



ESCUELA DE ARQUITECTURA  
FACULTAD DE ARQUITECTURA, DISEÑO  
Y ESTUDIOS URBANOS



## School of Architecture

Faculty of Architecture, Design and Urban Studies  
Pontificia Universidad Católica de Chile

# Visiting Board Report RIBA Revalidation Process 2023

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RIBA   
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*Point 9 is not included in this report, the full document can be found here: [2. Visiting Board Resource Document \(ARQ UC CHILE\) 2023.pdf](#)*

- **Supplemental Information**

*Brief complementary appendices to supplement some points in the Resource Document in case further explanation is required.*

*Full documentation can be found here: [3. Supplemental Information \(ARQ UC CHILE\) 2023](#)*

- **Student Academic Portfolios**

*Full documentation can be found here: [4. Student Academic Portfolios \(ARQ UC CHILE\) 2023](#)*

## 1. SCHOOL ACADEMIC POSITION STATEMENT

### Training for Committed Leadership

The School of Architecture UC (ARQ UC) stands out for providing a comprehensive education in the field of architecture, which balances strong training in project design in all its scales and dimensions, with solid theoretical training in the fields of architectural history, technology, urban design, and landscape. The School aims to generate research and critical action capabilities, socially committed to the main challenges of the built environment and contemporary society.

This training, which favours reflective competencies based on project design, has allowed our graduates to expand their activities in fields as diverse as public building, housing, urban design and planning, landscape architecture, heritage recovery, and sustainable architecture. This action-oriented approach has enabled our lecturers and graduates to assume leading positions in academia and in public and private practice, both nationally and internationally.

Our approach has made it possible to attract the best students in the country, with the highest scores in the National University Selection Test for the 2022-2023 intake. This leadership has also translated into the School of Architecture being ranked 36th in the ["QS World University Ranking 2023 of Architecture Schools"](#), ranking the school 21st globally in "Employer Reputation" and 39th in "Academic Reputation". Likewise, national leadership has meant that the school has been consistently ranked 1st in Chile and Latin America.

This reputation is based on a highly qualified academic body: 46% of our full-time professors have doctorates and 36% have master's degrees from the best universities in the world. Professionally, our academics have been recognised both nationally and internationally for their work, winning various awards for their careers, works, and publications, or being appointed to positions of national importance in public and private entities.

As a whole, the research activities of the university have expanded in recent years, diversifying in all disciplinary fields. The School of Architecture is the largest unit within the Faculty of Architecture, Design and Urban Studies (FADEU) and has developed a recognized core of the [UC Interdisciplinary Research Centres](#), such as the [Centre for Sustainable Urban Development](#); the [UC Wood Innovation Centre](#); the [UC Cultural Heritage Centre](#); or the [Concrete Innovation Centre](#), among others.

The dissemination of ideas, projects, and debates on architecture is also part of the essence of the school, its training, and intellectual leadership. To this end, the school has a publishing house ["Ediciones ARQ"](#), which publishes a wide range of material including the quarterly ARQ magazine. In particular, this magazine is one of the university publications indexed in the Thomson ISI: WOS Arts and Humanities Citation Index, among others, and has positioned itself as an important actor in the dialogue with culture and architecture at a global level.

### Integrated and project-oriented training as a way of doing research

Since 2013, our study programme has reinforced the integration of theory, research, and design in it's with the Master's programmes as a way of promoting more innovative practices. We argue that much

of the relevant and innovative research in architecture tends to emerge from design practices. From our perspective, relevant and innovative research in architecture – a key part of the UC Architecture School's approach – is fundamental to generating better projects and training students with the ability to ask and answer relevant questions based on reality. We believe this research is especially necessary in times of uncertainty and change, such as the present.

From this perspective, the teaching of architecture at UC also emphasises the development of critical thinking skills and a deep understanding of history and theory in all fields of the discipline. Our programme prioritises gradual learning in architecture workshops and representation in relation to courses in Theory, History and Criticism, Technology, Construