bloque. Edificios de viviendas con patio hacia la calle en el ensanche de Madrid" ("Between square and block. Housing buildings with patio facing the street of the urban extension of Madrid"), directed by Mr. Enrique de Teresa, from the Escuela Técnica Superior de Arquitectura de Madrid – Universidad Politécnica de Madrid - 1989
- Member of the Restoration team of the Project "Memoria Histórica y Arquitectónica sobre el antiguo edificio del Concejo de la Mesta de Madrid" ("Historic and Architectural memory of the old Concejo de la Mesta de Madrid building"): 1988.

### **Selected Publication and Recent Research**

- MURO, Blanca, "La Alhambra es...Sentido y sensibilidad". Madrid: CEU Ediciones, 2011
- MURO, Blanca "Construcción tras la destrucción. Phoenix at Coventry". Madrid: CEU Ediciones, 2011
- Several authors: "El Racionalismo Madrileño". Research Project. Madrid: Colegio Oficial de Arquitectos de Madrid (Official architects' association of Madrid), 1992.
- Several authors; "Teoría de la Construcción de las Ciudades. Cerdá y Barcelona. Vol. I y II" ("Theory of the construction of cities. Cerdá and Barcelona"). Madrid: Ministerio de Administraciones Públicas. Madrid - 1991.
- MURO, Blanca. "La arquitectura religiosa madrileña de E. M. Repullés y Vargas". Madrid: Ed. Diócesis de Madrid-Alcalá, Madrid, 1986

### **Licenses/registration**

- Bachelor's Degree in Geography and History. History of Art. Universidad Autónoma de Madrid, Facultad Filosofía y Letras. 1982

### **Professional memberships**

- Association of Bachelor's of Geography and History (History of Art). Madrid - 1982

**RODRIGO NUÑEZ CARRASCO (Senior Instructor)**

**Courses Taught (Four semesters prior to current visit):**

- Fall 2012: Environmental Systems (TEC) (A304), and Thesis Project
- Spring 2013: Design of Mechanical Systems (PRI)(A509), and Thesis Project (PFC). And Thesis Project
- Fall 2013: Environmental Systems (TEC) (A304), Design of Environmental and Mechanical Systems (PRI) (A509) and Thesis Project (PFC).
- Spring 2014: Design of Environmental and Mechanical Systems (PRI) (A509) and Thesis Project (PFC)

**Educational Credentials:**

- 2007. Diploma of Advanced Studies-Research Proficiency. "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM) in the Department of Architectural Design. Spain.
- 2003. Diploma of Architect (Título universitario oficial de Arquitecto). "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM). Spain. Average score of "A" and a diploma project score of "A".
- 2002. Scholarship from "Fundación Caja de Arquitectos" granted to the 10 best academic records in Spain.
- 1999. Angel Herrera award for the best academic record from CEU Foundation.

**Teaching Experience:**

- 2005-current: Senior Instructor at the "Institute of Technology, CEU San Pablo University (*Escuela Politécnica Superior de la Universidad CEU San Pablo*)" in Madrid, Subjects: Environmental Technology, Design of Mechanical Systems and Thesis Project.
- 2006-2007: Instructor at the "Graduate Center CEU-Architecture (*Centro de Estudios Superiores CEU-Arquitectura*)" - attached to the "Technical University of Madrid (*Universidad Politécnica de Madrid*)" (UPM). Subjects: Architectural Design VI and VII.

**Professional Experience:**

- 2012-current: Editorial Secretary of the architectural review of the "Institute of Technology, CEU San Pablo University (*Escuela Politécnica Superior de la Universidad CEU San Pablo*)"
- 2011-current: Coordinator of the "Debate Club (*Club de Debates*)" of the "Institute of Technology, CEU San Pablo University (*Escuela Politécnica Superior de la Universidad CEU San Pablo*)"
- 2003-2004: Architect at "Office for Metropolitan Architecture (OMA)" with Rem Koolhaas, where he participates in the development of: the "China Central Television (CCTV)" headquarters in Beijing; the "Koningin Juliana Plein" building in The Hague; the "European Central Bank" headquarters competition in Frankfurt; the "S-urban" development project in Seoul; and the "Museum of Seoul National University".

**Licenses/Registration:**

- Registered Architect, Official Architects' Association of León (*Colegio Oficial de Arquitectos de León*)

**Selected Publications and Recent Research:**

- Research Project: 2011: Tutor of the research project "Arquitectura de emergencia: viviendas sostenibles en zonas de necesidad. Técnicas y materiales para la construcción de viviendas en zonas de necesidad. La sostenibilidad para mejorar las condiciones humanas" conducted by students Alvaro Figueruelo and Daniel Mayo. Special Prize in the area of Fine Arts, Music, Architectural design and graphical ideation of the X University prize "Archimedes" for the Introduction to Scientific Research organized by the Spanish Ministry of Education, 2011.
- Publication: 2011: Co-Author of the book: "El proyecto de una arquitectura compartida. The project of a shared architecture ". CEU Ediciones. Madrid.
- Publication: 2012: Co-Author and coordinator of the book: "Técnicas de acondicionamiento térmico". CEU Ediciones. Madrid.
- Publication: 2012: Publication of a project: European 11 Austria Hungary Kosovo. Vienna.

**Professional Memberships:**

- Official Architects' Association of León (*Colegio Oficial de Arquitectos de León*)

## VICENTE PATÓN JIMÉNEZ (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Design VII (PR7) (A501) and Thesis Project (PFC)
- Spring 2013: Architectural Design VII (PR7) (A501) and Thesis Project (PFC)
- Fall 2013: Thesis Project (PFC)
- Spring 2014: Thesis Project (PFC)

### Educational Credentials

- 1980 Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### Teaching Experience

- 2001- to the present, Studio Design Professor and Thesis Project advisor, Escuela Politécnica Superior San Pablo CEU. In 2006, received the Angel Herrera Award for Teaching Excellence, Universidad San Pablo CEU.
- 2012, Professor of the course "Ephemeral Architecture." Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 2011, Director and professor of the course: Curso DI1. "Diseño en Arquitectura" at the Instituto Arquitectura de la Fundación COAM.

### Professional Experience

- 2012, Curatorial and exhibition design for the renovated Museo Municipal de Arte Contemporáneo in the Centro Cultural Conde Duque, Madrid.
- 2011, Design and execution of the Museo de los Caños del Peral, in the Opera metro station, commissioned by Metro de Madrid.
- 2007, Design and execution of "Iguazu murals" in the new Chamartin metro station, Metro de Madrid, commissioned by the Comunidad de Madrid (MINTRA).
- 2007, Cave restoration to house the newly created Cave-House Museum, commissioned by the municipal government of Tielmes, Madrid.
- 2006, Design and execution Moriarty Gallery, calle Libertad 22, Madrid.
- 2002, "Airplane" sculpture in Colombia metro station, commission by the Comunidad de Madrid.
- 1999, Murals in Barajas airport metro station, commissioned by Arpegio S.A. (Comunidad de Madrid), awarded the 1999 Architectural Design Prize by the city of Madrid.

### Licenses/Registration

- -Registered Architect, Colegio Oficial de Arquitectos de Madrid.

### Selected publications/Research

- Architectural critic in the following publications: newspapers--**EL PAÍS, ABC, Público**, magazines--**Sur Exprés, ON diseño, Lápiz, Arquitectura y Vivienda, Arquitectura Viva, Arquitectura COAM, Teatra, Casa Vogue, Punto y Plano, Bauwelt, Licht und Architektur, Cuadernos Hispanoamericanos, Experimenta, BAU, Contemporánea**.
- Research and author of the biographies and architectural descriptions of the webpage of the architect **Miguel Fisac Serna**, la Fundación Fisac de Ciudad Real (2010-2011).
- Research and author "**100 años Gran Vía**" for the city of Madrid, and the webpage **monumentamadrid.es**, (2010).
- Author of the chapter "Madrid vertical," **TÉCNICAS Y ESTRATEGIAS. Sobre la construcción de la torre SYV**. pág. 32-35. Editor Qestudio. Madrid, 2008.
- Author, **El Antiguo Cementerio del Sitio de la Florida**, Área de las Artes del Ayto. de Madrid, 2009.
- Author, **Conde Duque. Nuevos espacios culturales en el Cuartel de las Reales Guardias de Corps**, chapter II: Una Historia Constructiva, Conarquitectura ediciones. Madrid 2011.
- Curator of the exhibitions at the COAM Foundation: **Arquitectura Colombiana, Barba Corsini, Diseño del Mueble en España 1902-1998. Premio de periodismo COAM 1987**. Co-founder and part owner of the magazine **La Luna de Madrid**, 1983-85 (Permayare producciones). Co-founder of the magazine **Tectónica** (ATC ediciones). Technical director of the magazine **Diseño Interior** (Globus Comunicación), 1991-94.

**Adscripciones profesionales:** Member COAM Cultural commission, 1991-93. Architecture Concusultant COAM Cultural Foundation, 1993-98. Heritage Commission member, COAM, 1999-08.

## **EDUARDO DE LA PEÑA PAREJA (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Design VII (PR7) (A501).
- Spring 2013: Architectural Design VIII (PR8) (A506).
- Fall 2013: Architectural Design VII (PR7) (A501).
- Spring 2014: Architectural Design VIII (PR8) (A506).

### **Educational Credentials:**

- 2001 Research Sufficiency (Architecture School of Madrid)
- 1992 Diploma of Architect (Architecture School of Madrid).

### **Teaching Experience:**

- 2007 Invited Teacher, "Las Huellas de la Minería", Technical University of Madrid.
- 2005-2012: Senior Instructor, Architectural Design and Final Thesis Project. San Pablo CEU University.
- 2002-2006: Instructor, Architectural Design and Final Thesis Project. CEU Architecture Center.

### **Professional Experience:**

- 2004-2012 Office shared with Antonio Lleyda.
- 2001 Prize winner. European 6 Architecture Competition.
- 1995-2003 Office shared with Antonio Lleyda and Rafael Torreló
- 1996 Runner up. European 4 Architecture Competition.
- 1990-1995 Collaborations at Andres Perea and Rafael Torreló Office.

### **Licenses/Registration:**

- Registered Architect since 1992.. Official Architects' Association of Madrid.

### **Selected Publication and Recent Research:**

- El Cuarto de Baño en la Vivienda Urbana, Fundación Cultural del Colegio Oficial de Arquitectos de Madrid, 1998, 180p. ISBN 84-88496-26-5.
- El Diseño de la Higiene, Fundación Cultural del Colegio Oficial de Arquitectos de Madrid, 2001, 167p. ISBN 84-88496-54-0.
- Manual de Equipamiento Higiénico de los Edificios; Legislación Estatal y Autonómica y Recomendaciones de Diseño, Dilex, Madrid 2002, 318p. ISBN 84-88910-41.
- La Estructura de Madera en la Historia de la Arquitectura I, II, III y IV, AITIM (nn. 211 [pp. 70-75], 212 [pp. 54-62], 215 [pp. 72-80] y 224 [pp. 34-40]), 2001-2003. ISSN 0044-9261.

### **Professional Memberships (asociaciones profesionales a que pertenece):**

- 2003-2004 Deontology Commission of the Official Architects' Association of Madrid.
- 1994 European Design for Ageing Network (DAN), Helen Hamlyn Research Centre.
- 1992 Official Architects' Association of Madrid.

## ANDRÉS PEREA ORTEGA (Senior Instructor)

### Courses Taught:

- Fall 2012: Thesis Project (PFC)
- Spring 2013 Thesis Project (PFC)
- Fall 2013: Thesis Project (PFC)
- Spring 2014: Thesis Project (PFC)

### Educational Credentials:

- 1965 Diploma of Architect. Architecture School of Madrid (ETSAM). Technical University of Madrid (UPM).

### Teaching Experience:

- -2010-present. Senior Instructor. Final Thesis Project. CEU San Pablo University.
- -1967-2009. Senior Instructor. Project Design. Architecture School of Madrid ETSAM. Technical University of Madrid UPM.
- -2004. Visiting teacher. Master in Architectural Design. School of Architecture. Navarra University.
- -2000-2001. Visiting teacher. Project Design. School of Architecture. Navarra University.
- -1999. Visiting Teacher. School of Architecture, Design and Urbanism (FADU). Buenos Aires University.

### Professional Experience:

- 1965-present. Director of Andres Perea Office. Industrial Design, Interior Design, Rehabilitation and all kind of Architectural, Urban Design and Planning Projects. <http://andrespereaarquitecto.com/>
- 2012. La Palma Airport, Canarian Islands.
- 2008. 12 and 14 pavilion in Madrid Trade Fairs and Congresses Centre.
- 2004. Fuenlabrada Hospital. Madrid.
- 2004. Cultural Centre in Fuenlabrada. Madrid.
- 2002. Social Services and Health Head Office. Santiago de Compostela.
- 2001. Galician Institute for Statistics. Santiago de Compostela.

### National and international prizes. Some of the last ones:

- 2009. Winner. New Spanish Embassy in Rabat, Morocco. With Euroestudios SL.
- 2006. Second Prize. Outdoor Auditorium in Nodeul Island, Korea.
- 2006. Winner. New Hospital in Caceres. With Argola SL and Euroestudios SL.
- 2005. Third Prize. Asian Culture Complex Competition, Gwanju. Korea.
- 2005. Winner. International Urban Planning Competition for Multifunctional City in Korea.
- 2005. Winner. Performing Arts Centre International Competition, Seoul.
- 2004. Winner. Madrid Trade Fairs and Congresses Centre Extension Competition (12 and 14 pavilion).
- 2002. Winner. Development of the Working Project for the Ciudad de la Cultura in Santiago de Compostela.
- 2002. Winner. La Palma Airport Competition. Canarian Islands.
- 2001. Winner. Capital Plaza International Design Competition, Taipei, Taiwan.
- 2001. Winner. Fuenlabrada Hospital, Madrid. With Luis Gonzalez Sterling.

### Licenses/Registration:

- Registered Architect since 1965. Official Architects' Association of Madrid.

### Selected Publication and Recent Research:

- Works and articles published in national and international publications about architecture, ecology, pedagogy, psychology, art, etc.
- Selected in bienales and national and international exhibitions (Spanish architecture bienales, Venice biennale on religious Architecture, Architecture of the Spanish Democracy, Domusae, etc).

### Professional Memberships:

- Member of the Architecture and Sustainability Association (ASA).
- Official Architects' Association of Madrid, Catalonia and Basque Country.

## **LUIS PEREA MORENO (Senior Instructor)**

### **Courses Taught :**

- Fall 2012: Urban Theory I (IU1) (A205), Urban Planning I (PL1) (A404)
- Spring 2013 Urban Theory II (IU2) (A211), Urban Planning I (PL1) (A404)
- Fall 2013: Urban Theory I (IU1) (A205), Urban Planning I (PL1) (A404)
- Spring 2014: Urban Theory II (IU2) (A211), Urban Planning II (PL2) (A410)

### **Educational Credentials:**

- 2001 Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid E.T.S.A.M., Technical University of Madrid (UPM), Spain
- 1991 B Sc. Faculty of Economics. Universidad Complutense de Madrid.

### **Teaching Experience:**

- 1999-current: Area of Urban Studies. Escuela Politécnica Superior E.P.S., CEU San Pablo University, Spain

### **Professional Experience**

- 2003- current: EQUIPO BLOQUE ARQUITECTOS SLP. Associate, Architect
- 2007-2009: MUNICIPALITY OF YELES. Municipal Architect
- 2000-2004: TALLER DE IDEAS SL. Architect

### **Licenses/Registration:**

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID. Registered Architect

### **Selected Publications and Recent Research:**

- Salas Julián. Franchini Teresa. Gesto Belén, Perea Luis, Bergareche Esther, Mancebo José Antonio. (2011). Evaluando la Habitabilidad Básica. Una Propuesta para Proyectos de Cooperación. Catarata. Madrid.
- Investigation for the objective determination of the pertinence, necessity and urgency in the quantitative evaluation of results of projects, programs and cooperation agreements for basic habitability development. Research Project. Lead Investigator: Salas J. 2010 Financed by Red Universitaria de Investigación y Cooperación, Comunidad de Madrid.
- Bayo, Sebastián (Arabarri) and Perea, Luis (CEU) TAER Taller de Planeamiento Urbano en Valle de Arana. Visiones desde la Universidad. vol.3. Vitoria 2011: Diputación de Álava.
- Bayo, Sebastián (Arabarri) and Perea, Luis (CEU) TAER Taller de Planeamiento Urbano en Aramaio. Visiones desde la Universidad. vol.2. Vitoria 2010: Diputación de Álava.
- Perea, Luis. (EPS CEU) Cuadernos de Docencia. Taller de Urbanismo en la Montaña Alavesa. Madrid 2009. CEU Ediciones.
- Equipo Bloque Arquitectos SL (Arana J, Moreno A, Perea L y Ruiz R) "La Sutura Urbana (Sobrevivir a los PAUs). Un instrumento para la revitalización de la ciudad" Conarquitectura 14, 2005. p81-85
- Equipo Bloque Arquitectos SL (Arana J, Moreno A, Perea L y Ruiz R) "Problema de Escala" en Hacia un nuevo espacio público. Ocho propuestas para un Bulevar Bioclimático de Vallecas en Madrid (ENV/E/000198) Madrid 2005: EMVS p66-79

## PHD. CONCEPCIÓN PÉREZ GUTIÉRREZ (Senior Lecturer)

### Courses Taught:

- Fall 2012: Structural Analysis I (AE1) (A303)
- Spring 2013: Structural Analysis II (AE2) (A309)
- Fall 2013: Structural Analysis I (AE1) (A303).
- Spring 2014: Structural Analysis II (AE2) (A309).

### Educational Credentials:

- 2010: Doctor of Philosophy in Architecture. PhD dissertation: Evolución del tipo estructural "torre" en España. Madrid, Barcelona, Benidorm. Technical University of Madrid (UPM).
- 1998: Diploma of Architecture (Título universitario oficial de Arquitecto). Technical University of Madrid (UPM).

### Teaching Experience:

- Academic Secretary of the Polytechnic School of the CEU San Pablo University.

### Professional Experience:

- Co-founder and principal of the architectural office ARTECTURA since 2007.
- 2001: Technical supervisor of structural calculation and design at COTAS Internacional.
- 2000-2002: Collaborator at the architectural office of Alberto Campo Baeza.
- Independent structural consultant for Alberto Campo Baeza, José Ignacio Linazasoro, Jesús García Herrero, LLPS Arquitectos, Jacobo Bouzada Jaureguizar, Iñiqui Carnicero, Héctor Fernández Elorza, Alejandro Virseda, Ignacio Vila, Álvaro Oliver Bultó, Núñez-Ribot Arquitectos, José María García Sánchez, Felipe Samarán Saló and Estudio AF.

### Licenses/Registration:

- Licensed Architect.

### Selected Publications and Recent Research:

- "Tiempo, ciudades y torres" and "Time and Symbolism". Time And Cities, pp. 110-115. Universidad Francisco de Vitoria. Madrid, 2011. 978-84-89552-83-B.
- "The Structure of a Tower of height 333 m and slenderness 10". Un Arquitecto Es Una Casa, pp. 76-81. Marea Libros, Madrid, 2010. 978-84-92641-41-3.
- Abstract submission and attendance to the congress Shuffle On High Rise. Jyväskylä, Finland, 2011.
- 

### Professional Memberships:

- Official Architects' Association of Madrid. Affiliated member #12774.

## RUBEN PICADO FERNÁNDEZ (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Design I (PR1)(A201) and ThesisProject (PFC)
- Spring 2013: Architectural Design II (PR2) (A207) and ThesisProject (PFC)
- Fall 2013: Architectural Design I (PR1)(A201) and ThesisProject (PFC)
- Spring 2014: Architectural Design II (PR2) (A207) and ThesisProject (PFC)

### Educational Credentials

- 1994 Completed coursework PhD in Architecture. Thesis topic approved. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1991 Seminar. Wiener Architekturseminar (one month) Dir.: Boris Podreca & Juan Navarro Baldeweg. Vienna.
- 1991 Post graduate course "El Barroco Español".(one week) Profesor F.CHUECA GOITIA. UNED.
- 1984-90 Diploma of Architect. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1990 Thesis Prize 1989-90 academic year, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1989 Post graduate course "Restauración Monumental" (one week) Director P. NAVASCUES. UNED.
- 1988 International de Architecture program ANDREA PALLADIO, V centenary. (3 weeks) Vicenza.

### Teaching Experience

- 2008-2012. Coordinator & Founding member of 'Transversal aTelier': Escuela de Arquitectura CEU San Pablo, Madrid.
- 2012. Professor Master in Design for Children, Instituto Europeo di Design, Madrid.
- 2006-2009. Studio Design Professor I+II, Escuela Superior de Arquitectura de la Universidad Europea de Madrid.
- 2004-2006. Director of Thesis Program & Tutor, Escuela Superior de Arquitectura de la Universidad Europea de Madrid.

### Professional Experience

- 1999-2002 Member of Cultural Commission, COAM.
- 2003-2005 Coordinator 20 part lecture and video series: "The Architect shares his work," COAM Foundation.
- 2000-2005 Co-curator in series of bimonthly exhibitions "Recent work," COAM Foundation, Madrid.
- 2007 Member of Cultural Commission, COAM, curator exhibition "CRUDO 100%".
- 1990 Co-founder of PICADO-DE BLAS Arquitectos SLP. [www.picadodeblas.com]
- Selected for II Bienal Iberoamericana de Diseño - Bid10, IV Bienal del Paisaje - Barcelona, X Bienal de Arquitectura y Urbanismo Española, IX Bienal de Arquitectura de Venecia

2008 PREMIOS COAM 2008 DE DIFUSIÓN DE LA ARQUITECTURA, por las exposiciones "CRUDO 100%"

2008 XXII PREMIO DE ARQUITECTURA del AYUNTAMIENTO de MADRID 2000. Centro de Estética en Castelló 67.

2008 PREMIO SALONI de Arquitectura, Guardería Municipal 0 a 3 años en Arganda del Rey.

2008 PREMIO ENOR de Arquitectura, Teatro de San Lorenzo de El Escorial. Madrid.

2008 PREMIO DE Arquitectura Piedra 2008, Teatro de San Lorenzo de El Escorial . Feria IFEMA "Piedra 2008".

### Licenses/Registration

- Registered Architect, Colegio Oficial de Arquitectos de Madrid.

### Selected publications/Research – books

- "Cocinando Espacios" TT 2010-2011. Edita Taller Transversal . ISBN 978-84-615-7753-8. Jun 12.
- "Un objeto en la palma de la mano"- Edición a cargo de M<sup>a</sup>José de Blas. Ceu Ediciones. ISBN 978-84-92989-39-3. Jun 10.

## **FEDERICO PRIETO MUÑOZ (Instructor)**

### **Courses Taught:**

- Fall 2012: Fundamentals of Physics in Architecture II (FF2) (A111).
- Spring 2013: Structural Systems (SES) (A210).
- Fall 2013: Solid Mechanics (MEC) (A203).
- Spring 2014: Structural Systems (SES) (A210).

### **Educational Credentials:**

- 2001: Diploma of Aeronautic Engineer (Título universitario oficial de Ingeniero Aeronáutico), specialized in jet engines. Technical University of Madrid (UPM).

### **Teaching Experience:**

- 2008-2010: Instructor at the Aeronautics Engineering School. Technical University of Madrid (UPM).
- 2008-2010: Instructor at the Polytechnic School. Universidad Carlos III (UC3M).

### **Professional Experience:**

- 2004: Founder and principal of Master Acoustics, comprehensive services in acoustics.
- 2008-2009: New Business consultant in Sogecable-Prisa.

### **Licenses/Registration:**

### **Selected Publications and Recent Research:**

- Manuel Prieto, Federico Prieto. Problemas de Mecánica Racional. Aula Documental de Investigación, Madrid, 2012.
- F. Montes, H. Camacho, F. Prieto. "¿Qué hay detrás de las curvas de Bezier?". Revista de Ingeniería Aeronáutica y Astronáutica, Madrid, 2012.
- Poster submitted to the First European Immersive Education Summit, Madrid.
- Member of the Research Project "Evaluación interdisciplinar de competencias" (IE095 10107) since 2009. Foundation of the Technical University of Madrid.
- Member of the group for educative innovation MECANO-65

## TERESA RAVENTÓS VIÑAS (Instructor)

### Courses Taught

- Fall 2012: Urban Theory I (IU1) (A205)
- Spring 2013 Urban Theory II (IU2) (A211)
- Fall 2013: Urban Theory I (IU1) (A205), (GES)
- Spring 2014: Urban Theory II (IU2) (A211)

### Educational Credentials:

- 2001 Diploma of Architect (Título universitario oficial de Arquitecto) Architecture Technical School of Madrid E.T.S.A.M., Universidad Politécnica de Madrid U.P.M. Spain
- 2010: Master in Architectural Graphic Expression Area , (Diploma de Estudios Avanzados en Expresión Gráfica Arquitectónica), Architecture Technical School of Madrid E.T.S.A.M., Universidad Politécnica de Madrid U.P.M. Spain

### Teaching Experience:

- 2007-current: Instructor at Area of Urban Studies, Escuela Politécnica Superior (EPS), CEU San Pablo University, Spain
- 2007-2010: ASIMAG. Instructor at Area of Real Estate Market and Valuation reports
- 2006-2008: Master Real Estate AMD BUSINESS SCHOOL

### Professional Experience:

- 2011-Present: GESTIÓN INMOBILIARIA CASTAÑOS 15, S.L. Housing and Office Buildings Renovation
- 2007-Present: Pablo Palazuelo's paintings, sculpture and writings catalogue, Temporary Exhibitions curator, Pablo Palazuelo Foundation.
- 2006-2007 GESVALT GESTIÓN DE VALORACIONES Y TASACIONES. Real Estate Market Reports. Land analysis and assessment.
- 2005-2006 GESINAR SERVICIOS INMOBILIARIOS. Housing Policy Research national and European level. Municipal Housing Observatory, Municipal Housing Company. Madrid City Council.
- 2003-2005 INTRASER. INTERNACIONAL DE TRANSACCIONES Y SERVICIOS S.A. Valuation Reports.
- 2002-2003: H & MB. ARQUITECTURA Y GESTIÓN. Projects Architect collaborator
- 2001-2002: GEPROLAR-OPROVI. OBRAS Y PROMOCIONES INMOBILIARIAS, S.L. Projects Architect

### Licenses/Registration:

- OFFICIAL ARCHITECTS' ASSOCIATION OF MADRID, Registered Architect

### Selected Publications and Recent Research:

- Raventós, M<sup>a</sup> Teresa. (2010) "El Patronato de Casas Militares: análisis tipológico de las viviendas en la manzana entre las calles Santa Engracia, M<sup>a</sup> de Guzmán , Maudes y Alenza" In: Actas 13 Congreso Internacional de Expresión Gráfica Arquitectónica. Valencia: Universitat Politècnica de València. p357-360

**PHD. JOSÉ MIGUEL REY ÁLVAREZ (Associate Professor)**

**Courses Taught:**

- Fall 2012: Descriptive Geometry I (GD1) (A102)
- Spring 2013: Descriptive Geometry II (GD2) (A108)
- Fall 2013: Descriptive Geometry I (GD1) (A102)
- Spring 2014: Descriptive Geometry II (GD2) (A108)

**Educational Credentials:**

- 2003: Award 25 years of teaching Technical University of Madrid (UPM)
- 1990: Doctor of Philosophy in Architecture. Technical University of Madrid (UPM)
- 1974: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM) Technical University of Madrid (UPM)

**Teaching Experience:**

- 2003-2012 Associate Professor EPS University CEU San Pablo
- 1974-2003 Senior Instructor in Forestry Engineers School of Madrid, Technical University of Madrid (UPM)

**Professional Experience:**

- 1974-2011 J.M. Rey Architect

**Selected Publications and Recent Research:**

- Rey Álvarez, José Miguel (1992) Arquitectura escolar en la provincia de Toledo. Colegio oficial de Arquitectos de Castilla-La Mancha. Depósito legal 2665-1992

**Professional Memberships:**

- Registered Architect #2972 OFFICIAL ARCHITECTS ASSOCIATION OF MADRID

**PhD. JOSÉ MANUEL DEL RÍO CAMPOS (Assistant Professor)**

**Courses Taught:**

- Fall 2012: Building Construction Materials (MCO) (A204),
- Spring 2013: Electrical and Lighting Systems (ELE)(A310),
- Fall 2013: Building Construction Materials (MCO) (A204), Fundamentals of Physics in Architecture I (FF1) (A105)
- Spring 2014: Electrical and Lighting Systems (ELE)(A310), Fundamentals of Physics in Architecture II (FF2) (A111)

**Educational Credentials:**

- 2005: Ph.D. in Industrial Engineering. Industrial Engineering School of Madrid (ETSII), Technical University of Madrid (UPM), Spain. Dissertation: "Modelización numérica de interfases cerámica-metal para el análisis de sus propiedades termomecánicas".
- 1997: Masters in "Alta Especialización en Plásticos y Caucho". CSIC, Madrid, Spain.
- 1996: Diploma of Industrial Engineering (Título universitario oficial de Ingeniero Industrial), Industrial Engineering School of Madrid (ETSII), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).

**Teaching Experience:**

- 1999 – 2000: Instructor at Antonio de Nebrija University, Madrid, Spain.
- 1999 – 2003: Instructor at Carlos III University, Madrid, Spain.
- 2003 – 2004: Instructor at Antonio de Nebrija University, Madrid, Spain.
- 2002 – 2005: Senior Instructor at the Institute of Technology of CEU San Pablo University. Madrid, Spain.
- 2005 – present: Senior Lecturer at the Institute of Technology of CEU San Pablo University. Madrid, Spain.

**Professional Experience:**

- 1995 – 1996: Technical Assistant at Fire-Resistance and Smoke Protection Laboratory ITSEMAP FUEGO (MAPFRE), Madrid, Spain.
- 1997 – 2001: Researcher at REPSOL YPF Polymers Research Laboratory, Madrid, Spain.

**Licenses/Registration:**

**Selected Publication and Recent Research:**

- 2005: Vila, Prieto, Miranzo, Osendi, del Río, Pérez. Article: "Measurements and Finite Elements". Journal American Ceramic Society. Pages 2515 – 2520. ISSN 0002-7820.

## PH.D. EVA JUANA RODRÍGUEZ ROMERO (Associate Professor)

### Courses Taught:

- Fall 2012: Building Construction I (SC1) (A302),
- Spring 2013: Building ConstructionII (SC2) (A308)
- Fall 2013: Building Construction I (SC1) (A302), Restoration Theory and Techniques (RES) (A442) (RAC)
- Spring 2014: Building ConstructionII (SC2) (A308).

### Educational Credentials:

- 1999: Ph.D. in Architecture. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Dissertation: "El jardín paisajista y las quintas de recreo de los Carabancheles: la Real Posesión de Vista Alegre".
- 1995: Masters Degree in "Architectural Restoration". Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1994: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).
- 1996: Specialization Courses in "Restoration of Historical Buildings and Urban Heritage: historical gardens". Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### Teaching Experience:

- 5 years teaching Architectural Constructions. C.E.S. CEU-Arquitectura/ Technical University of Madrid (UPM), Spain.
- 11 years teaching Architectural Constructions. Institute of Technology of CEU San Pablo University, Madrid, Spain.

### Selected Publication and Recent Research:

- 2009 - 2011: Principal Investigator. "Los espacios abiertos de los conventos madrileños: jardines, huertas, claustros y su entorno urbano", Ministerio de Ciencia e Innovación, Secretaría de Estado de Investigación, Desarrollo e Innovación, Plan Nacional i+d 2008-2011, HAR2008-01434/ARTE.
- 2012 – 2014: Principal Investigator. "El nuevo espacio urbano moldeado tras la desaparición de conventos y edificios religiosos en Madrid", Ministerio de Economía y Competitividad, Secretaría de Estado de Investigación, Desarrollo e Innovación, Plan Nacional i+d 2008-2011, HAR2011-28023.
- 2012: Rodríguez Romero, E.J. El Paisaje de la Clausura. Jardines, huertas, claustros y el entorno urbano de los conventos barrocos de Madrid. CEU-Ediciones, Madrid, Spain.
- 2011: Rodríguez Romero, E.J. "Naturaleza y ciudad: el paisaje de Madrid visto por los extranjeros", en Cabañas, Miguel; LÓPEZ-YARTO, Amelia y RINCÓN, Wifredo (eds.): El arte y el viaje, Colección Biblioteca de Historia del Arte #19, CSIC, Madrid, Spain, Pages. 321-337 (ISBN 978-84-00-09378-5).
- 2008: Rodríguez Romero, E.J. "La reina Gobernadora y su gusto por el jardín paisajista: paralelismos entre el paisajismo español e italiano", en Cabañas, Miguel; RINCÓN, Wifredo y LÓPEZ-YARTO, Amelia (coord.): Arte, poder y sociedad en España, de los siglos XV al XX, Colección Biblioteca de Historia del Arte, CSIC., Madrid, Spain. Pages 573-588.
- 2003: Rodríguez Romero, E.J. Guía de los jardines de las Oficinas Centrales del Canal de Isabel II, Ed. Canal de Isabel II y Jardín Botánico de Madrid, Madrid, Spain.
- 2000: Rodríguez Romero, E.J. El jardín paisajista y las quintas de recreo de los Carabancheles: la Posesión de Vista Alegre, Ed. Fundación Universitaria Española, Madrid, Spain.
- 2002: Rodríguez Romero, E.J. "Botánica, naturaleza y composición en el jardín del Romanticismo", Museo Romántico, #4, Ministerio de Cultura, Spain. Pages 11-36.
- 2001: Rodríguez Romero, E.J. "Diseños del siglo XIX para un invernadero en la "Casa de la Reina", Archivo Español de Arte, #294. Spain. Pages 139-151.

### Professional Memberships:

- 2011 – present: Assesor for ANEP and AECl, Civil Engineering and Architecture, for Investigation Projects of the National Plan, and preparatory actions of the Cooperation Plan.

## PhD. JUAN MANUEL ROS GARCÍA (Assistant Professor)

### Courses Taught:

- Fall 2012: Architectural Design III (PR3) (A301), Architectural Design V (PR5) (A401)
- Spring 2013: Architectural Design IV (PR4) (A307), Architectural Design VI (PR6) (A407).
- Fall 2013: Architectural Design III (PR3) (A301), Architectural Design V (PR5) (A401)
- Spring 2014: Architectural Design IV (PR4) (A307), Architectural Design VI (PR6) (A407).

### Educational Credentials:

- 2004: Doctor of Philosophy in Architecture (Ph.D). Building and Architectural Technology. UNIVERSIDAD POLITÉCNICA DE MADRID. Higher Technical School of Architecture of Madrid. Spain. Dissertation: EVOLUTION OF THE FACED WALL SYSTEM IN THE ENCLOSURES. MADRID 1910 – 1958. ("Origin and constructive influence of the faced wall system in the history and composition of masonry works of facings in the contemporary residential architecture of Madrid between the years 1910 and 1958".) Point Scale: High Pass
- 1998: Masters of Architecture. (M.Sc.) THEORY, HISTORY, LEGISLATION AND INTERVENTION IN REHABILITATION. UNIVERSIDAD POLITÉCNICA DE MADRID. Higher Technical School of Architecture of Madrid. Spain.(Research Degree)
- 1988: Bachelor Degree in Architecture. (B.Sc) UNIVERSIDAD POLITÉCNICA DE MADRID. Higher Technical School of Architecture of Madrid. Spain. (6 years Professional Degree in Architecture). Design Thesis: New building for School of Architecture in Madrid. Point Scale: Distinctive Honor

### Teaching Experience:

- Assistant Professor of Architectural Design. DEPARTMENT OF THEORY AND ARCHITECTURAL DESIGN AND URBANISM. INSTITUTE OF TECHNOLOGY (EPS) CEU SAN PABLO UNIVERSITY.
- Assistant Professor of Building Construction. DEPARTMENT OF BUILDING ENGINEERING. INSTITUTE OF TECHNOLOGY (EPS) CEU SAN PABLO UNIVERSITY.
- Senior Instructor of Architectural Design. DEPARTMENT OF THEORY AND ARCHITECTURAL DESIGN AND URBANISM.INSTITUTE OF TECHNOLOGY (EPS)CEU SAN PABLO UNIVERSITY.
- Senior Instructor of Building Construction. DEPARTMENT OF BUILDING ENGINEERING. INSTITUTE OF TECHNOLOGY (EPS) CEU SAN PABLO UNIVERSITY.

### Professional Experience:

- Manager Design Projects and consultancy for government (Ministries of Justice, Education, Agriculture) and private agencies.

### Licenses/Registration:

- Registered Architect, number 8661, -Official Architects' Association of Madrid, COAM (since 1989)

### Selected Publication and Recent Research:

- Paper/ Inhabit fuzzy spaces: A house for 500 persons Congress: THIRD INTERNATIONAL CONFERENCE ON THE CONSTRUCTED ENVIRONMENT. 2012 University of British Columbia, Vancouver, Canadá
- Paper/ The case of the Klein house (Explorations between 3, 4, ... N dimensions.Congress: SIXTH INTERNATIONAL CONFERENCE OF MATHEMATICS AND DESIGN .M&D-2010 .MAyDI.2010.FADU, BUENOS AIRES. ARGENTINA
- Paper/ A WALK AMONG MOSAICS.Congress: SIXTH INTERNATIONAL CONFERENCE OF MATHEMATICS AND DESIGN .M&D-2010 .MAyDI.2010.FADU, BUENOS AIRES. ARGENTINA
- Publication/ Double masonry walls in Madrid: a century of modern enclosures. ISSN-0020-0883 Informes de la Construcción / Instituto de Ciencias de la Construcción E.Torroja. / Consejo Superior de Investigaciones Científicas. Madrid.2005
- Publication/ DUBAI. ARQUITECTURAS DESCONOCIDAS.HACIA UNA SINERGIA DEL SISTEMA. Cuaderno de Investigación, nº3 ARKHE 10. El Proyecto de una arquitectura compartida ISBN 978-84-15382-14-0.CEU EDICIONES, MADRID.201

### Professional Memberships (asociaciones profesionales a que pertenece):

- Official Architects' Association of Madrid

## ANTONIO JOSÉ RUBIO BAJO (Senior Instructor)

### Courses Taught:

- Fall 2012: Architectural Design III (PR3) (A301).
- Spring 2013: Architectural Design IV (PR4) (A307).
- Fall 2013: Architectural Design III (PR3) (A301).
- Spring 2014: Architectural Design IV (PR4) (A307).

### Educational Credentials

- 2004 Diploma of Advanced Studies DEA in Architectural Design, Technical University of Madrid (UPM), Spain.
- 1990-2004 Completed coursework PhD in Architecture. Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.
- 1989-90 Scholarship from Research Staff Training of Spanish Education Ministry
- 1987 Diploma of Architect (Título universitario oficial de Arquitecto). Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain.

### Teaching Experience:

- Visiting professor at many universities, partial list including: UNED, the University of the Basque Country, IE University, Fachhochschule Kärnten, University of Buenos Aires and University of the Republic of Uruguay.
- 2008 Founding member Transversal aTelier: studio design course at the Escuela de Arquitectura, Universidad San Pablo CEU of Madrid.
- 2008 - to present Studio Design Professor, Escuela de Arquitectura, Universidad San Pablo CEU of Madrid.
- 1990-91 Studio Design Professor, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. With professor Juan Daniel Fullaondo.
- 1985-87 Studio Design assistant, Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. With professor Juan Navarro Baldeweg.

### Professional Experience

- UNED Technical Office. Director since 1992. Numerous projects, both new construction and rehabilitation, in Spain, Argentina, USA, Portugal, and Mexico.
- MR Arquitectos. 1998-2010. Partner with Clara Maestre. Numerous private and public projects, both new construction and rehabilitation.

### Licenses/registration:

- Registered Architect, Colegio Oficial de Arquitectos de Madrid, since 1988

### Selected Publications:

- TT cocinando espacios, New Delhi. 2012. Coordinator of the edition. Student work academic year 2010-11. Escuela de Arquitectura, Universidad San Pablo CEU of Madrid.
- Author, Zaha Hadid, Unidad Editorial Revistas S.L.U., Madrid. 2011
- Casas con arte, nº 1, Unidad Editorial Revistas S.L.U., Madrid. 2010, pages 18-23. "Hogares transparentes y diáfanos. Robie House. Frank Lloyd Wright", pages 26-29. "Fred Robie: El sueño roto de un fabricante ambicioso. Robie House. Frank Lloyd Wright".
- Charles & Ray Eames, Arlanza Ediciones, S.A., Madrid. 2008. Introduction, pages 7-13. "Bastante más que unas cuantas sillas y una casa"
- Interpretación estética de la estatuaria megalítica americana, Fundacion Museo Oteiza Fundazio Museoa, Pamplona. 2007. Notes to critical edition, pages 453-474.
- Las piedras de San Agustín, Maira Libros, Madrid. 2007. Chapter, "Jorge Oteiza y la Estatuaria Megalítica"
- Obra Reciente ciclo exposiciones 2000-2002. FUCOAM.

### Professional Memberships:

- Member of the Research group Contextos de la Arquitectura at CEU San Pablo University.
- Elected member of COAM Board of representatives. 2008-09. Since 2011

## **JUSTO RUIZ GRANADOS (Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Form Analysis I (AF1) (A101).
- Spring 2013 Architectural Form Analysis II (AF2) (A107).
- Fall 2013: Architectural Form Analysis I (AF1) (A101).
- Spring 2014: Architectural Form Analysis II (AF2) (A107).

### **Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto)2003 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain.
- Master degree in Urban Planning, 2002. Fundació Politècnica de Catalunya. U.P.C. Barcelona

### **Teaching Experience:**

- 2008-present: Form Analysis I and II and Life Drawing(Architectural Graphic Expression Department)

### **Professional Experience:**

- 2002-present. Intern architect at Navarro Baldeweg Asociados.
- 2008-present. Founder and partner of CUP Arquitectura.

### **Licenses/Registration:**

- Registered architect. Official Architect's association of Madrid since 2005

### **Selected Publication and Recent Research:**

- Member of the Research Group "Drawing and Architecture". Graphic Expression Department. EPS CEU San Pablo University.
- Conference with Juan Navarro Baldeweg during the Architecture Week. "Graphic, Constructive and Structural processes in the construction of the Canal Theaters". Madrid octubre 2011.
- Conference "Los Teatros del Canal". Francisco de Vitoria University. Architecture Department. Madrid, April 2011.
- Conference "Constructive processes in the Canal Theaters". Construction Seminars at Danosa, Guadalajara 2009.
- Article "Constructive processes in the construction of the Canal Theaters". Informes de la Construcción. Alfonso del Águila, Matteo Borsetti, Justo Ruiz Granados. Vol. 60, 509, 5-24, january-march 2008. ISSN: 0020-0883. eISSN: 1988-3234

**PhD. FRANCISCO JAVIER SAENZ GUERRA (Associate professor)**

**Courses Taught:**

- Fall 2012: Architectural Design V (PR5) (401) and Thesis Project (PFC).
- Spring 2013: Architectural Design VI (PR6) (407) and Thesis Project (PFC).
- Fall 2013: Architectural Design VII (PR7) (A501) and Thesis Project (PFC).
- Spring 2014: Architectural Design VIII (PR8) (A506) and Thesis Project (PFC).

**Educational Credentials:**

- Degree in Architecture. E.T.S.A.M Madrid, Spain
- Ph.D. E.T.S.A.M Madrid (ETSAM)

**Teaching Experience:**

- 22 years of teaching courses on Architecture Studio Projects, Drawing and Technical Drawing applications.
- 9 years Instructor professor Architecture Studio Projects (ETSAM).
- Current Doctor Tutor.
- Lecturer at the Ephemeral Architectural Master Course (ETSAM).

**Professional Experience:**

- As from his outset as a student, he has been working non-stop at his father's architects' firm 'Francisco Javier Sáenz de Oiza' and has actively collaborated in the different projects carried out by the firm, sometimes in assignments received through regional governments (Seville's, Madrid's Trade Fair Complex, Residential Buildings at Madrid's M30) or developing private assigns.
- Selected to pass on to the second stage at International Contest of Ideas for the project design of Encarnación Square in Seville, the jury being composed of: Mr. Victor Pérez Escolano belonging to the firm 'Estudio Herzog-Meuron', Mr. Alejandro Zaera and the Spain's Superior Board of Architects.2006
- Several assigns awarded by free competition
- Culture assistant three years COAM.
- Curator COAM three years: "Bruno Morassutti Exhibition". ( Madrid, Gerona)

**Licenses/Registration:**

- Licensed Architect. Official Architects' Association of Madrid. (C.O.A.M)

**Selected Publications and Recent Research:**

**Book:**

- "A modern Myth". A chapel in St.Jacobs path. Sáenz de Oiza, Oteiza y Romani.1954". Foundation Museo Jorge Oteiza. ISBN.978-84-922768-6-2.
- Book. Monography: "Sáenz de Oiza." .With Rosario Alberdi. Editorial Pronaos. ISBN 84-85941-32-2.

**Article:**

- "Aránzazu: Up, down and behind". Edita: Arantzazu. A monument of the XX century. Ministerio de Cultura. Secretaría General Técnica. NIP. 551-08-069-2.Depósito legal: M-34479-2008.
- Fernando Higuera: "Figurative Architect." Publish in Fernando Higuera. Intexturas. Estructuras. Architectural Foundation COAM. ISBN: 978-84-96656-43-7.
- Arquitectos de Madrid. Article with Teresa Sánchez de Lerín.
- "Sáenz de Oiza. A man who speak poetry, construction and structure ISSN: 1888-2331
- Exhibition at Museo Oteiza Sculptor. Curator.
- Saenz de Oiza Exhibition.Curator.

**Professional Memberships:**

- Official Architects' Association of Madrid. (C.O.A.M)

## **SANTIAGO SÁNCHEZ TÉLLEZ (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Thesis Project (PFC).
- Spring 2013: Foundations (CIM) (A409), Advanced Structural Design (ESP) (A512) and Thesis Project (PFC).
- Fall 2013: Design of Buildings Structures (PES) (A508) (PES) and Thesis Project (PFC)
- Spring 2014: Foundations (CIM) (A409), Design of Buildings Structures (PES) (A508) and Thesis Project (PFC)

### **Educational Credentials:**

- 1990: Diploma of Civil Engineering (Título universitario oficial de Ingeniero de Caminos, Canales y Puertos), specialized in Foundations and Structures. Technical University of Madrid (UPM).

### **Teaching Experience:**

- 1992-2004: Instructor at the CEU-Arquitectura College. Technical University of Madrid (UPM).
- 2002-2011: Guest lecturer at the Master Program on Building Management. Universidad Europea de Madrid (UEM).

### **Professional Experience:**

- Independent structural consultant.
- 2008-2011: Project Manager. OTEP Internacional.
- 2002-2008: Head of the Department of Structures and Foundations. Head of the Department of Pathologies. Bureau Veritas Español, S.A.
- 2000-2002: Head of the Department of Structures and Foundations. COTAS Internacional, S.A.
- 1998-2000: Head of the Department of Structures and Foundations. Bureau Veritas Español, S.A.
- 1993-1997: Structural Designer and Consultant. SYNCONSULT, S.L.
- 1992: Structural Designer and Consultant. PHL – Building slabs.
- 1991-1992: Structural Designer and Consultant. CIPSA – Engineering company.
- 1990-1991: Structural Designer and Consultant. GETINSA, S.A. – Engineering company.
- 1990: Junior Engineer. CORVIAM, Building Company.

### **Licenses/Registration:**

- Licensed Civil Engineer.

### **Selected Publications and Recent Research:**

### **Professional Memberships:**

- Official Civil Engineers' Association. Affiliated member #10485.

**PhD. GASTON SANGLIER CONTRERAS (Associate Professor)**

**Courses Taught:**

- Fall 2012: Fundamentals of Physics I (FF1) (A105), Environmental Technology (TEC) (A304)
- Spring 2013: Fundamentals of Physics II (FF2) (A111)
- Fall 2013: Fundamentals of Physics I (FF1) (A105)
- Spring 2014: Fundamentals of Physics II (FF2) (A111)

**Educational Credentials:**

- 2009: Ph.D in Physics. Institute of Technology of CEU San Pablo University (EPS), Madrid, Spain. Dissertation: "Análisis del Ciclo de Vida de Materiales de Plantas de Producción Energética".
- 2010: Masters in Prevention of Risks. Institute of Technology of CEU San Pablo University (EPS), Madrid, Spain
- 2007: Masters in Occupational risk prevention (Technician), Specialties in Security at the work-place, Ergonomics and Applied Psychosociology and Industrial Hygiene. Faculty of Pharmacy, CEU San Pablo University, Madrid, Spain.
- 2008: Degree in Physics. UNED, Madrid, Spain.
- 1990: Associate Degree University School for Aeronautical Engineering Technicians. Technical University of Madrid (UPM), Spain.
- 1989 – 1990: "Calvo Rodés" Investigation Scholarship in the field of Infrared light and Microgravity. National Institute of Aerospace Technic (INTA). Spain.

**Teaching Experience:**

- 2012–present: Branch of knowledge: Construction Engineering. Institute of Technology of CEU San Pablo University. Madrid.
- 2002–present: Branch of knowledge: Architectural Constructions. Institute of Technology of CEU San Pablo University. Madrid.
- 1999–2002: Branch of Knowledge: Electronic and Automatic Engineering. Carlos III University, Leganés, Madrid.

**Professional Experience:**

- 2009 – 2012: Director of the Building Engineering Department. Institute of Technology of CEU San Pablo University.
- 1989 – 2002: Aeronautical Engineering Technician developing Investigation Projects for INTA.
- 1989 – 1995: Department for Motopropulsion and Energy.
- 1996 – 2002: Department for teledetection.
- 1995 – 2002: Responsible for the Infrared Light Unit. Department of Teledetection. National Institute of Aerospace Techniques (INTA). Madrid.
- 2000 – 2001: Technical Advisor for Projects I+D+i for the Society for Industrial Promotion and Restructuring (SPRI). Spain.

**Licenses/Registration:**

- Registered in the Official Aeronautical Engineering Technicians Association.

**Selected Publication and Recent Research:**

- 2009: Díaz Martín, R., García González, D., Sanglier Contreras, G., Jiménez Gómez, P. " Auditorías de los Sistemas de Gestión". Editorial: Ediciones Roble, S.L. pages: 1-169. ISBN 978-84-92448-65-4.
- 2010: Gaya González, L., Díaz Martín, R., Sanglier Contreras, G. Patent "Minicentral hidroeléctrica reversible de alto rendimiento energético y nulo impacto medioambiental". Nº.: ES 2 334 750 B1. Año: 2010. Awarded with Ángel Herrera Prize for the best investigation work in the Polytechnic field the school year of 2010-2011, CEU San Pablo University. Madrid, Spain.
- 2008: Díaz Martín, R., Redondo García, P., Sanglier Contreras, G. "Análisis de Ciclo de Vida: Aplicación al uso de materiales sustitutivos de la madera". Magazine 'Forum de Calidad' nº 189, Editorial: Ediciones Técnicas de Calidad. Pages: 32-38. ISSN: 1139-5567. Awarded with Ángel Herrera Prize for the best investigation work in the Polytechnic field during the school year of 2008-2009, CEU San Pablo University. Madrid, Spain.

## **SANJURJO ÁLVAREZ, ALBERTO (Senior Instructor)**

### **Courses Taught:**

- Fall 2012: Descriptive Geometry II (GD2) (A108), Descriptive Geometry I (GD1) (A102)
- Spring 2013: Drawing and Geometry (DGA) (A208)
- Fall 2013: Descriptive Geometry I (GD1) (A102)
- Spring 2014: Descriptive Geometry II (GD2) (A108), Drawing and Geometry (DGA) (A208)

### **Educational Credentials:**

- 1991: Diploma of Architect (Título universitario oficial de Arquitecto) Architecture School of Madrid (ETSAM)

### **Teaching Experience:**

- 2001-current: Senior Instructor Descriptive Geometry, EPS Universidad San Pablo CEU.
- 2010: Computer graphics instructor. Learning Architectural Drawing. Summer School University CEU San Pablo.
- 2007: Director of The Art of Stone. Theory and practice of masonry. Summer School University CEU San Pablo.
- 2007: Coordinator of the exhibition The art of Stone shown in the 42th International Exhibition of Stone Design and Technology in Verona, Italy
- 1991-2002: Instructor Descriptive Geometry. CES-CEU Arquitectura.

### **Professional Experience:**

- Specialized in architectural projects for both residential and education purposes, he has coordinated and managed a great number of projects across Spain.
- Managing partner of Struere Proyectos Urbanos since 1998. [www.struere.es](http://www.struere.es)

### **Selected Publications/research:**

- Sanjurjo, A. (2012) "The Chambiges and the Construction of Vaulted Stone Spiral Staircases" in Proceedings of the IV International Congress on Construction History. Paris. Editions Picard.
- Alonso, M. A., Pliego, E., and Sanjurjo A., (2011). "Graphical tools for an epistemological shift. Contribution of protoaxonommetrical drawing to the development of stonecutting treatises". *Nexus Network Journal*. Volume 13. Number 3. Berlin Birkhäuser.
- Sanjurjo, A (2010). "La Vis Saint Gilles: analyse du modèle dans les traités de la coupe des pierres et de son influence sur les traités espagnols de l'âge moderne" in *Édifíce & Artifice. Histoires Constructives*. Paris. Editions Picard.
- Alonso, M. A., López, A., Palacios, J. C., Rabasa, E., Calvo, J. and Sanjurjo, A (2009). "Functionalism and caprice in stonecutting. The case of the Nativity Chapel in Burgos Cathedral" in Proceedings of The third International Congress on Construction History. Branderbur University of Technology. Cottbus. Germany.
- (2010-2012) Participant in the research project "Stonecutting technology in the Mediterranean and Atlantic areas. Survey and analysis of built examples", financed by the spanish Ministerio de Ciencia y Tecnología, whose principal researcher is Enrique Rabasa Díaz.
- (2006-2009) Participant in the research project "Construcción en piedra de cantería en el ámbito hispánico: fuentes documentales y patrimonio construido", financed by the Spanish Ministerio de Educación y Ciencia, whose principal researcher es Enrique Rabasa Díaz.

### **Professional Memberships:**

- Member of Colegio Oficial de Arquitectos de Madrid, col. Nº 9987.
- Member of Society of Architectural Historians.

**FÁTIMA SARASOLA RUBIO (Instructor)**

**Courses Taught:**

- Fall 2012: Architectural Form Analysis I (AF1) (A101).
- Spring 2013: Architectural Form Analysis II (AF2) (A107).
- Fall 2013: Architectural Form Analysis I (AF1) (A101).
- Spring 2014: Architectural Form Analysis II (AF2) (A107).

**Educational Credentials:**

- Diploma of Architect (Título universitario oficial de Arquitecto) 2000 Architecture School of Madrid (ETSAM, Technical University of Madrid (UPM), Spain

**Teaching Experience:**

- 2008-present: Form Analysis I and II and Life Drawing (Architectural Graphic Expression Department)

**Professional Experience:**

- 2000-2007 Co-owner of Nova Architecture academy

**Licenses/Registration:**

**Selected Publication and Recent Research:**

- Member of the Research Group "Drawing and Architecture". Graphic Expression Department. EPS CEU San Pablo University.
- Co-director of the workshop "Movement, perception and Stage design.
- Expected Phd submission June 2012. "Jorge Oteiza, his architectural projects for the Vasque Country University during the decade of the 60s".

## **GONZALO SOTELO CALVILLO (Instructor)**

### **Courses Taught:**

- Fall 2012: Architectural Drawing II (DA2) (A1202)
- Spring 2013: Architectural Drawing I (DA1) (A109), Drawing and Geometry (DGA) (A208)
- Fall 2013: Architectural Drawing II (DA2) (A1202)
- Spring 2014: Architectural Drawing I (DA1) (A109)

### **Educational Credentials:**

- 2004: Architectural Projects Master (Diploma de Estudios Avanzados), Technical University of Madrid (UPM), School of Architecture of Madrid (ETSAM).
- 2000: Diploma of Architect (Título universitario oficial de Arquitecto), Technical University of Madrid (UPM), School of Architecture of Madrid (ETSAM).

### **Teaching Experience:**

- 2006-Present: Senior Instructor at Architectural Graphic Expression Area (Expresión Gráfica Arquitectónica), Institute of Technology (EPS), University CEU San Pablo.
- 2005-2006: Instructor, Interior Architecture & Industrial Design course, Virensis.

### **Professional Experience:**

- 2007-Current: Pablo Palazuelo's paintings, sculpture and writings catalogue, Temporary Exhibitions curator, Pablo Palazuelo Foundation.
- 2007-2008: Editorial Staff, Arquitectura Viva.
- 2004-2005: Architect Project Manager, Arkias.
- 2003-2008: Architect collaborator, Citerea. Carmen Añón Feliú Design Office.
- 2001-2002: Architect collaborator, Urban Projects Workshop. (Taller de Proyectos Urbanos).

### **Licenses/Registration:**

- Official Architects' Association of Madrid, number 13.402.

### **Selected Publications and Recent Research:**

- Sotelo, Gonzalo, 2012. "Palazuelo, la visión interior". Paper in Pablo Palazuelo Inédito. La colección del artista Catalogue. Coord. Juan González-Posada M. Ayuntamiento de Valladolid. Fundación Municipal de Cultura, Valladolid, Spain, pp. 13 – 19. D. L: VA-453-2012.
- Sotelo, Gonzalo, 2010. "Co-herencia del dibujo arquitectónico en la obra de Pablo Palazuelo. Co-heritage and coherence of architectural drawing in the works of Pablo Palazuelo". EGA Magazine. Revista de Expresión Gráfica Arquitectónica. Number 16, year 15/2010, Valencia, Spain, pp. 156-165, 224-227. ISSN: 1133-6137. D. L: V.-1094-2001.
- Sotelo, Gonzalo, 2010. "El rigor de la geometría reguladora. Aplicaciones de la transgeometría de Pablo Palazuelo en el Dibujo Arquitectónico". Presented paper on "Actas del 13 Congreso Internacional de Expresión Gráfica Arquitectónica". Volumen I. Universitat Politècnica de València, Valencia, Spain, pp. 405 – 411. ISBN: 978-84-8363-550-0 (Volumes I & II).
- Sotelo, Gonzalo, 2008. "Axonometría versus cónica. La elección del sistema tridimensional de representación en el proceso proyectual.". Presented paper on "Actas del XII Congreso Internacional de Expresión Gráfica Arquitectónica". Editorial Instituto Juan de Herrera, Madrid, Spain, pp. 819 – 827. ISBN: 978-84-9728-270-3. D. L: M.-24421-2008
- Luengo, Ana y Millares, Coro Ed. 2007. Parámetros del Jardín Histórico, desde la antigüedad hasta nuestros días. Graphic editor collaborator. Editorial Ministerio de Cultura. Secretaría General Técnica, Madrid, Spain, ISBN: 978-84-8181-364-7 (Volumes I, II & III) D. L: M.-M.51.634-2007.
- Añón, Carmen, 2004. La Singularidad de las Tipologías Hispanas: Jardines de los Sones, Cármenes y Pazos. Research Project collaborator, supported by Spanish Ministry of Education, Culture and Sports (Ministerio de Educación, Cultura y Deportes).
- 2012- Current. Member of Drawing and Architecture Research Group. University CEU San Pablo.

### **Professional Memberships:**

- Member in Official Architects' Association of Madrid.

**MIGUEL ANGEL TIRADO SEBASTIAN (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Professional Practise in Architecture (OF1) (A504)
- Spring 2013: Professional Practise in Architecture (OF2) (A511)
- Fall 2013: Professional Practise in Architecture (OF1) (A504)
- Spring 2014: Professional Practise in Architecture (OF2) (A511)

**Educational Credentials:**

- 2011: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Doctoral Thesis in progress.
- 1980: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).
- 1990: Specialization Courses as Legal Expert in Architecture. Official Architects' Association of Madrid (COAM).
- 1990: Technical Information I and II Seminar. Ferrovial.
- 1994: Building Symposium. Ferrovial.
- 1998: Building Facilities Symposium. Ferrovial.
- 1995: Negotiation Practices. Tea-Cegos.

**Teaching Experience:**

- 1991 – 1999: Instructor in the Postgraduate Masters “Building and Management of Building Enterprises”. Centro Superior de Arquitectura, Fundación Camuñas, Spain.
- 1999 – 2003: Instructor of “Management and Control of Works”. SEK University (Escuela Técnica Superior de Estudios Integrados de Arquitectura, Segovia), Spain.
- 2002: Summer Courses. SEK University. Spain.
- 2004 – present: Instructor of “Professional Practice in Architecture”, “Management and Control of Works” and “Final Project” at the Institute of Technology of CEU San Pablo University, Madrid, Spain.

**Professional Experience:**

- 1980 – 1982: Freelance Architect.
- 1985 – 1990: Site manager. Construcciones Majorfer. Spain.
- 1985 – 1990: Site manager. Ferrovial. Spain.
- 1990 – 1993: Head of site managers. Ferrovial. Spain.
- 1993 – 1999: Provisioning Agent. Ferrovial.
- 1999 – present: Freelance Architect.
- 1999 – present: Legal Expert in Architecture.
- 2005 – present: Valuer for TINSA.

**Licenses/Registration:**

- Registered Architect, Official Architects' Association of Madrid (COAM).

## JUAN UTIEL GONZÁLEZ (Senior Instructor)

### Courses Taught:

- Fall 2012:
- Spring 2013: Architectural Drawing I (DA1) (A109)
- Fall 2013: Descriptive Geometry I (GD1) (A102)
- Spring 2014: Architectural Drawing I (DA1) (A109)

### Educational Credentials:

- Diploma of Architect (Título Universitario oficial de Arquitecto)
- School: Architecture School of Madrid (ETSAM).
- University: Technical University of Madrid (UPM)

### Teaching Experience:

- 2002-2006. University Alfonso X el Sabio. Madrid. Subject: Architectural Drawing.
- 2006-2007. Instituto Europeo di Design. Subject: Architectural Drawing.
- From 2006. University San Pablo Ceu. Madrid. Senior Instructor.

### Professional Experience:

- Partner in PEZ ARQUITECTOS SLP

### BUILDINGS AND PROJECTS

- Under construction: 61 dwellings in "la chanca". Tarifa. Cádiz. *Client: Diputación de Cádiz.*
- Under construction: Housing Villaverde Butarque, Madrid. Client: EMVS.
- 2004-2009: 33 dwellings in "La Florida". Huelva. Client: EPSA.
- 2007: Single family house. El Casar. Guadalajara. Private client.

### COMPETITIONS AND AWARDS

- 2011 1º Prize. Housing competition in Rue des Grottes. Ginebra. Switzerland.
- 2009, 1º Prize. Housing competition in "la chanca". Tarifa. Cádiz. Spain.
- 2009, 1º Prize. Housing competition in villaverde butarque, Madrid. Spain.
- 2008, Mention. Architecture competition Convento de San Juan de Dios. Olivenza. Badajoz. Spain.
- 2002, 1º Prize. Young architects competition in Andalucía.

### Selected Publications and Recent Research:

- 2012. Member of Drawing and Architecture Research Group. University CEU San Pablo.

### Professional Memberships:

- Official Architects' Association of Madrid. Member: 13.864.

**MARÍA CRISTINA VILLAMIL CAJOTO (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Building Construction Analysis (ACO) (A408) and Thesis Project
- Spring 2013: Building Construction Analysis (ACO) (A408)
- Fall 2013: Building Construction Analysis (ACO) (A408) and Thesis Project
- Spring 2014: Building Construction Analysis (ACO) (A408) and Thesis Project

**Educational Credentials:**

- 2003: Ph.D. courses at Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. Doctoral Thesis in progress.
- 1998: Diploma of Architect (Título universitario oficial de Arquitecto), Architecture School of Madrid (ETSAM), Technical University of Madrid (UPM), Spain. (6 year Professional Degree in Architecture).

**Teaching Experience:**

- 2000 – present: Architectural Constructions. Institute of Technology of CEU San Pablo University, Madrid, Spain.

**Professional Experience:**

- 2005 – present: Freelance architect.

**Licenses/Registration:**

- Registered Architect, Official Architects' Association of Madrid (COAM).

**Selected Publication and Recent Research:**

- 2011: Villamil Cajoto, M.C. Chapter “ Fragmentos planos de situación” of the book “DIEZ.10 TESIS EN CURSO”; Volume 2, pages 15 – 36. ISBN: 978-84-92641-61-1 Editorial : Mairela libros. Madrid.

**SUSANA VICTORIA RODRÍGUEZ (Senior instructor)**

**Courses Taught:**

- Fall 2012: Fundamentals of Mathematics in Architecture I (FM1) (A104)
- Spring 2013: Fundamentals of Mathematics in Architecture II (FM2) (A110)
- Fall 2013: Fundamentals of Mathematics in Architecture I (FM1) (A104)
- Spring 2014: Fundamentals of Mathematics in Architecture II (FM2) (A110), Fundamentals of Mathematics in Architecture III (FM3) (A209)

**Educational Credentials:**

- Licenciada en Ciencias Matemáticas, Universidad Complutense de Madrid (Spain) (1982)

**Teaching Experience:**

- 28 years of teaching courses on Mathematics in Architecture programs.
- Course 1983-84 to 2001-2002: Professor Architecture School of Madrid (ETSAM). Technical University of Madrid (UPM), Spain
- Course 1988-89 to 2000-2001: Professor (¿instructor/senior instructor?), Colegio Universitario CEU Arquitectura, Fundación Universitaria San Pablo CEU.
- Course 2001-2002 to 2011-12: Senior instructor Escuela Politécnica Superior (Escuela de Arquitectura) , CEU San Pablo University.

**Selected Publication/Research:**

- "Geometría y dinámica sobre una bola de tenis", Rojo Montijano, José; Garro Garro, Juan Carlos; Victoria Rodríguez, Susana. Actas de las Jornadas Internacionales de Didáctica de la Matemática en Ingeniería, ETSI Caminos, Canales y Puertos. Universidad Politécnica Madrid, 2009.
- "Un mosaico para Dubai", Garro Garro, Juan Carlos; Rojo Montijano, José; Ros García, Juan Manuel; Victoria Rodríguez, Susana, Actas de las Jornadas Internacionales de Didáctica de la Matemática en Ingeniería, ETSI Caminos, Canales y Puertos. Universidad Politécnica Madrid, 2009.
- "Ecuaciones diferenciales funcionales en modelos de tráfico", Alfonso Carlos Casal Piga, Susana Victoria Rodríguez, Actas del XII C.E.D.Y.A. (II Congreso de Matemática Aplicada (Congreso de Ecuaciones Diferenciales y Aplicaciones), Oviedo, 1991.

**VÍCTOR MANUEL GALLARDO RELLOSO (Senior Instructor)**

**Courses Taught:**

- Fall 2012: Social Doctrine of the Church (A412)
- Spring 2013: Social Doctrine of the Church (A412)
- Fall 2013: Social Doctrine of the Church (A412)
- Spring 2014: Social Doctrine of the Church (A412)

**Educational Credentials:**

- 2008: Postgraduate Course in Social Doctrine of the Church, San Pablo-CEU University, Madrid, Spain
- 1999: Bioethics MA, Comillas Pontifical University, Madrid, Spain
- 1982: Degree in Modern History, Complutense University, Madrid, Spain
- 1975: Degree in Ecclesiastical Studies, Comillas Pontifical University, Madrid, Spain

**Teaching Experience:**

- 37 years of experience teaching subjects on University and College related to Faith and Culture, Social Doctrine of the Church, Theology and Ethics in the Economics.

**Professional Experience:**

- 1985-1991: Director of St. Mary of Apostles College, Madrid, Spain.

**Licenses/Registration:**

- Not applicable.

**Selected Publication and Recent Research:**

- Not applicable.

**Professional Memberships:**

- Not applicable.

### IV.3 Visiting Team Report (VTR) from the previous visit

Attached are the following documents from the NAAB evaluation team.

- Visiting Team Report. Visit 2 for Substantial Equivalency
- Some fine tuning of points raised in the VTR

**University San Pablo CEU  
Escuela Politécnica Superior  
Madrid**

**Visiting Team Report**  
Visit Two for Substantial Equivalency

**Degree in Architecture**



*Team room, University San Pablo CEU*

The National Architectural Accrediting Board  
March 10–14, 2014

Date of visit one: November 2012

**Vision:** The NAAB aspires to be the leader in establishing educational quality assurance standards to enhance the value, relevance, and effectiveness of the architecture profession.

**Mission:** The NAAB develops and maintains a system of accreditation in professional architecture education that is responsive to the needs of society and allows institutions with varying resources and circumstances to evolve according to their individual needs.

## Contents

Section		Page
I.	Summary of Team Findings	
	1. Team Comments and Visit Summary	1
	2. Conditions Not Met/Not Yet Met	1
	3. Causes of Concern	1
II.	Compliance with the Conditions for Substantial Equivalency	
	1. Institutional Support and Commitment to Continuous Improvement	2
	2. Educational Outcomes and Curriculum	12
III.	Appendices	
	1. Program Information— <i>Architecture Program Report</i> , Part I, Section 1.1	25
	2. Conditions Met with Distinction	26
	3. Visiting Team	27
	4. Final Schedule	28
IV.	Signatures of the Visiting Team	32

## I. Summary of Team Findings

### 1. Team Comments and Visit Summary

Visit Two team members representing the National Architectural Accrediting Board (NAAB) would like to extend their thanks to the University San Pablo CEU's administration, faculty, staff, and students for their exemplary preparation and beautiful design of the team room. The student and faculty work was extremely well-organized and made electronically accessible through CEU's computer network. In addition, transportation services, meetings, meals (prepared by the CEU dining facility), and coordination of schedules went well beyond the expected accommodations. The conditions for the visit were ideal on every level.

Team members included two former NAAB directors and two observers who were bi-lingual associates of Spain's Fundación para el Conocimiento madrimsd [madr+i+d Foundation for Knowledge]. The foundation was established in 2003 by the government and the community of Madrid. As the official accrediting body of Madrid, Madri+d "gives support to the Directorate General for Universities and Research in the definition and implementation of initiatives and programs" [<http://www.madrimsd.org>]. The observers interpreted documents and assisted with translations during meetings. They also provided the context and substantiated information that was relevant for the review of the professional degree and practice of architecture in Spain.

The team made the following favorable observations, which are described in greater detail elsewhere in this report:

- Commitment to goal and objectives in achieving Substantial Equivalency
- Multilateral support of the program by administrative units
- Excellent physical conditions
- Outstanding interface between faculty and students
- Professional quality of student work

The team agreed that one condition was "Met with Distinction" and eight Student Performance Criteria (SPC) were "Met with Distinction." Five conditions were "Not Met" and two SPC were "Not Yet Met." Overall, the visiting team is confident that the CEU program provides and will continue to offer a high-quality education and global perspective of architectural standards.

### 2. Conditions Not Met/Not Yet Met

#### *Not Met*

- I.1.4 Long Range Planning
- I.4 Policy Review
- II.2.3 Curriculum Review & Development
- II.4.1 Statement on Substantially Equivalent Degrees
- II.4.2 Access to NAAB Conditions and Procedures

#### *Not Yet Met*

- B.3 Sustainability
- C.1 Collaboration

### 3. Causes of Concern

#### 1.2.4 Financial Resources (diversification of resources/revenue)

Our discussions with the CEU administrators revealed that the primary source of revenue for the architecture program is provided through student tuition. At present there are over 700 students enrolled in an approximately 6.5 year program (5 year + preparation for final degree project). Successful completion of the program leads to an immediate granting of both a degree and license to practice. Thirty percent of the students receive some form of

grant toward tuition. Currently, there appears to be sufficient revenue to offer students a high caliber of instruction and to support the administrators, faculty, and staff. However, as of 2014, Spain's workforce is continuing to experience a 21% unemployment rate, but more importantly--the administration stated that since 2010 the unemployment rate for architects has risen to a staggering 83%. When this topic was brought up with the administration, they emphasized that there is a concerted effort to boost the research and PhD programs along with facilitation of partnerships between other disciplines and programs in Spain and abroad. The administration is welcoming the opportunity to attract international students and global exchanges through its association with NAAB and achievement of Substantial Equivalency for CEU's program in architecture.

## II. Compliance with the Conditions for Substantial Equivalency

### 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:** *The program must describe its history, mission and culture and how that history, mission, and culture is expressed in contemporary context. Programs that exist within a larger educational institution must also describe the history and mission of the institution and how that history, mission, and culture is expressed in contemporary context.*

*The substantially equivalent degree program must describe and then provide evidence of the relationship between the program, the administrative unit that supports it (e.g., school or college) and the institution. This includes an explanation of the program's benefits to the institutional setting, how the institution benefits from the program, any unique synergies, events, or activities occurring as a result, etc.*

*Finally, the program must describe and then demonstrate how the course of study and learning experiences encourage the holistic, practical and liberal arts-based education of architects.*

**[X] The program has fulfilled this requirement for narrative and evidence**

**Visit Two Team Assessment:** The program provided a description of its history, mission, and culture in the APR. At the on-site meetings with faculty and administrators, the team confirmed the findings described in the APR.

#### **I.1.2 Learning Culture and Social Equity:**

- *Learning Culture: The program must demonstrate that it provides a positive and respectful learning environment that encourages the fundamental values of optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff in all learning environments both traditional and nontraditional.*

*Further, the program must demonstrate that it encourages students and faculty to appreciate these values as guiding principles of professional conduct throughout their careers, and it addresses health-related issues, such as time management.*

*Finally, the program must document, through narrative and artifacts, its efforts to ensure that all members of the learning community (faculty, staff, and students) are aware of these objectives and are advised as to the expectations for ensuring they are met in all elements of the learning culture.*

- *Social Equity: The substantially equivalent degree program must first describe how social equity is defined within the context of the institution or the country in which it is located and then demonstrate how it provides faculty, students, and staff with a culturally rich educational environment in which each person is equitably able to learn, teach, and work.*

**[X] The program has demonstrated that it provides a positive and respectful learning environment.**

**[X] The program has demonstrated that it provides a culturally rich environment in which each person is equitably able to learn, teach, and work.**

**Visit Two Team Assessment:** The learning culture and sense of equity are evident on many levels at CEU and within the program in architecture. Students are supported in several ways: 1) Exam schedules are coordinated by teams of faculty members so that conflicts between scheduled exams and deadlines are avoided; 2) Faculty tutors are assigned to each student every year and provide educational,

professional, and personal advice; and 3) Students also act as peer tutors to one another, offering an additional layer of support. Conversations with students showed that they value the learning culture. Tutoring is done in a large open space and discussions are sometimes videotaped. This system allows students and faculty to collectively participate in further study of issues outside the classroom. Another feature of the program is co-teaching. This standard approach to setting up the lecture courses facilitates mentorship opportunities for new faculty. In addition, co-teaching provides even more flexibility for faculty to have their own practice and research schedule. With respect to cultural richness, student exchanges between Asian architecture programs and CEU expose students and faculty to a broader range of perspectives.

Students expressed one issue of concern. They described the space around the large building that houses the architecture and engineering programs as sterile and unbearable during the hot months. They advocated for the addition of shading devices and plant materials to cool the spaces. The faculty and administration agreed with the students' observations and concerns.

The students also confirmed that there is no organized venue for meeting as a group. They were not aware of any organization similar to the U.S.-based American Institute of Architecture Student (AIAS).

**1.1.3 Response to the Five Perspectives:** *Programs must demonstrate through narrative and artifacts, how they respond to the following perspectives on architecture education. Each program is expected to address these perspectives consistently within the context of its history, mission, and culture and to further identify as part of its long-range planning activities how these perspectives will continue to be addressed in the future.*

- A. Architecture Education and the Academic Community.** *That the faculty, staff, and students in the substantially equivalent degree program make unique contributions to the institution in the areas of scholarship, community engagement, service, and teaching.<sup>1</sup> In addition, the program must describe its commitment to the holistic, practical, and liberal arts–based education of architects and to providing opportunities for all members of the learning community to engage in the development of new knowledge.*

**[X] The program is responsive to this perspective.**

**Visit Two Team Assessment:** The academic community at CEU is highly integrated, and administrators, faculty, staff, and students demonstrated a complex range of activities. The architecture program takes pride in its adherence to a classical approach to drawing and at the same time actively participates in a cutting-edge technology exchange with MIT and several other institutions. Cameras are positioned to capture images of the work produced in a fabrication lab at CEU and broadcast 24/7. Faculty and students are working toward achieving a global perspective and reputation through both teaching and research partnerships with local and international academic communities.

- B. Architecture Education and Students.** *That students enrolled in the substantially equivalent degree program are prepared to live and work in a global world where diversity, distinctiveness, self-worth, and dignity are nurtured and respected; to emerge as leaders in the academic setting and the profession; to understand the breadth of professional opportunities; to make thoughtful, deliberate, informed choices and; to develop the habit of lifelong learning.*

**[X] The program is responsive to this perspective.**

**Visit Two Team Assessment:** Students at San Pablo CEU are its biggest source of pride. They are bright, hardworking, and produce work of the highest quality. Respect and cooperation are

---

<sup>1</sup> See Boyer, Ernest L. *Scholarship Reconsidered: Priorities of the Professoriate*. Carnegie Foundation for the Advancement of Teaching. 1990.

evident throughout the program. Professors give students confidence, and tutors offer advice on projects, professional issues, and even personal topics such as stress management. Students are given leadership opportunities as directors of outreach programs abroad, directors of exhibits, as peer tutors, and as representatives on the school's governance council. Bilateral agreements with schools across the world allow students to continue their studies while gaining international experience. The school's Fab-Lab gives students the opportunity not only to work with those from the CEU tech department but also with other students across the world. Lifelong learning is a way of life in Spain and is encouraged and demonstrated by professors and tutors.

- C. Architecture Education and the Regulatory Environment.** *That students enrolled in the substantially equivalent degree program are provided with a sound preparation for the transition to licensure or registration. The school may choose to explain in the APR the degree program's relationship with the process of becoming an architect in the country where the degree is offered, the exposure of students to possible internship requirements, the students' understanding of their responsibility for professional conduct, and the proportion of graduates who have sought and achieved licensure or registration since the previous visit.*

**[X] The program is responsive to this perspective.**

**Visit Two Team Assessment:** A degree in architecture in Spain gives graduates the right to practice architecture without any other requirement (Order ECI ECI/3856/2007, of 27 December 2007). Because of this, the education of a student at CEU covers all technical and conceptual topics needed to practice. Curricular content is dictated by the state, and expanded and ordered by the school. The education of a student culminates in a Final Thesis Project. The program at CEU is part of the Bologna Declaration, an agreement among 28 countries to unify higher education standards in the European Union. This agreement allows CEU graduates to work in other EU countries and eases the process of study abroad for students.

- D. Architecture Education and the Profession.** *That students enrolled in the substantially equivalent degree program are prepared: to practice in a global economy; to recognize the positive impact of design on the environment; to understand the diverse and collaborative roles assumed by architects in practice; to understand the diverse and collaborative roles and responsibilities of related disciplines; to respect client expectations; to advocate for design-based solutions that respond to the multiple needs of diverse clients and populations, as well as the needs of communities; and to contribute to the growth and development of the profession.*

**[X] The program is responsive to this perspective.**

**Visit Two Team Assessment:** CEU organizes master classes with international professionals, which allow students to study a broad range of cultures and alternative ways to approach a professional practice. Almost all of the faculty are practicing architects and provide an essential perspective to their classes. The program's relationship with the College of Architects of Madrid (COAM) links students directly to the profession. COAM has paired with CEU to organize and host exhibits and competitions, such as TransforMad. The Final Thesis Project jury also has a COAM member who is responsible for offering an external point of view to each student.

- E. Architecture Education and the Public Good.** *That students enrolled in the substantially equivalent degree program are prepared: to be active, engaged citizens; to be responsive to the needs of a changing world; to acquire the knowledge needed to address pressing environmental, social, and economic challenges through design, conservation, and responsible professional practice; to understand the ethical implications of their decisions; to reconcile differences between the architect's obligation to his/her client and the public; and to nurture a climate of civic engagement, including a commitment to professional and public service and leadership.*

**[X] The program is responsive to this perspective.**

**Visit Two Team Assessment:** Students enrolled at the University San Pablo CEU are prepared to be socially committed architects. At the heart of San Pablo CEU's mission is the promotion of a humanistic education with a focus on satisfying the social needs of the public. The foundation's commitment to internationalization helps to prepare students to work not only in Spain but also abroad. Students are given the opportunity to work on projects in Madrid and elsewhere in the world. Examples include class outreach projects in Sierra Leone and the TransforMad Exhibition (which was on exhibit at the City Hall of Madrid during the team visit). The exhibition featured workshops with families and children.

**I.1.4 Long-Range Planning:** *A substantially equivalent degree program must demonstrate that it has identified multi-year objectives for continuous improvement within the context of its mission and culture, the mission and culture of the institution, and the five perspectives. In addition, the program must demonstrate that data is collected routinely and from multiple sources to inform its future planning and strategic decision making.*

**[X] The program's processes do not meet the standards as set by the NAAB.**

**Visit Two Team Assessment:** The APR described in great detail an *external* long-range planning process set forth by the Spanish government. However, there is no evidence of an *internal*, departmental process for long-range planning.

**I.1.5 Self-Assessment Procedures:** *The program must demonstrate that it regularly assesses the following:*

- *How the program is progressing toward its mission.*
- *Progress against its defined multiyear objectives (see I.1.4 Long-Range Planning) since the objectives were identified and since the last visit.*
- *Strengths, challenges, and opportunities faced by the program while developing learning opportunities in support of its mission and culture, the mission and culture of the institution, and the five perspectives.*
- *Self-assessment procedures shall include, but are not limited to:*
  - *Solicitation of faculty, students', and graduates' views on the teaching, learning and achievement opportunities provided by the curriculum.*
  - *Individual course evaluations.*
  - *Review and assessment of the focus and pedagogy of the program.*
  - *Institutional self-assessment, as determined by the institution.*

*The program must also demonstrate that results of self-assessments are regularly used to advise and encourage changes and adjustments to promote student success as well as the continued maturation and development of the program.*

**[X] The program's processes meet the standards as set by the NAAB.**

**Visit Two Team Assessment:** CEU engages in assessment at many levels. In addition to the self-assessments outlined in the APR (and then confirmed by the administration), the team learned that there has been an informal exit survey. The Spanish government will be requiring exit surveys in the near future.

**PART ONE (I): SECTION 2—RESOURCES**

**I.2.1 Human Resources and Human Resource Development**

- *Faculty & Staff:*

- *A substantially equivalent degree program must have appropriate human resources to support student learning and achievement. This includes full- and part-time instructional faculty, administrative leadership, and technical, administrative, and other support staff. Programs are required to document personnel policies which may include but are not limited to faculty and staff position descriptions<sup>2</sup>.*
- *Substantially equivalent programs must document the policies they have in place to further social equity or diversity initiatives appropriate to the cultural context of the institution.*
- *A substantially equivalent degree program must demonstrate that it balances the workloads of all faculty and staff to support a tutorial exchange between the student and teacher that promotes student achievement.*
- *A substantially equivalent degree program must demonstrate it is able to provide opportunities for all faculty and staff to pursue professional development that contributes to program improvement.*
- *Substantially equivalent programs must document the criteria used for determining rank, reappointment, tenure, and promotion as well as eligibility requirements for professional development resources.*

**[X] Human Resources (Faculty & Staff) are adequate for the program.**

**Visit Two Team Assessment: This condition was met with distinction.** The curriculum in the architecture program at CEU is designed to support the concept of co-teaching content courses. This shared teaching concept allows faculty and students to mentor one another on many levels. Faculty members with less experience are paired with more senior faculty, or faculty with specializations are able to offer their expertise and have another area of expertise covered by peer faculty. This system of shared teaching in the classroom also allows students to address questions from many perspectives and also get to know a larger number of faculty.

In addition to the system of instruction, the staff has recently undergone consolidation of several programs. The staff described the unification process as having had a positive outcome.

Workloads did not seem to be an issue. Preparation for the NAAB visit was a team effort among the administration, faculty, staff, and students. Everyone who participated in the on-site visit meetings expressed highly favorable views of collaborative exchanges between units and personnel or students. There was an atmosphere of respect and cohesive support evident at all levels of engagement.

*Students:*

- *A substantially equivalent program must document its student admissions policies and procedures. This documentation may include but is not limited to application forms and instructions, admissions requirements, admissions decisions procedures, financial aid and scholarships procedures, and student diversity initiatives. These procedures should include first-time, first-year students as well as transfers within and outside of the university.*
- *A substantially equivalent degree program must demonstrate its commitment to student achievement both inside and outside the classroom through individual and collective learning opportunities.*

**[X] Human Resources (Students) are adequate for the program.**

**Visit Two Team Assessment:** Discussions with the administration regarding financial resources for the students revealed that there were 197 students who received grants (30%). Students were offered grants for outstanding performance and economic assistance.

### **I.2.2 Administrative Structure & Governance**

- **Administrative Structure:** *A substantially equivalent degree program must demonstrate it has a measure of administrative autonomy that is sufficient to affirm the program's ability to conform to the*

---

<sup>2</sup> A list of the policies and other documents to be made available in the team room during a substantial equivalency visit is in Appendix 4 of the 2012 Conditions for Substantial Equivalency.

*conditions for substantial equivalency. Substantially equivalent programs are required to maintain an organizational chart describing the administrative structure of the program and position descriptions describing the responsibilities of the administrative staff.*

**[X] Administrative structure is adequate for the program.**

**Visit Two Team Assessment:** Discussions with the dean and program administrators revealed that there is a measure of autonomy. The organizational chart describing the administrative structure was provided in the APR. The dean, who is an engineer, was extremely knowledgeable and supportive of the program in architecture. He sees the value of a degree in architecture and facilitates exchanges between research and disciplines.

- **Governance:** *The program must demonstrate that all faculty, staff, and students have equitable opportunities to participate in program and institutional governance as appropriate to the context and culture of the institution.*

**[X] Governance opportunities are adequate for the program.**

**Visit Two Team Assessment:** Descriptions of participation opportunities are provided in the APR. Students, staff, and faculty have opportunities to participate in governance bodies within the institution and the program. However, the team pointed out to the administration and students that there is no type of formal governance for architecture students on the CEU campus, such as an AIAS chapter. Because the faculty and students can resolve many issues through the tutoring arrangement, the need for a student “club” or governing body has not been discussed or pursued.

**I.2.3 Physical Resources:** *The program must demonstrate that it provides physical resources that promote student learning and achievement in a professional degree program in architecture. This includes but is not limited to the following:*

- *Space to support and encourage studio-based learning*
- *Space to support and encourage didactic and interactive learning.*
- *Space to support and encourage the full range of faculty roles and responsibilities including preparation for teaching, research, mentoring, and student advising.*

**[X] Physical resources are adequate for the program.**

**Visit Two Team Assessment:** The architecture program and the entirety of its support spaces are housed in one large modern structure shared with the engineering program. The facility is approximately 35,000 m<sup>2</sup> and features two computer labs, two double-height studios for life drawing classes, and three construction materials technology and structures laboratories, each with machinery for materials testing and research. In addition, there is one model workshop with woodworking tools, laser cutters, and a new CNC machine. The building also houses a cafeteria, supply store, and an MIT fabrication laboratory (“fab lab”), which has 3D printers and a 24-hour web exchange camera. While the program does not have specific studio-based spaces, it does provide open space for all students to work on campus. There is a space dedicated to final thesis project students, and each student is provided with his/her own locker. The main hallway that bisects the building has many tables for students to work in groups and on projects between classes. Faculty members have offices to support the range of work and responsibilities, and 10 seminar rooms are available for group tutoring.

**I.2.4 Financial Resources:** *A substantially equivalent degree program must demonstrate that it has access to appropriate institutional and financial resources to support student learning and achievement.*

**[X] Financial Resources are adequate for the program. (This is listed as a Cause of Concern.)**

**Visit Two Team Assessment:** *(Please see the summary pages 1–2 of this VTR.)* The team noted, and discussed with the administration, that there were no data comparing the CEU architecture program budget with other architecture programs in Madrid or Spain. In addition, no data were available comparing budgets with other CEU programs/disciplines. The visiting team was given a copy of the architecture program budget on the last evening of the visit, but it was difficult to assess the adequacy or level of financial support based on so little comparative data.

**I.2.5 Information Resources:** *The substantially equivalent program must demonstrate that all students, faculty, and staff have convenient access to literature, information, and visual and digital resources that support professional education in the field of architecture.*

*Further, the substantially equivalent program must demonstrate that all students, faculty, and staff have access to architecture librarians and visual resources professionals who provide information services that teach and develop research, evaluative, and critical thinking skills necessary for professional practice and lifelong learning.*

**[X] Information Resources are adequate for the program**

**Visit Two Team Assessment:** The architecture program's library has more than 12,000 books (9,000 on shelves and 3,000 in stacks). There are 171 journal and 59 periodicals subscriptions, several online journals, and 974 architecture-related audiovisual recordings. The catalog is available through the library website. The library facility is located on two floors with comfortable space for documentation and use of resources. The library is open 8:30 to 20:30, Monday through Friday.

**PART I: SECTION 3—REPORTS**

**1.3.1 Statistical Reports.** *Programs are required to provide statistical data in support of activities and policies that support social equity in the professional degree and program as well as other data points that demonstrate student success and faculty development.*

- *Program student characteristics.*
  - *Number of students enrolled in the substantially equivalent degree program(s).*
  - *Qualifications of students admitted in the fiscal year prior to the upcoming visit compared to those admitted in the fiscal year prior to the last visit.*
  - *Time to graduation.*
    - *Percentage of matriculating students who complete the substantially equivalent degree program within the normal time to completion for each academic year since the previous visit.*
    - *Percentage who complete the substantially equivalent degree program within 150% of the normal time to completion for each academic year since the previous visit.*
- *Program faculty characteristics*
  - *Number of faculty by rank (e.g., assistant professor, associate professor)*
  - *Number of full-time faculty and part-time faculty*
  - *Number of faculty promoted each year since the last visit*
  - *Number of faculty maintaining licenses in the country of the program each year since the last visit, and where they are licensed*

**[X] Statistical reports were provided and provide the appropriate information.**

**Visit Two Team Assessment:** The APR includes a table indicating which faculty members are licensed. (A degree in architecture in Spain allows a person to practice as an architect simply by paying the official fees.) Some faculty members practice in other countries, so it is unclear who has a license to practice specifically in Spain.

All requirements related to the student program are met. During the visit meetings with the admissions staff, the admission process for Spanish and incoming students was described. Spanish students are required to pass the “Selectivity Exam” after high school. The content is determined by Royal Decree 861/2010 of 2 July 2010 and Royal Decree 1618/2011 of 14 November 2011.

**1.3.2 Faculty Credentials:** *The program must demonstrate that the instructional faculty are adequately prepared to provide an architecture education within the mission, history, and context of the institution.*

*In addition, the program must provide evidence through a faculty exhibit<sup>3</sup> that the faculty, taken as a whole, reflects the range of knowledge and experience necessary to promote student achievement as described in Part Two. This exhibit should include highlights of faculty professional development and achievement since the last substantial equivalency visit.*

**[X] Faculty credentials were provided and demonstrate the range of knowledge and experience necessary to promote student achievement.**

**Visit Two Team Assessment:** The faculty exhibit was set up on the mezzanine level of the team room. It provided evidence of an impressive display of scholarly and professional work produced by the faculty.

---

<sup>3</sup> The faculty exhibit should be set up near or in the team room. To the extent the exhibit is incorporated into the team room, it should not be presented in a manner that interferes with the team’s ability to view and evaluate student work.

**PART ONE (I): SECTION 4—POLICY REVIEW**

*The information required in the three sections described above is to be addressed in the APR. In addition, the program shall provide a number of documents for review by the visiting team. Rather than being appended to the APR, they are to be provided in the team room during the visit. The list is available in Appendix 4 of the Conditions for Substantial Equivalency.*

**[X] The policy documents in the team room did not meet the requirements of Appendix 4.**

**Visit Two Team Assessment:** The information required by Appendix 4 of the Conditions for Substantial Equivalency was not provided in the team room during the visit. Therefore, this condition is not met. The information required in the three sections listed for Policy Review as described above was addressed in the APR.

## PART TWO (II): EDUCATIONAL OUTCOMES AND CURRICULUM

### PART TWO (II): SECTION 1—STUDENT PERFORMANCE—EDUCATIONAL REALMS & STUDENT PERFORMANCE CRITERIA

*The substantially equivalent degree program must demonstrate that each graduate possesses the knowledge and skills defined by the Student Performance Criteria set out below. The knowledge and skills are the minimum for meeting the demands of an internship leading to registration for practice.*

*The school must provide evidence that its graduates have satisfied each criterion through required coursework. If credits are granted for courses taken at other institutions or online, evidence must be provided that the courses are comparable to those offered in the substantially equivalent degree program.*

*The criteria encompass two levels of accomplishment<sup>4</sup>:*

**Understanding**—*The capacity to classify, compare, summarize, explain and/or interpret information.*

**Ability**—*Proficiency in using specific information to accomplish a task, correctly selecting the appropriate information, and accurately applying it to the solution of a specific problem, while also distinguishing the effects of its implementation.*

*The NAAB establishes student performance criteria to help substantially equivalent degree programs prepare students for the profession while encouraging educational practices suited to the individual degree program. In addition to assessing whether student performance meets the professional criteria, the visiting team will assess performance in relation to the school's stated curricular goals and content. While the NAAB stipulates the student performance criteria that must be met, it specifies neither the educational format nor the form of student work that may serve as evidence of having met these criteria. Programs are encouraged to develop unique learning and teaching strategies, methods, and materials to satisfy these criteria. The NAAB encourages innovative methods for satisfying the criteria, provided the school has a formal evaluation process for assessing student achievement of these criteria and documenting the results.*

*For the purpose of substantial equivalency, graduating students must demonstrate understanding or ability as defined below in the Student Performance Criteria (SPC):*

**II.1.1 Student Performance Criteria:** *The SPC are organized into realms to more easily understand the relationships between individual criteria.*

#### **Realm A: Critical Thinking and Representation:**

*Architects must have the ability to build abstract relationships and understand the impact of ideas based on research and analysis of multiple theoretical, social, political, economic, cultural and environmental contexts. This ability includes facility with the wider range of media used to think about architecture including writing, investigative skills, speaking, drawing and model making. Students' learning aspirations include:*

- *Being broadly educated.*
- *Valuing lifelong inquisitiveness.*
- *Communicating graphically in a range of media.*
- *Recognizing the assessment of evidence.*
- *Comprehending people, place, and context.*
- *Recognizing the disparate needs of client, community, and society.*

---

<sup>4</sup> See also *Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. L. W. Anderson and D. R. Krathwold, eds. (New York: Longman, 2001).

**A.1. Communication Skills: *Ability to read, write, speak and listen effectively.***

**[X] Met**

**Visit Two Team Assessment:** Course exams in A112 show student ability to effectively read and write. Evidence of the students' ability to speak and listen was observed during the classroom tours and student meetings.

**A.2. Design Thinking Skills: *Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.***

**[X] Met**

**Visit Two Team Assessment:** The PFC (Final Thesis Project) shows the students' ability in design thinking skills. Projects in A401 also show evidence of interpretation of information and consideration of diverse points of view.

**A.3. Visual Communication Skills: *Ability to use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at each stage of the programming and design process.***

**[X] Met (with distinction)**

**Visit Two Team Assessment:** Students are taught to use appropriate representational media at the beginning of their career and apply it in A101, A107, and A109. Workshop projects throughout the program, demonstrate outstanding ability in visual communication skills. This SPC has been met with distinction.

**A.4. Technical Documentation: *Ability to make technically clear drawings, write outline specifications, and prepare models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.***

**[X] Met (with distinction)**

**Visit Two Team Assessment:** Students show the ability to make technically clear drawings in courses A408, A507, A509, and the PFC (Final Thesis Project). Student work in these courses shows a clear ability to depict assembly of materials, systems and components appropriate for a building design. All PFC (Final Thesis Project) projects incorporate an outline specification prepared by the student for the project. This SPC is met with distinction.

**A.5. Investigative Skills: *Ability to gather, assess, record, apply, and comparatively evaluate relevant information within architectural coursework and design processes.***

**[X] Met**

**Visit Two Team Assessment:** The PFC (Final Thesis Project) shows extensive student ability to gather, assess, record, apply, and comparatively evaluate relevant information within the design process. Projects from course A401 also show student evidence of assessment, recording, and evaluation of information.

**A.6. Fundamental Design Skills: *Ability to effectively use basic architectural and environmental principles in design.***

[X] Met

**Visit Two Team Assessment:** The ability to effectively use basic architectural and environmental principles in design is evident in architecture and urban design workshop course work throughout the curricula. It is especially strongly indicated in the PFC (Final Thesis Project).

**A.7. Use of Precedents: *Ability to examine and comprehend the fundamental principles present in relevant precedents and to make choices regarding the incorporation of such principles into architecture and urban design projects.***

[X] Met

**Visit Two Team Assessment:** In A411 projects, there is evidence of the students' analysis to examine and comprehend principles in precedents. Incorporation of such principles into architecture and urban design projects is evident in A411, A311, and the PFC (Final Thesis Project).

**A.8. Ordering Systems Skills: *Understanding of the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.***

[X] Met

**Visit Two Team Assessment:** Projects in A102 demonstrate the students' understanding of the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.

**A.9. Historical Traditions and Global Culture: *Understanding of parallel and divergent canons and traditions of architecture, landscape and urban design including examples of indigenous, vernacular, local, regional, national settings from the Eastern, Western, Northern, and Southern hemispheres in terms of their climatic, ecological, technological, socioeconomic, public health, and cultural factors.***

[X] Met

**Visit Two Team Assessment:** The team discussed this SPC at length with the faculty teaching the courses related to historical traditions. Case studies featuring hospitals and also the pilgrimage sites in Santiago were seen as evidence for public health and cultural factors, along with studies and sketches to demonstrate research areas.

**A.10. Cultural Diversity: *Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the implication of this diversity on the societal roles and responsibilities of architects.***

[X] Met

**Visit Two Team Assessment:** This SPC also was also the subject of a lot of discussion with faculty. At the end, it was agreed that projects for A401 (Architectural Design V) demonstrated knowledge of cultural diversity.

**A.11. Applied Research: *Understanding the role of applied research in determining function, form, and systems and their impact on human conditions and behavior.***

[X] Met

**Visit Two Team Assessment:** Evidence of student understanding of the role of applied research in determining function, form, and systems and their impact on human conditions and behavior can be found in projects in course A401 and the PFC (Final Thesis Project).

**Realm A. General Team Commentary:** The CEU program in architecture still regards a classical study of architecture as one of its distinguishing features. The level of investigation through research and drawing is well documented and beautifully demonstrated.

**Realm B: Integrated Building Practices, Technical Skills and Knowledge:** *Architects are called upon to comprehend the technical aspects of design, systems and materials, and be able to apply that comprehension to their services. Additionally they must appreciate their role in the implementation of design decisions, and their impact of such decisions on the environment. Students learning aspirations include:*

- *Creating building designs with well-integrated systems.*
- *Comprehending constructability.*
- *Incorporating life safety systems.*
- *Integrating accessibility.*
- *Applying principles of sustainable design.*

**B.1. Pre-Design: Ability to prepare a comprehensive program for an architectural project, such as preparing an assessment of client and user needs, an inventory of space and equipment requirements, an analysis of site conditions (including existing buildings), a review of the relevant laws and standards and assessment of their implications for the project, and a definition of site selection and design assessment criteria.**

**[X] Met**

**Visit Two Team Assessment:** The PFC (Final Thesis Project) shows evidence of this SPC. Projects in architectural and urban design workshops throughout the curricula show extensive evidence of analysis of site conditions on multiple scales.

**B.2. Accessibility: Ability to design sites, facilities, and systems to provide independent and integrated use by individuals with physical (including mobility), sensory, and cognitive disabilities.**

**[X] Met**

**Visit Two Team Assessment:** Projects designed for the course A509 demonstrate the students' ability to design sites, facilities, and systems to provide independent and integrated use by individuals with disabilities.

**B.3. Sustainability: Ability to design projects that optimize, conserve, or reuse natural and built resources, provide healthful environments for occupants/users, and reduce the environmental impacts of building construction and operations on future generations through means such as carbon-neutral design, bioclimatic design, and energy efficiency.**

**[X] Not Yet Met**

**Visit Two Team Assessment:** No evidence of ability to design projects that provide healthful environments for occupants was found. In fact, the team room was constructed with paper products, glues, and paints that caused allergic reactions for two of the team members. The team work area had to be relocated to the mezzanine and windows and doors had to be left open. Fans were run for one

day. However, the other areas of sustainability were well covered and well represented through studio projects and technical drawings. There is also a sustainability laboratory.

**B.4. Site Design: *Ability* to respond to site characteristics such as soil, topography, vegetation, and watershed in the development of a project design.**

[X] Met

**Visit Two Team Assessment:** An ability to respond to site characteristics can be found in workshop projects in courses A401, A409, A502, A507, and the PFC. Design of foundations in different soil conditions is also covered extensively in course A409.

**B.5. Life Safety: *Ability* to apply the basic principles of life-safety systems with an emphasis on egress.**

[X] Met

**Visit Two Team Assessment:** Student work produced for the course A509, Design of Environmental Mechanical Systems, indicated a sufficient amount of evidence with zoning diagrams, dimensioning of stairs, calculations, signaling devices, structural resistance to fire and direction of egress diagrams.

**B.6. Comprehensive Design: *Ability* to produce a comprehensive architectural project that demonstrates each student's capacity to make design decisions across scales while integrating the following SPC:**

A.2. Design Thinking Skills

B.2. Accessibility

A.4. Technical Documentation

B.3. Sustainability

A.5. Investigative Skills

B.4. Site Design

A.8. Ordering Systems

B.7. Environmental Systems

A.9. Historical Traditions and  
Global Culture

B.9. Structural Systems

B.5. Life Safety

[X] Met (with distinction)

**Visit Two Team Assessment:** The PFC (Final Thesis Project) is a comprehensively executed project produced by each student before graduation. All aspects of the design process are thoroughly vetted by faculty and external advisors. The goal of the thesis is for students to demonstrate that they have the knowledge to practice upon graduation. The projects are generally large-scale and are investigated with a high level of detail.

**B.7 Financial Considerations: *Understanding* of the fundamentals of building costs, such as acquisition costs, project financing and funding, financial feasibility, operational costs, and construction estimating with an emphasis on life-cycle cost accounting.**

[X] Met

**Visit Two Team Assessment:** The PFC (Final Thesis Project) requires students to provide construction estimating and calculate project costs for each project at an ability level. A504 exams show student understanding of financial considerations. Operational data for building energy use is calculated by students in A509; however, operational costs are not calculated. This criterion was still judged met.

- B.8. Environmental Systems: *Understanding* of the principles of environmental systems' design such as embodied energy, active and passive heating and cooling, indoor air quality, solar orientation, daylighting and artificial illumination, and acoustics; including the use of appropriate performance assessment tools.**

**[X] Met (with distinction)**

**Visit Two Team Assessment:** Understanding of the systems such as embodied energy, active and passive heating, indoor air quality, solar orientation, and acoustics is demonstrated in A304, Environmental Systems. Daylighting and artificial illumination evidence can be found in A310, Electrical and Lighting systems.

The Final Thesis Project subject shows how students are using this knowledge to improve their designs. A509, Design of Environmental Mechanical System, shows how this requirement of understanding is turned into "ability." This ability is also required by Spanish regulation.

- B.9. Structural Systems: *Understanding* of the basic principles of structural behavior in withstanding gravity and lateral forces and the evolution, range, and appropriate application of contemporary structural systems.**

**[X] Met (with distinction)**

**Visit Two Team Assessment:** Evidence of the students' understanding of the basic principles of structural behavior is shown in second-year subjects A203, Solid Mechanics, and A21, Basic Principles of Structural Behavior. The students must demonstrate this knowledge in structural design competitions organized in A303, Structural Analysis 1, and A309, Structural Analysis 2. Students must design models to demonstrate resistive capabilities. Moreover, the exercises completed for A508, Design of Building Structures, show how students design their own building structures and are able to also produce technical drawings.

- B.10. Building Envelope Systems: *Understanding* of the basic principles involved in the appropriate application of building envelope systems and associated assemblies relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.**

**[X] Met (with distinction)**

**Visit Two Team Assessment:** A308, Building Construction 2, and A502, Building Construction Design, show an understanding of building envelope systems. Moreover, in the Final Thesis Projects, students apply the skills to improve and detail a more complex project.

- B.11. Building Service Systems Integration: *Understanding* of the basic principles and appropriate application and performance of building service systems such as plumbing, electrical, vertical transportation, security, and fire protection systems**

**[X] Met (with distinction)**

**Visit Two Team Assessment:** Specifically, A310, Electrical and Lighting Systems shows the understanding of electrical service systems, and A403 shows plumbing systems. In a more

comprehensive way, A509, Design of Environmental Mechanical Systems, requires every student to design the whole building services for their own project. In that sense, the *understanding* is turned into an *ability*. Moreover, the Final Thesis Project shows how the students are using this knowledge in order to improve and detail a more complex building design.

- B.12. Building Materials and Assemblies Integration: *Understanding of the basic principles utilized in the appropriate selection of construction materials, products, components, and assemblies, based on their inherent characteristics and performance, including their environmental impact and reuse.***

**[X] Met (with distinction)**

**Visit Two Team Assessment:** A204, Building Construction Materials, focuses on the inherent characteristics and performance of materials. The Final Thesis Project subject shows how the students are capable of selecting the appropriate materials, products, and components to improve their own designs. Moreover, extraordinarily well-done detailed drawings for A502, Building Construction Design, demonstrate each student's ability to improve and describe the way building components are assembled.

**Realm B. General Team Commentary:** The criteria designated as "Met with Distinction" were reviewed by the entire team, which included a well-known architect from Spain. The architect also participated in the substantial equivalency visits for two other Madrid institutions. He was able to confirm that the student work at CEU was outstanding in the areas of integrated building practices and technical knowledge and skills.

**Realm C: Leadership and Practice:**

*Architects need to manage, advocate, and act legally, ethically and critically for the good of the client, society and the public. This includes collaboration, business, and leadership skills. Student learning aspirations include:*

- *Knowing societal and professional responsibilities*
- *Comprehending the business of building.*
- *Collaborating and negotiating with clients and consultants in the design process.*
- *Discerning the diverse roles of architects and those in related disciplines.*
- *Integrating community service into the practice of architecture.*

- C.1. Collaboration: *Ability to work in collaboration with others and in multi-disciplinary teams to successfully complete design projects.***

**[X] Not Yet Met**

**Visit Two Team Assessment:** No evidence of the students' ability to work in multidisciplinary teams was available. However, architecture students were observed working together on many projects and in quite a few classes. The team enjoyed seeing teams of students create and test (destroy) beams for a structures course. This SPC is not yet met.

- C.2. Human Behavior: *Understanding of the relationship between human behavior, the natural environment and the design of the built environment.***

**[X] Met**

**Visit Two Team Assessment:** Team members had intense discussions with the CEU faculty on this topic. The issue was human behavior as it relates to the environment—more specifically, to nature as opposed to the built environment. In the end, it was decided that student work and exams demonstrate an understanding.

- C.3 Client Role in Architecture: *Understanding of the responsibility of the architect to elicit, understand, and reconcile the needs of the client, owner, user groups, and the public and community domains.***

[X] Met

**Visit Two Team Assessment:** Course work produced for A504 and A511 (Professional Practice 1 & 2), demonstrate that programming problems address budget, real estate development issues along with charrette activities to engage the user groups.

- C.4. Project Management: *Understanding of the methods for competing for commissions, selecting consultants and assembling teams, and recommending project delivery methods***

[X] Met

**Visit Two Team Assessment:** A504, Professional Practice in Architecture 1, requires students to understand the methods of competing for commissions, selecting consultants and assembling teams, and recommending project delivery methods. Several exams of this subject show evidence.

- C.5. Practice Management: *Understanding of the basic principles of architectural practice management such as financial management and business planning, time management, risk management, mediation and arbitration, and recognizing trends that affect practice.***

[X] Met

**Visit Two Team Assessment:** Course work and exams provided in documents for A504, Professional Practice in Architecture 1, offer evidence that students understand the basic principles of architectural practice management.

- C.6. Leadership: *Understanding of the techniques and skills architects use to work collaboratively in the building design and construction process and on environmental, social, and aesthetic issues in their communities.***

[X] Met

**Visit Two Team Assessment:** Course work and exams provided in documents for A504, Professional Practice in Architecture 1, demonstrated an understanding of the leadership aspects of professional practice, including the above topics.

- C.7. Legal Responsibilities: *Understanding of the architect's responsibility to the public and the client as determined by registration law, building codes and regulations, professional service contracts, zoning and subdivision ordinances, environmental regulation, and historic preservation and accessibility laws.***

[X] Met

**Visit Two Team Assessment:** The requirements for this SPC are demonstrated and met in different courses:

- Registration law: A504 Professional Practice in Architecture 1
- Building codes and regulations: A402 Dimension of Structures, A409 Foundations, 509 Design

- of Environmental Mechanical Systems, A404 Urban Planning 1, and A410 Urban Planning 2
- Professional service contracts: A504 Professional Practice in Architecture 1
- Zoning and subdivision ordinances, environmental regulation and historic preservation: A404 Urban Planning 1 and A410 Urban Planning 2
- Accessibility laws: A509 Design of Environmental Mechanical Systems.

**C.8. Ethics and Professional Judgment: *Understanding of the ethical issues involved in the formation of professional judgment regarding social, political and cultural issues, and responsibility in architectural design and practice.***

[X] Met

**Visit Two Team Assessment:** A504, Professional Practice in Architecture 1, teaches students to work according to the “architects’ ethic code,” which includes social, political, and cultural responsibilities. Specifically, in an exam the students are required to respond to a hypothetical situation in which laws allow a certain behavior but ethics do not.

**C.9. Community and Social Responsibility: *Understanding of the architect’s responsibility to work in the public interest, to respect historic resources, and to improve the quality of life for local and global neighbors.***

[X] Met

**Visit Two Team Assessment:** A504, Professional Practice in Architecture 1, covers the architect’s responsibilities. A404, Urban Planning 1, requires students to respect historic structures and resources.

Realm C General Team Commentary: Many of the SPCs required review of several courses to assess and then meet one or two aspects of a single SPC, which made review difficult. However, once the evidence was located, team members were able to verify that the SPCs for Realm C were all met, with the exception of C.1 Collaboration.
---

## PART TWO (II): SECTION 2—CURRICULAR FRAMEWORK

**II.2.1 National Authorization:** *The institution offering the substantially equivalent degree program must be or be part of an institution that has been duly authorized to offer higher education in the country in which it is located. Such authorization may come from a federal ministry or other type of agency.*

**[X] Met**

**Visit Two Team Assessment:** On page 92 of the APR, evidence was found on the National Authorization for both of the Architecture Degrees offered by the EPS (Program 2001 and Program 2010). The degrees comply with the Royal Decree 4/1994. The Decree dictates the current guideline in Spain for any diploma which entitles the holder to practice as an Architect. These guidelines comply with European Directive 85/384/EC.

Both degrees are in accordance with Spanish Law. Plan 2001 was approved by the "Consejo de Universidades" (Universities Council, the highest advisory body to the Ministry of Education) on 29 May 2001, and published in the Official Gazette in February 2003. In accordance with Spanish Law, Plan 2010 was approved by the "Consejo de Ministros" (Council of Ministers of the Spanish Government) on 16 December 2010, and published in the Official Gazette on 13 August 2012.

**II.2.2 Professional Degrees and Curriculum:** *For substantial equivalency, the NAAB requires degree programs in architecture to demonstrate that the program is comparable in all significant aspects to a program offered by a U.S. institution. This includes a curricular requirement that substantially equivalent degree programs must include general studies, professional studies, and electives.*

*Curricular requirements are defined as follows:*

- **General Studies.** *A professional degree program must include general studies in the arts, humanities, and sciences, either as an admission requirement or as part of the curriculum. It must ensure that students have the prerequisite general studies to undertake professional studies. The curriculum leading to the architecture degree must include a course of study comparable to 1.5 years of study or 30% of the total number of credits for an undergraduate degree. These courses must be outside architectural studies either as general studies or as electives with content other than architecture.*

*This requirement must be met at the university or tertiary school level. Post-secondary education cannot be used to meet this requirement. At least 20% of the credits in the professional architecture degree must be outside architectural studies either as general studies or as electives with other than architectural content.*

- **Professional Studies.** *The core of a professional degree program consists of the required courses that satisfy the NAAB Student Performance Criteria (SPC). The professional degree program has the discretion to require additional courses including electives to address its mission or institutional context.*
- **Electives.** *A professional degree program must allow students to pursue their special interests. The curriculum must be flexible enough to allow students to complete minors or develop areas of concentration, inside or outside the program.*

**[X] Met**

**Visit Two Team Assessment:** This condition is met; however, updates to the program that occurred before the second visit need to be included in the APR. Under "Professional Studies," please note that CEU's architecture program refers to studio courses as "workshops." In addition, it would be helpful to

indicate which "electives" are *specific to the study of architecture* as opposed to other degrees/disciplines offered by CEU.

### **II.2.3 Curriculum Review and Development**

*The program must describe the process by which the curriculum for the substantially equivalent degree program is evaluated and how modifications (e.g., changes or additions) are identified, developed, approved, and implemented. Further, the NAAB expects that programs are evaluating curricula with a view toward the advancement of the discipline and toward ensuring that students are exposed to current issues in practice. Therefore, the program must demonstrate that architects authorized to practice in the country where the program is located are included in the curriculum review and development process.*

**[X] Not Met**

**Visit Two Team Assessment:** Although the APR thoroughly discusses the curriculum required and set by the Spanish government, there is no evidence of the internal process utilized by the architecture program administration and faculty at CEU to organize and implement the requirements or changes. There is no evidence of how faculty/staff/students are included in the decision-making process. The team was not able to find evidence of any format or procedure within the department's policies for making changes or updating the curriculum.

### **PART TWO (II): SECTION 3—EVALUATION OF PREPARATORY/PREPROFESSIONAL EDUCATION**

*Because of the expectation that all graduates meet the SPC (see Part Two, Section 1, above), the program must demonstrate that it is thorough in the evaluation of the preparatory education of individuals admitted to the NAAB substantially equivalent degree program.*

*In the event a program relies on the preparatory educational experience to ensure that students have met certain SPC, the program must demonstrate it has established standards for ensuring these SPC are met and for determining whether any gaps exist. Likewise, the program must demonstrate it has determined how any gaps will be addressed during each student's progress through the substantially equivalent degree program. This assessment should be documented in a student's admission and advising files.*

**[X] Met**

**Visit Two Team Assessment:** The APR provides information on this condition.

## PART TWO (II): SECTION 4—PUBLIC INFORMATION

### II.4.1 Statement on Substantially Equivalent Degrees

*In order to promote an understanding of the substantially equivalent professional degree by prospective students, parents, and the public, all schools offering a substantially equivalent degree program or any candidacy program must include in catalogs and promotional media the exact language found in the NAAB Conditions for Substantial Equivalency, Appendix 6.*

**[X] Not Met**

**Visit Two Team Assessment:** The link to the website provided in the APR was broken. During the visit, the team found that San Pablo CEU had developed a new website since the time the APR was written. Since the link to the Statement on Substantially Equivalent Degrees is no longer available, this condition is not met.

### II.4.2 Access to NAAB Conditions and Procedures

*In order to assist parents, students, and others as they seek to develop an understanding of the body of knowledge and skills that constitute a professional education in architecture, the school must make the following documents available to all students, parents, and faculty:*

*The 2012 NAAB Conditions for Substantial Equivalency*

*The NAAB Procedures for Substantial Equivalency (edition currently in effect)*

**[X] Not Met**

**Visit Two Team Assessment:** The link to the website provided in the APR was broken. During the visit, the team found that San Pablo CEU had developed a new website since the time the APR was written. Since the link to the NAAB Conditions and Procedures is no longer available, this condition is not met.

### II.4.3 Access to Career Development Information

*In order to assist students, parents, and others as they seek to develop an understanding of the larger context for architecture education and the career pathways available to graduates of substantially equivalent degree programs, the program must make appropriate resources related to a career in architecture available to all students, parents, staff, and faculty.*

**[X] Met**

**Visit Two Team Assessment:** Evidence of Career Development information was confirmed in meetings with Rocío Carvajal, head of the COIE Office. She presented information on the career development services offered to students—including informational meetings for employability and interim offers. She also remarked that the success rate for graduate students is high. The COIE website had many resources and additional information.

#### **II.4.4 Public Access to APRs and VTRs**

*In order to promote transparency in the process of substantial equivalency in architecture education, the program is required to make the following documents available to the public:*

*The final decision letter from the NAAB*

*The most recent APR*

*The final edition of the most recent Visiting Team Report, including attachments and addenda*

*These documents must be housed together and accessible to all. Programs are encouraged to make these documents available electronically from their web sites.*

#### **[X] Met**

**Visit Two Team Assessment:** There are three hard copies of the final decision letter from NAAB and the most recent APR document from CEU – EPS at the CEU Architecture Library available for review by students, professors and visitors.

### III. Appendices

#### Appendix 1. Program Information

- A. History and Mission of the Institution and the Program  
University San Pablo CEU, APR, page 1
- B. Long-Range Planning  
University San Pablo CEU, APR, page 27
- C. Self-Assessment  
University San Pablo CEU, APR, page 30
- D. Final Schedule

## **Appendix 2. Conditions Met with Distinction**

- I.2.1 Human Resources and Human Resource Development
  - A.3 Visual Communication Skills
  - A.4 Technical Documentation
  - B.6 Comprehensive Design
  - B.8 Environmental Systems
  - B.9 Structural Systems
  - B.10 Building Envelope Systems
  - B.11 Building Service Systems Integration
  - B.12 Building Materials and Assemblies Integration

### Appendix 3. Visiting Team

*Team chair*

Linda Kiisk, AIA, NCARB, LEED® AP  
West Sacramento, CA 95691  
307 760 1625  
[lkiisk@hotmail.com](mailto:lkiisk@hotmail.com)

*Team member*

Amy Perenchio, AIA, NCARB, LEED® AP  
Portland, OR 97217  
206 909 5516  
[amymarie424@gmail.com](mailto:amymarie424@gmail.com)

*Observer*

Guillermo García-Badell, Fundación para el Conocimiento madrimsd  
28010 Madrid, España  
[guille.gbadell@gmail.com](mailto:guille.gbadell@gmail.com)

*Observer*

Jesús Rojo González, Fundación para el Conocimiento madrimsd  
28001 Madrid, España  
[jesus.rojo@madrimsd.org](mailto:jesus.rojo@madrimsd.org)

NAAB Substantial Equivalency  
Site visit 2

Escuela Politécnica Superior  
USPCEU

	<p><b>NAAB Team</b> Linda Kiisk (Team Chair) Amy Perenchio</p> <p><b>Madri+d Team</b> Jesús Rojo Guillermo García-Badell</p>	<p><b>EPS USPCEU Team</b> Federico de Isidro (Program Administrator, Head of Architecture) Fernando del Ama (Director of the Department of Architecture and Design) Eduardo de la Peña (Secretary of the Department of Architecture and Design) María Concepción 'Chiqui' Pérez (Academic Secretary of the EPS) Aurora Herrera (Professor, Team Room Designer) Marta López (Professor, Evidences) Maribel Castilla (Professor, Computing) Adam Bresnick (Professor, Translation and Communication) Isabel Arbaizagoitia (Alumnii, Team Room Designer) Juan Carlos Sancho (Alumnii, Team Room Designer)</p>
--	--	--

MONDAY, 10 MARCH				Notes	Where?
PM					
16:00	18:00	Team orientation [w/ACAP Observers]	NAAB Team	Luis Sánchez Jesús Rojo Guillermo García-Badell	Hotel
18:00	19:00	Team orientation+Review of APR+Assignment of Team Responsibilities	NAAB Team	Federico de Isidro Fernando del Ama Eduardo de la Peña 'Chiqui' Pérez Marta López	Hotel
16:00	18:00	Team dinner	NAAB Team	Federico de Isidro Fernando del Ama Eduardo de la Peña Marta López	

TUESDAY, 11 MARCH						
AM						
8:30	9:00	Travel to EPS USPCEU Campus		Fernando del Ama	---	
9:00	9:30	Primary Program Administrator	NAAB Team Madri+d Team	Federico de Isidro Adam Bresnick	A.2.3.1 (Team Room)	
9:30	10:45	Orientation: Program Presentation by Key Program Faculty	NAAB Team Madri+d Team	Federico de Isidro Fernando del Ama Marta López Maribel Castilla Adam Bresnick	A.2.3.1 (Team Room)	
10:45	13:00	Orientation: Team Room + Studio   Class Visits	NAAB Team Madri+d Team	Federico de Isidro Fernando del Ama 'Chiqui' Pérez Marta López Maribel Castilla Adam Bresnick	<b>Itinerary:</b> [10:45] DA1, [11:00] HA2, [11:15] PR8, [11:45] DGA [12:00] PR6, [12:15] OTM, [12:30] AF2, [12:45] AF2 Archive	EPS

PM

13:00	14:00	Team Lunch with Program Leadership + Key Faculty	NAAB Team Madri+d Team (Jesús Rojo)	Federico de Isidro Eduardo de la Peña Adam Bresnick	José Morillo-Velarde (Subdirector de Centros, FUSP) Coral Barbas (Vicerrectora de Investigación, USP) Luis Perea (Cooperación, EPS) Auxí Gálvez (PFC, EPS)	L.1.1.1
14:00	14:15	Break				---
14:15	15:45	Tour of Program Facilities, Information and Digital Resources, Library, Labs, Shops	NAAB Team Madri+d Team Federico de Isidro Fernando del Ama Eduardo de la Peña	Itziar Muñoz & Librarians Covadonga Lorenzo (Model Shop) Epifanio Lorenzo (Fab Lab) Maribel Castilla (Lab) Auxí Gálvez (PFC) José María Serra (OT FUSP)	Itinerary: Model Shop, Fab Lab, PFC Shop, Building Structures Lab, OT FUSP, EPS Library, PFC	EPS
15:45	16:00	Break				---
16:00	17:00	Entrance Meeting with Program Faculty [No administrators]	NAAB Team Madri+d Team	EPS Architecture Faculty		Aula Magna (Yellow Room)
17:00	18:00	Team Review of Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
18:00	18:30	Travel to COAM				---
18:30	19:15	Meeting with COAM Dean, Director of Institute of Architecture, Director of MTT, and others	NAAB Team Madri+d Team Federico de Isidro Fernando del Ama Eduardo de la Peña Marta López	José Antonio Granero (COAM, Dean) Santiago de Molina (COAM, IA) Elena Rdgz Manzanque (COAM, DS) Carlos Lahoz (COAM, MTT)	COAM Hortaleza, 63. 28004 Madrid +34 91 595 15 00 www.coam.org	COAM HQ
19:15	19:45	Return to Hotel				---
19:45		Team-only Dinner and Debrief				---

**WEDNESDAY, 12 MARCH**

AM

8:30	9:00	Travel to EPS USPCEU Campus		Marta López		---
9:00	9:30	Primary Program Administrator	NAAB Team Madri+d Team (Guillermo Garcia-Badell)	Federico de Isidro Adam Bresnick		D.2.4.3 (Sala de Juntas)
9:30	10:15	Entrance Meeting with School Director Dr. David Dantos Mejia and Direction Team	NAAB Team Madri+d Team	David Santos (EPS Dean) Federico de Isidro Fernando del Ama Eduardo de la Peña 'Chiqui' Pérez Gutiérrez Adam Bresnick		D.2.4.3 (Sala de Juntas)
10:15	10:30	Break				
10:30	11:30	Entrance Meeting with Vice Rectors and General Secretary (USP)	NAAB Team Madri+d Team	Coral Barbas (VR de Investigación, USP) David Santos (EPS Dean, EPS)	Alberto Díaz Romeral (General Secretary, USP)	D.2.4.3 (Sala de Juntas)
11:30	11:40	Break				
11:40	12:00	Studio   Class visits	NAAB Team Madri+d Team	Federico de Isidro Fernando del Ama Adam Bresnick	Itinerary: [11:40] AE2 (lab), [11:50] PRI	EPS
12:00	12:45	Team Review of Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
12:45	13:00	Meeting with Program Administrative and Staff	NAAB Team Madri+d Team	'Chiqui' Pérez (only introduction)	Santiago Pariente Ascensión Almagro	D.2.4.3 (Sala de Juntas)

PM

13:00	14:00	Team Lunch with Students Leaders   representatives [No program faculty or administrators]	NAAB Team Madri+d Team	Clara Abella Eduardo Chamorro Pablo Benito Jorge Borondo Adrián Bilbao Guillermo Álvarez de la Puente	Celia Garrido Guillermo Fernández Villar Victoria Castillejo Cristina Rocher Ignacio Peña	L.1.1.1
14:00	14:15	Break				---
14:15	15:15	Entrance Meeting with Students [No Program Faculty or Administrators]	NAAB Team Madri+d Team	EPS Architecture Students		Aula Magna (Yellow Room)
15:15	15:30	Break				---
15:30	16:00	Team Meeting with School + Program Budget Officers	NAAB Team Madri+d Team	Oscar Díez (Gerencia, FUSP)	Eduardo de la Peña Fernando del Ama	D.2.4.3 (Sala de Juntas)
16:00	16:30	Team Meeting with Admissions   Advising   Financial Aid	NAAB Team Madri+d Team	Leopoldo Abad (VR Alumnos) Mercedes Prz.-Castells (Admission)	Patricio Herráez (Financial Aid)	D.2.4.3 (Sala de Juntas)
16:30	17:30	Team Review with RRII   NNTT   COIE   Calidad	NAAB Team Madri+d Team	Rocio Carvajal (COIE, USP) Belén Hermida (RRII, USP)	Félix Hernando (Director de NNTT, FUSP) Pablo Redondo (Calidad. USP)	D.2.4.3 (Sala de Juntas)
17:30	18:30	Reception w/ Faculty, Program Alumni and Local Practitioners	NAAB Team Madri+d team	Faculty Alumnii Practitioners		L.1.1.1
18:30	19:00	Team Review of Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
19:00	19:30	Team-only Dinner and Debrief	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
19:30	22:30	Team Review of Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
22:30		Return to Hotel				---

THURSDAY, 13 MARCH

AM

8:30	9:00	Travel to EPS USPCEU Campus		Marta López		---
9:00	9:30	Primary Program Administrator	NAAB Team Madri+d Team	Federico de Isidro		A.2.3.1 (Team Room)
9:30	13:00	Complete Review of Program Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
13:00	13:30	Team-only Lunch and Debrief	NAAB Team Madri+d Team			A.2.3.1 (Team Room)

PM

13:30	15:20	Complete Review of Program Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
15:20	15:30	Break and meeting with Francis Keré (visiting lecturer)	NAAB Team Madri+d Team	Diebedo Francis Keré	Federico de Isidro Covadonga Lorenzo (EPS)	A.2.3.1 (Team Room)
15:30	19:00	Complete Review of Program Exhibits	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
19:00	19:30	Team-only Dinner and Debrief	NAAB Team Madri+d Team			A.2.3.1 (Team Room)

19:30	21:00	Complete Review of Program Exhibits, drafting of VTR	NAAB Team Madri+d Team			A.2.3.1 (Team Room)
21:00	21:15	Short meeting with Primary Program Administrator	NAAB Team Madri+d Team	Federico de Isidro		A.2.3.1 (Team Room)
21:15	22:45	Complete Review of Program Exhibits, drafting of VTR				
22:45		Return to Hotel				---

**FRIDAY, 14 MARCH**

AM

Hotel Checkout

8:30	9:00	Travel to EPS USPCEU Campus   Team Room		Fernando del Ama		---
9:00	10:00	Exit Meeting with Primary Program Administrator, School Dean & EPS USPCEU Team	NAAB Team Madri+d Team	David Santos (Dean, EPS) Federico de Isidro	Fernando del Ama	D.2.4.3 (sala de juntas)
10:00	10:30	Exit Meeting with University Rector, Vice-Rectors, General Secretary	NAAB Team Madri+d Team	Juan Carlos Dominguez (Rector) Alberto Díaz Romeral (General Secretary)	Coral Barbas (VR Investigación) Leopoldo Abad (VR Alumnos)	D.2.4.3 (sala de juntas)
10:30	11:00	Exit Meeting   Forum with Faculty	NAAB Team Madri+d Team	EPS Architecture Faculty		Aula Magna (Yellow Room)
11:00	11:30	Exit Meeting   Forum with Students	NAAB Team Madri+d Team	EPS architecture Students		Aula Magna (Yellow Room)
11:30	11:45	Team Departure				---

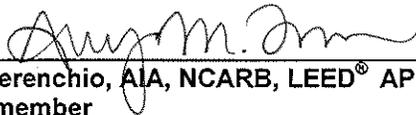
**IV. Report Signatures**

Respectfully Submitted,



---

Linda Kiisk, AIA, NCARB, LEED® AP  
Team chair



---

Amy Perenchio, AIA, NCARB, LEED® AP  
Team member



---

Guillermo García-Badell, Fundación para el Conocimiento madrimasd  
Observer



---

Jesús Rojo González, Fundación para el Conocimiento madrimasd  
Observer

## **SOME FINE TUNING OF POINTS RAISED IN THE VTR**

These notes are either formal or informative of the VTR

### **3. Causes of Concern**

#### **1.2.4 Financial Resources (diversification of resources/revenue)**

In Spain an architect's principal activity is Professional labor, and the majority are freelance, it is difficult to find data and sources about current employment figures. Different sources provide contradictory data. We have asked the Dean of the College of Architects for a statement. He writes:

"Since 2008 in Spain there has been an 80% fall in the activity of professionals related to building, and the sector has a 60% rate of unemployment. Nevertheless the process of recuperation has started, based primarily in the rehabilitation of buildings, urban renovation and regeneration, and especially emphasis on sustainability and energy efficiency; areas where an architect's expertise is required."

*"Desde 2008 en España se ha producido un 80% de caída de la actividad de los profesionales vinculados a la edificación y el sector tiene más de un 60% de paro, aunque ya se ha iniciado un proceso de recuperación, basado fundamentalmente en la política de rehabilitación de edificios, renovación y regeneración urbana, con especial énfasis en la sostenibilidad y la eficiencia energética, campos en los que la intervención del arquitecto es fundamental".*

#### **1.1.2 Learning Culture and Social Equity**

Student representatives have an office and mailbox (Room S.2.4.1). It is underused and we have realized that many students do not know that it exists. Perhaps there is a lack of interest by the students to organize and create a student association.

#### **1.2.5 Information Resources**

The library has extended hours during recesses and holidays, including Christmas break and Easter week and during exam periods (January and June-July) it opens Saturdays and Sundays.

#### **1.3.1 Statistical Reports**

Revising the chart posted in the Team Room provides the following numbers:

- 78 professors in the program are registered in the different Colleges of Architects around Spain (the Colleges are organized according by province)
- 3 professors registered with the Colegio Oficial de Ingenieros de Caminos de Madrid (College of Civil Engineering)

In Europe there exists free movement of Professionals between countries in the Union, and legislation supports this movement.

Some Professors work professionally in other countries but we are unsure in what capacity (either freelance or within a company)

## B.9. Structural Systems

The correct name and code for Basic Principles of Structural Behavior is:  
A210 Structural Systems

### II.4.1 Statement on Substantially Equivalent Degrees

As indicated in the VTR, the Universidad San Pablo CEU webpage has been re-designed and is currently being updated. A webpage for the information for the NAAB is under construction and may be found at this address:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/extra/acreditacion-naab/index.php>

### II.4.2 Access to NAAB Conditions and Procedures

As indicated in the VTR, the Universidad San Pablo CEU webpage has been re-designed and is currently being updated. A webpage for the information for the NAAB is under construction and may be found at this address:

<http://www.uspceu.com/es/facultades-escuelas/escuela-politecnica-superior/extra/acreditacion-naab/index.php>

### II.4.3 Access to Career Development Information

Information about the latest employment survey (May 14, 2014):  
Alumni graduated in the architecture program until July 2013: **462**  
Respondents: **336**

- Graduate employees: **303** (90.2%)
- Unemployed graduates: **33** (9.8%)

- Graduates in Spain: **215** (64.0%)
- Graduates abroad: **121** (36.0%)

(UK: 8.9%, China 6.5%, Germany 3.6%, Netherlands 2.1%, Canada: 1.8%; Panama: 1.5%, Switzerland 1.5%, other: 10.1%)

*Source: survey of COIE, USP CEU*

## V. Appendix

### Documents (reference year 2013-2014)

- TABLE 1. Program 2010. Modules. Fields of Studies: Brief Description
- TABLE 2. Program 2010. Courses: Year of Studies / Credits / Class Time
- TABLE 3. Program 2010. Course Descriptions
- TABLE 4: SPC Matrix
- TABLE 5: Changes to the SPC Matrix of Visit 2

Table 1\_MODULES, FIELDS OF STUDIES: BRIEF DESCRIPTION

Program 2010 (reference year 2013-2014)

MODULE	ECTS CREDITS	FIELD OF STUDIES	CODE	SUBJECT	BRIEF DESCRIPTION	ECTS Credits							
						Master class	Seminar	Workshops Group seminar	Practice Laboratory	Other activities	Student homework	TOTAL	
PROPAEDEUTIC	63	Architectural Drawing	AF1	Architectural Form Analysis I	Analysis of architectural forms. Life Drawing: figure drawing, natural landscape and cityscape. Architectural making, composition and production. Theory of architectural graphic language and expression. Architectural drawing. Systems of representation and representation of the site and context. Study and representation of surfaces. Computer aided drafting. Image processing. Transformations. Three-dimensional modeling. Tools: operating systems, programming fundamentals and introduction to networks.	0,8	3,2	14,6			20,4	39	
			AF2	Architectural Form Analysis II									
			GD1	Descriptive Geometry I									
			GD2	Descriptive Geometry II									
			DA1	Architectural Drawing I									
			DA2	Architectural Drawing II									
		DSA	Drawing and Geometry										
		Fundamentals of Science in Architecture	FM1	Fundamentals of Mathematics in Architecture I	Algebra. Calculus. Differential equations. Metric, differential and analytical geometry. Numerical calculus. Statistics. General mechanics, fluids mechanics. Thermodynamics. Electricity. Acoustics. Electromagnetism. Light and colour theory. Theoretical basis of the physical environment. Solid mechanics. Elasticity and plasticity. Strength of Materials.	2,0	7,0	3,0				12,0	24
			FM2	Fundamentals of Mathematics in Architecture II									
			FM3	Fundamentals of Mathematics in Architecture III									
FF1	Fundamentals of Physics in Architecture I												
FF2	Fundamentals of Physics in Architecture II												
MEC	Solid Mechanics												
TECHNICAL	84	Building Systems	TEC	Environmental Systems	Design and construction detailing of environmental and mechanical systems. Environmental systems in architecture and urbanism. Acoustics. Electrical systems. Lighting. Hydraulic systems. Pathologies. Quality and cost control.	2,0	2,8	5,6		0,5	13,1	24	
			ELE	Electrical and Lighting Systems									
			IST	Mechanical Systems									
			PIN	Design of Environmental and Mechanical Systems									
		Building Structures	SES	Structural Systems	Soil mechanics, building structures and foundations. Structural types, analysis, design and implementation. Regulations. Quality control and pathology. Three-dimensional structures, grids, slabs and plates. Long-span structures and high rise buildings.	1,0	2,0	1,0	9,0			14,0	27
			AE1	Structural Analysis I									
			AE2	Structural Analysis II									
			DES	Dimensioning of Structures									
			CIM	Foundations									
			PES	Design of Building Structures									
		Building Construction	MCO	Building Construction Materials	Materials Science and descriptive study of materials. Project and execution of basic building systems. Building regulations. Building systems in architecture: design, dimensioning, scheduling, onsite work, monitoring, control, costs, pathology and intervention. Rehabilitation and repair of building constructions. Brickwork and wooden structures. Underpinning of foundations. Theory and practice of intervention in the built heritage and architectural monuments.	1,0	6,5	5,0	3,0			17,5	33
			SC1	Building Construction I									
			SC2	Building Construction II									
			ACO	Building Construction Analysis									
PC1	Building Construction Design I												
PC2	Building Construction Design II												
DESIGN	117	Architectural Design	PR1	Architectural Design I	Theory and practice of architecture, integrating the disciplines which contribute to the project through design making. Project implementation and construction drawings. Methodology, organization and project management. Building codes and regulations.	3,5		20,5			24,0	48	
			PR2	Architectural Design II									
			PR3	Architectural Design III									
			PR4	Architectural Design IV									
			PR5	Architectural Design V									
			PR6	Architectural Design VI									
			PR7	Architectural Design VII									
			PR8	Architectural Design VIII									
		Architectural Innovation Studio	TIA	Architectural Innovation Studio	Research on structural systems, construction and building facilities. New applications. Testing and modeling of new systems. Application to the architectural project.	0,2	0,6	1,2			4,0	6	
		Urbanism	IU1	Urban Theory I	Introduction to spatial planning and urban project: physical and social environment. Theory and history of urban design. Territorial and urban planning. Zoning laws. Architecture legislation. Appraisals and urban economics. Environment. Environmental impacts. Landscape architecture and planning. Management planning. Municipal management. Hedging, cooperation and expropriation. Planning agreements and public and private consensus.	2,6		8,4			13,0	24	
			IU2	Urban Theory II									
			DU1	Urban Design I									
			DU2	Urban Design II									
			PL1	Urban Planning I									
PL2	Urban Planning II												
Theory and History of Architecture	PU1	City and Territorial Planning I											
	PU2	City and Territorial Planning II											
	IAR	Introduction to Architecture	Introduction to architecture. History of art. Theory and criticism of architecture. Contemporary architecture. Theory of architectural composition. Esthetics. History of architecture and urbanism.	7,6	2,8	3,4			16,2	30			
	HA1	History of Architecture I											
HA2	History of Architecture II												
HA3	History of Architecture III												
HA4	History of Architecture IV												
COM	Architectural Composition												
Professional Practice	OF1	Professional Practice in Architecture I	Professional practice of architecture. Management of construction companies. Construction management. Management of real estate companies. Cost estimate of land and building properties. Appraisals. Real estate strategies.	1,7	0,9	0,9			5,5	9			
	OF2	Professional Practice in Architecture II											
ESP	6	Advanced Studio	TES	Advanced Studio	Elective	*	*	*	*	*	3,0	6	
HUMANITIES	24	Humanities	ANT	Anthropology	Anthropology. Development of human life in society. Greece and Rome. Christianity. Mean age, birth of Europe and Islam. Modern age. Enlightenment and Revolution. Contemporary age: liberalism, totalitarianism, and globalization. Reading and critical reflection of great works of philosophy, literature and thought. Social Doctrine of the Church in relation to technical knowledge. Fundamental perspectives to humanize technology and achieve a fair balance between capital, labor, science and natural environment. Technical activity as embedded in human existence for the good of society and man.	1,0	6,4	1,6	1,0		14,0	24	
			HYS	History and Society									
			LIB	Great Books									
			DSI	Social Doctrine of the Catholic Church									
LMO	6	Modern Language	LMO	Modern Language	English or French or German	0,3	1,4	0,6	0,3		3,5	6	
PFC*	30	Final Thesis Project	PFC	Final Thesis Project	Design and development of a comprehensive, professional architectural design which integrates all disciplines and skills acquired, evaluated by a university board.	1,5		13,5			15,0	30	
<b>Program 2010 ECTS credits</b>											<b>330</b>		

\* Elective in Advanced Studio

ADVANCED STUDIO	Architectural Drawing	DIN	Life drawing	Life drawing, cityscape, landscape.
		REP	Architectural and Urban Mapping	Restitution. Photogrammetry. Applications in the restoration and mapping.
	Building Construction	RES	Restoration Theory and Techniques	Pathologies materials and techniques. Intervention: rehabilitation, and planning criteria.
		NMT	New Building Construction Materials	Concretes. Composites. Aerogels. High performance metals. Others.
	Building Structures	TIE	Advanced Structural Analysis	Study of conventional and unique structures using digital technology.
		ESP	Advanced Structural Design	Technical design of special structures, implementation and research
	Building Systems	ACU	Acoustics in Architecture	Acoustic evaluation. Constructive solutions. Standards and tests.
		BIO	Bioclimatic Architecture	Election and systems integration. Energy assessment and certification. Standards and tests.
	Urban Studies	PAI	Landscape Architecture	Interaction between nature and artifice. Project research landscape.
		UCC	Urbanism and the Contemporary City	Urban dynamics, processes and results. Theories and techniques.
Architectural Design	DIS	Industrial Design	Industrialization: conceptualization, production, packaging and transportation. Economic viability.	
	AEF	Ephemeral Architecture	Scenography, exhibitions, fairs architecture, landscape gardening and ephemeral.	

Table 2 COURSES: YEAR OF STUDIES / CREDITS / CLASS TIME

Program 2010 (reference year 2013-2014)

Year of studies	duration: year / semester	code	Courses	Field of Studies	ECTS Credits	Class time hours per year	S1 Class time hours per week	S2 Class time hours per week
1	S1	AF1	Architectural Form Analysis I	Architectural Drawing	6	90	6	
	S1	GD1	Descriptive Geometry I	Architectural Drawing	6	90	6	
	S1	IAR	Introduction to Architecture	Theory and History of Architecture	6	60	4	
	S1	FM1	Fundamentals of Mathematics in Architecture I	Fundamentals of Science in Architecture	3	45	3	
	S1	FF1	Fundamentals of Physics in Architecture I	Fundamentals of Science in Architecture	3	45	3	
	S1	ANT	Anthropology	Humanities	6	60	4	
	S2	AF2	Architectural Form Analysis II	Architectural Drawing	6	90		6
	S2	GD2	Descriptive Geometry II	Architectural Drawing	6	60		4
	S2	DA1	Architectural Drawing I	Architectural Drawing	6	90		6
	S2	FM2	Fundamentals of Mathematics in Architecture II	Fundamentals of Science in Architecture	3	45		3
	S2	FF2	Fundamentals of Physics in Architecture II	Fundamentals of Science in Architecture	3	45		3
	S2	HYS	History and Society	Humanities	6	60		4
<b>1<sup>st</sup> Year</b>					<b>60</b>	<b>780</b>	<b>26</b>	<b>26</b>
2	S1	PR1	Architectural Design I	Architectural Design	6	90	6	
	S1	DA2	Architectural Drawing II	Architectural Drawing	6	60	4	
	S1	MEC	Solid Mechanics	Building Structures	6	90	6	
	S1	MCO	Building Construction Materials	Building Construction	6	90	6	
	S1	IU1	Urban Theory I	Urbanism	3	45	3	
	S1	HA1	History of Architecture I	Theory and History of Architecture	3	45	3	
	S2	PR2	Architectural Design II	Architectural Design	6	90		6
	S2	DGA	Drawing and Geometry	Architectural Drawing	3	45		3
	S2	FM3	Fundamentals of Mathematics in Architecture III	Fundamentals of Science in Architecture	6	90		6
	S2	SES	Structural Systems	Building Structures	6	90		6
	S2	IU2	Urban Theory II	Urbanism	3	45		3
	S2	HA2	History of Architecture II	Theory and History of Architecture	6	60		4
<b>2<sup>nd</sup> Year</b>					<b>60</b>	<b>840</b>	<b>28</b>	<b>28</b>
3	S1	PR3	Architectural Design III	Architectural Design	6	90	6	
	S1	SC1	Building Construction I	Building Construction	6	90	6	
	S1	AE1	Structural Analysis I	Building Structures	3	45	3	
	S1	TEC	Environmental Systems	Building Systems	6	90	6	
	S1	DU1	Urban Design I	Urbanism	3	45	3	
	S1	LIB	Great Books	Humanities	6	60	4	
	S2	PR4	Architectural Design IV	Architectural Design	6	90		6
	S2	SC2	Building Construction II	Building Construction	6	60		4
	S2	AE2	Structural Analysis II	Building Structures	3	45		3
	S2	ELE	Electrical and Lighting Systems	Building Systems	6	60		4
	S2	DU2	Urban Design II	Urbanism	3	45		3
	S2	HA3	History of Architecture III	Theory and History of Architecture	6	90		6
<b>3<sup>rd</sup> Year</b>					<b>60</b>	<b>810</b>	<b>28</b>	<b>26</b>
4	S1	PR5	Architectural Design V	Architectural Design	6	90	6	
	S1	DES	Dimensioning of Structures	Building Structures	6	90	6	
	S1	IST	Mechanical Systems	Building Systems	6	90	6	
	S1	PL1	Urban Planning I	Urbanism	3	30	2	
	S1	HA4	History of Architecture IV	Theory and History of Architecture	3	45	3	
	S1	DSI	Social Doctrine of the Catholic Church	Humanities	6	60	4	
	S2	PR6	Architectural Design VI	Architectural Design	6	90		6
	S2	ACO	Building Construction Analysis	Building Construction	6	90		6
	S2	CIM	Foundations	Building Structures	3	45		3
	S2	PL2	Urban Planning II	Urbanism	3	30		2
	S2	COM	Architectural Composition	Theory and History of Architecture	6	90		6
	S2	LMO	Modern Language	Modern Language	6	60		4
<b>4<sup>th</sup> Year</b>					<b>60</b>	<b>810</b>	<b>27</b>	<b>27</b>
5	S1	PR7	Architectural Design VII	Architectural Design	6	90	6	
	S1	PC1	Building Construction Design I	Building Construction	6	90	6	
	S1	PU1	City and Territorial Planning I	Urbanism	3	45	3	
	S1	OF1	Professional Practice in Architecture I	Professional Practice	3	45	3	
	S1	TIA	Architectural Innovation Workshop	Architectural Innovation studio	6	60	4	
	S1	TES	Advanced Studio*	Advanced Studio	6	90	6	
	S2	PR8	Architectural Design VIII	Architectural Design	6	90		6
	S2	PC2	Building Construction Design II	Building Construction	3	45		3
	S2	PES	Design of Building Structures	Building Structures	6	75		5
	S2	PIN	Design of Environmental and Mechanical Systems	Building Systems	6	75		5
	S2	PU2	City and Territorial Planning II	Urbanism	3	45		3
	S2	OF2	Professional Practice in Architecture II	Professional Practice	6	60		4
<b>5<sup>th</sup> Year</b>					<b>60</b>	<b>810</b>	<b>28</b>	<b>26</b>
PFC**		PFC	Final Thesis Project	Architectural Design	30	75	5	
<b>PFC</b>					<b>30</b>	<b>75</b>	<b>5</b>	

\* Elective in Advanced Studio

5	S1	DIN	Life drawing	Architectural Drawing	3	45	3	
	S1	REP	Architectural and Urban Mapping	Architectural Drawing	3	45	3	
	S1	RES	Restoration Theory and Techniques	Building Construction	3	45	3	
	S1	NMT	New Building Construction Materials	Building Construction	3	45	3	
	S1	TIE	Advanced Structural Analysis	Building Structures	3	45	3	
	S1	ESP	Advanced Structural Design	Building Structures	3	45	3	
	S1	ACU	Acoustics in Architecture	Building Systems	3	45	3	
	S1	BIO	Bioclimatic in Architecture	Building Systems	3	45	3	
	S1	PAI	Landscape Architecture	Urbanism	3	45	3	
	S1	UCC	Urbanism and Contemporary City	Urbanism	3	45	3	
	S1	DIS	Industrial Design	Architectural Design	3	45	3	
	S1	AEF	Ephemeral Architecture	Architectural Design	3	45	3	

Table 3. COURSE DESCRIPTIONS

Program 2010 (reference year 2013-2014)

Year of studies	Semester	Code	Courses	Field of Studies	ECTS Credits	S1 Class time hours per week	S2 Class time hours per week	Brief description
1	S1	AF1	<i>Architectural Form Analysis I</i>	Architectural Drawing	6	6		Analysis of architectural forms. Graphic expression. Form and space. Language and graphic representation. Form structure.
	S1	GD1	<i>Descriptive Geometry I</i>	Architectural Drawing	6	6		Geometry. Representation systems. Representation of the terrain. Lines and surfaces. Sunlight.
	S1	IAR	<i>Introduction to Architecture</i>	Theory and History of Architecture	6	4		Introduction to architecture. Contemporary architecture. Theories of architecture.
	S1	FM1	<i>Fundamentals of Mathematics in Architecture I</i>	Fundamentals of Science in Architecture	3	3		Algebra. Calculation. Metric, differential and analytical geometry. Descriptive statistics.
	S1	FF1	<i>Fundamentals of Physics in Architecture I</i>	Fundamentals of Science in Architecture	3	3		General mechanics and fluid mechanics. Acoustics. Thermodynamics. Electricity. Electromagnetism. Light and color theories. Theoretical basis of the physical environment.
	S1	ANT	<i>Anthropology</i>	Humanities	6	4		Anthropology. Development of human life in society.
	S2	AF2	<i>Architectural Form Analysis II</i>	Architectural Drawing	6		6	Analysis of architectural forms. Representation. Interpretation.
	S2	GD2	<i>Descriptive Geometry II</i>	Architectural Drawing	6		4	Geometry. Representation systems. Representation of the terrain. Lines and surfaces. Sunlight.
	S2	DA1	<i>Architectural Drawing I</i>	Architectural Drawing	6		6	Architectural drawing. Architectural graphic language. Computer Aided Design.
	S2	FM2	<i>Fundamentals of Mathematics in Architecture II</i>	Fundamentals of Science in Architecture	3		3	Algebra. Calculation. Metric, differential and analytical geometry. Descriptive statistics.
	S2	FF2	<i>Fundamentals of Physics in Architecture II</i>	Fundamentals of Science in Architecture	3		3	General mechanics and fluid mechanics. Acoustics. Thermodynamics. Electricity. Electromagnetism. Light and color theories. Theoretical basis of the physical environment.
	S2	HYS	<i>History and Society</i>	Humanities	6		4	Greece and Rome. Christianity. Mean age, birth of Europe and Islam. Modern age. Enlightenment and Revolution. Contemporary age: liberalism, totalitarianism, and globalization.
<b>1<sup>st</sup> Year</b>					<b>60</b>	<b>26</b>	<b>26</b>	
2	S1	PR1	<i>Architectural Design I</i>	Architectural Design	6	6		Introduction to the theory and practice of architecture. Conceptualization of architectural space, instrumental development, establishment of processes and scales of project.
	S1	DA2	<i>Architectural Drawing II</i>	Architectural Drawing	6	4		Computer Aided Design. Image processing. Transformations. 3-D modelling. Graphic treatment applications.
	S1	MEC	<i>Solid Mechanics</i>	Building Structures	6	6		General mechanics Balancing systems and isostatic systems. Theoretical basis of the physical environment.
	S1	MCO	<i>Building Construction Materials</i>	Building Construction	6	6		Materials science. Construction materials. Building regulations
	S1	IU1	<i>Urban Theory I</i>	Urbanism	3	3		Introduction to spatial planning and urban project: physical environment, social environment and history and theory of urban fabrics.
	S1	HA1	<i>History of Architecture I</i>	Theory and History of Architecture	3	3		Art History. From Greece to the Renaissance.
	S2	PR2	<i>Architectural Design II</i>	Architectural Design	6		6	Introduction to the theory and practice of architecture. Conceptualization of architectural space, instrumental development, establishment of processes and scales of project.
	S2	DGA	<i>Drawing and Geometry</i>	Architectural Drawing	3		3	Drawing and Geometry studio. CAD systems and operating systems. Fundamentals of programming and networking.
	S2	FM3	<i>Fundamentals of Mathematics in Architecture III</i>	Fundamentals of Science in Architecture	6		6	Differential equations. Metric, differential and analytical geometry. Numerical analysis.
	S2	SES	<i>Structural Systems</i>	Building Structures	6		6	Mechanics. Solid mechanics. Elasticity and plasticity. Strength of Materials. Structural types.
	S2	IU2	<i>Urban Theory II</i>	Urbanism	3		3	Introduction to spatial planning and urban project: physical environment, social environment and history and theory of urban fabrics.
	S2	HA2	<i>History of Architecture II</i>	Theory and History of Architecture	6		4	Art History. From Greece to the Renaissance.
<b>2<sup>nd</sup> Year</b>					<b>60</b>	<b>28</b>	<b>28</b>	

Year of studies	Semester	Code	Courses	Field of Studies	ECTS Credits	S1 Class time hours per week	S2 Class time hours per week	Brief description
3	S1	PR3	<i>Architectural Design III</i>	Architectural Design	6	6		Theory and practice of architecture, integrating the disciplines which contribute to the project. Private and public space.
	S1	SC1	<i>Building Construction I</i>	Building Construction	6	6		Design and execution of building systems in architecture and urbanism. Structural systems. Cladding systems. Building regulations.
	S1	AE1	<i>Structural Analysis I</i>	Building Structures	3	3		Analysis of building structures. Typologies.
	S1	TEC	<i>Environmental Systems</i>	Building Systems	6	6		Environmental and mechanical systems for architecture and urbanism. Technical and acoustics systems.
	S1	DU1	<i>Urban Design I</i>	Urbanism	3	3		Urban Studies. Urban design and urban project. Gardening and landscape. Environment. Environmental impacts.
	S1	LIB	<i>Great Books</i>	Humanities	6	4		Reading and critical reflection of great works of philosophy, literature and thought.
	S2	PR4	<i>Architectural Design IV</i>	Architectural Design	6		6	Theory and practice of architecture, integrating the disciplines which contribute to the global project. Space context.
	S2	SC2	<i>Building Construction II</i>	Building Construction	6		4	Design and execution of building systems in architecture and urbanism. Structural systems. Cladding systems. Building regulations.
	S2	AE2	<i>Structural Analysis II</i>	Building Structures	3		3	Analysis of building structures. Typologies.
	S2	ELE	<i>Electrical and Lighting Systems</i>	Building Systems	6		4	Electrical Systems. Circuit theory. Light. Electrical engineering and lighting.
	S2	DU2	<i>Urban Design II</i>	Urbanism	3		3	Urban Studies. Urban design and urban project. Gardening and landscape. Environment. Environmental impacts.
	S2	HA3	<i>History of Architecture III</i>	Theory and History of Architecture	6		6	History of architecture. High Renaissance to Fin de siècle.
<b>3<sup>rd</sup> Year</b>					<b>60</b>	<b>28</b>	<b>26</b>	

4	S1	PR5	<i>Architectural Design V</i>	Architectural Design	6	6		Theory and practice of architecture, integrating the disciplines which contribute to the project. Social housing. Design and construction.
	S1	DES	<i>Dimensioning of Structures</i>	Building Structures	6	6		Building structures: types, dimensioning, design and implementation. Regulations. Quality control and pathology.
	S1	IST	<i>Mechanical Systems</i>	Building Systems	6	6		Hydraulic, heating, cooling, ventilation and protection systems. Design and dimensioning. Pathology, quality control and costs.
	S1	PL1	<i>Urban Planning I</i>	Urbanism	3	2		Urban planning. Territorial and urban planning project. Urban legislation. Legal Architecture. Valuations. Urban economy.
	S1	HA4	<i>History of Architecture IV</i>	Theory and History of Architecture	3	3		History of architecture and urbanism. From Fin de siècle to current trends.
	S1	DSI	<i>Social Doctrine of the Catholic Church</i>	Humanities	6	4		Fundamental perspectives to humanize technology and achieve a fair balance between capital, labor, science and the natural environment.
	S2	PR6	<i>Architectural Design VI</i>	Architectural Design	6		6	Theory and practice of architecture, integrating the disciplines which contribute to the project. Structural, constructive and energetic implications.
	S2	ACO	<i>Building Construction Analysis</i>	Building Construction	6		6	Building systems in architecture, dimensioning, scheduling, on site work.
	S2	CIM	<i>Foundations</i>	Building Structures	3		3	Soil mechanics, building structures and foundations. Retaining structures. Regulations. Quality control and pathology.
	S2	PL2	<i>Urban Planning II</i>	Urbanism	3		2	Urban planning. Territorial and urban planning project. Urban legislation. Legal Architecture. Valuations. Urban economy.
	S2	COM	<i>Architectural Composition</i>	Theory and History of Architecture	6		6	Theory of architectural composition. Aesthetics.
	S2	LMO	<i>Modern Language</i>	Modern Language	6		4	English or French or German
<b>4<sup>th</sup> Year</b>					<b>60</b>	<b>27</b>	<b>27</b>	

Year of studies	Semester	Code	Courses	Field of Studies	ECTS Credits	S1 Class time hours per week	S2 Class time hours per week	Brief description
5	S1	PR7	Architectural Design VII	Architectural Design	6	6		Theory and practice of architecture, integrating the disciplines which contribute to the project. Global planning strategies and project development.
	S1	PC1	Building Construction Design I	Building Construction	6	6		Building systems in architecture, design, dimensioning, scheduling, ground handling, on site work, pathology and intervention. Industrialized systems.
	S1	PU1	City and Territorial Planning I	Urbanism	3	3		Territorial and City planning. Urban analysis and urban transformations. Landscape architecture.
	S1	OF1	Professional Practice in Architecture I	Professional Practice	3	3		Professional Practice: design, scheduling, on site work, monitoring, control, costs, pathology and intervention. Contracts. Regulations. Security.
	S1	TIA	Architectural Innovation Workshop	Architectural Innovation Studio	6	4		Research on structural systems, construction and building facilities. New applications. Testing and modeling of new systems. Sustainability. Application to the architectural project.
	S1	TES	Advanced Studio*	Advanced Studio	6	6		Elective *
	S2	PR8	Architectural Design VIII	Architectural Design	6		6	Theory and practice of architecture, integrating the disciplines which contribute to the project. Project implementation. Methodology and project management. Regulations.
	S2	PC2	Building Construction Design II	Building Construction	3		3	Building systems in architecture, design, dimensioning, scheduling, ground handling, on site work, pathology and intervention. Industrialized systems.
	S2	PES	Design of Building Structures	Building Structures	6		5	Design of building structures: typologies, analysis, design and implementation. Regulations. Quality control and pathology.
	S2	PIN	Design of Environmental and Mechanical Systems	Building Systems	6		5	Urban systems. Sustainability. Photothermal and geothermal energy. Minimum-energy housing, domotics, inmotics. Design and dimensioning. Pathology, quality control and costs.
	S2	PU2	City and Territorial Planning II	Urbanism	3		3	Territorial and City planning. Urban analysis and urban transformations. Landscape architecture.
	S2	OF2	Professional Practice in Architecture II	Professional Practice	6		4	Professional Practice: design, scheduling, on site work, monitoring, control, costs, pathology and intervention. Contracts. Regulations. Security.

5<sup>th</sup> Year    60    28    26

PFC **		PFC	Final Thesis Project	Architectural Design	30	30	**	Design and development of a comprehensive, professional architectural design which integrates all disciplines and skills acquired, evaluated by a university board.
--------	--	-----	----------------------	----------------------	----	----	----	---

PFC    30    30    \*\*

\* Elective in **Advanced Studio**

5	S1	DIN	Life drawing	Architectural Drawing	3	3		Life drawing, cityscape, landscape.
	S1	REP	Architectural and Urban Mapping	Architectural Drawing	3	3		Restitution. Photogrammetry. Applications in the restoration and mapping.
	S1	RES	Restoration Theory and Techniques	Building Construction	3	3		Pathologies materials and techniques. Intervention: rehabilitation, and planning criteria.
	S1	NMT	New Building Construction Materials	Building Construction	3	3		Concretes. Composites. Aerogels. High performance metals. Others.
	S1	TIE	Advanced Structural Analysis	Building Structures	3	3		Study of conventional and unique structures using digital technology.
	S1	ESP	Advanced Structural Design	Building Structures	3	3		Technical design of special structures, implementation and research
	S1	ACU	Acoustics in Architecture	Building Systems	3	3		Acoustic evaluation. Constructive solutions. Standards and tests.
	S1	BIO	Bioclimatic in Architecture	Building Systems	3	3		Election and systems integration. Energy assessment and certification. Standards and tests.
	S1	PAI	Landscape Architecture	Urbanism	3	3		Interaction between nature and artifice. Project research landscape.
	S1	UCC	Urbanism and Contemporary City	Urbanism	3	3		Urban dynamics, processes and results. Theories and techniques.
	S1	DIS	Industrial Design	Architectural Design	3	3		Industrialization: conceptualization, production, packaging and transportation. Viability.
S1	AEF	Ephemeral Architecture	Architectural Design	3	3		Scenography, exhibitions, fairs architecture, landscape gardening and ephemeral.	

\*\* PFC

The duration of PFC is approximately 6 months. PFC Regulation specifies that the minimum duration of the work should be more than 4 months and less than 2 Years. Within these limitations, the student can set the time of development of its PFC. 4 calls are established for PFC each year, in the months of November, February, May and July.

The development of the work takes place in a PFC Studio under the supervision of specific tutors, in the areas of architectural projects (urban design + architectural design) architectural construction (construction + management), structures, systems and sustainability of the building. Instruction time estimated in contact hours with tutors has been estimated about 5 hours per week in this table, within the first semester, that can be greater and / or extend in the second semester.

STUDENT PERFORMANCE CRITERIA MATRIX. Degree in Architecture (5 Courses + Final Thesis Project).

October 2014

Table 4.  
SPC MATRIX

October 2014

Code	Acronym	Realm A										Realm B												Realm C												
		Communication Skills	Design Thinking Skills	Visual Communication Skills	Technical Documentation	Investigative Skills	Fundamental Design Skills	Use of Precedents	Ordering Systems Skills	Historical Traditions and Global Culture	Cultural Diversity	Applied Research	Pre-Design	Accessibility	Sustainability	Site Design	Life Safety	Comprehensive Design	Financial Considerations	Environmental Systems	Structural Systems	Building Envelope Systems	Building Service Systems	Building Materials and Assemblies	Collaboration	Human Behavior	Client Role in Architecture	Project Management	Practice Management	Leadership	Legal Responsibilities	Ethics and Professional Judgment	Community and Social Responsibility			
		A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	A.9	A.10	A.11	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	B.11	B.12	C.1	C.2	C.3	C.4	C.5	C.6	C.7	C.8	C.9			
Realm A: Critical Thinking											Realm B: Integrated Building												Realm C: Leadership and Practice													
<b>FIRST year of studies</b>																																				
Architectural Form Analysis I	A101	AF1																																		
Descriptive Geometry I	A102	GD1																																		
Introduction to Architecture	A103	IAR																																		
Fundamentals of Mathematics in Architecture I	A014	FM1																																		
Fundamentals of Physics in Architecture I	A105	FF1																																		
Anthropology	A106	ANT																																		
Architectural Form Analysis II	A107	AF2																																		
Descriptive Geometry II	A108	GD2																																		
Architectural Drawing I	A109	DA1																																		
Fundamentals of Mathematics in Architecture II	A110	FM2																																		
Fundamentals of Physics in Architecture II	A111	FF2																																		
History and Society	A112	HYS																																		
<b>SECOND year of studies</b>																																				
Architectural Design I	A201	PR1																																		
Architectural Drawing II	A202	DA2																																		
Solid Mechanics	A203	MEC																																		
Building Construction Materials	A204	MCO																																		
Urban Theory I	A205	IU1																																		
History of Architecture I	A206	HA1																																		
Architectural Design II	A207	PR2																																		
Drawing and Geometry	A208	DGA																																		
Fundamentals of Mathematics in Architecture III	A209	FM3																																		
Structural Systems	A210	SES																																		
Urban Theory II	A211	IU2																																		
History of Architecture II	A212	HA2																																		
<b>THIRD year of studies</b>																																				
Architectural Design III	A301	PR3																																		
Building Construction I	A302	SC1																																		
Structural Analysis I	A303	AE1																																		
Environmental Systems	A304	TEC																																		
Urban Design I	A305	DU1																																		
Great Books	A306	LIB																																		
Architectural Design IV	A307	PR4																																		
Building Construction II	A308	SC2																																		
Structural Analysis II	A309	AE2																																		
Electrical and Lighting Systems	A310	ELE																																		
Urban Design II	A311	DU2																																		
History of Architecture III	A312	HA3																																		
<b>FOURTH year of studies</b>																																				
Architectural Design V	A401	PR5																																		
Dimensioning of Structures	A402	DES																																		
Mechanical Systems	A403	IST																																		
Urban Planning I	A404	PL1																																		
History of Architecture IV	A405	HA4																																		
Social Doctrine of the Catholic Church	A406	DSI																																		
Architectural Design VI	A407	PR6																																		
Building Construction Analysis	A408	ACO																																		
Foundations	A409	CIM																																		
Urban Planning II	A410	PL2																																		
Architectural Composition	A411	COM																																		
Modern Language	A412	LMO																																		
<b>FIFTH year of studies</b>																																				
Architectural Design VII	A501	PR7																																		
Building Construction Design I	A502	PC1																																		
City and Territorial Planning I	A503	PU1																																		
Professional Practice in Architecture I	A504	OF1																																		
Architectural Innovation Workshop	A505	TIA																																		
Advanced Courses*	A512*	TES																																		
Architectural Design VIII	A506	PR8																																		
Building Construction Design II	A507	PC2																																		
Design of Building Structures	A508	PES																																		
Design of Environmental Mechanical Systems	A509	PIN																																		
City and Territorial Planning II	A510	PU2																																		
Professional Practice in Architecture II	A511	OF2																																		
<b>FINAL THESIS PROJECT (PFC)</b>																																				
Thesis Project		PFC																																		

Primary Emphasis

Secondary Emphasis

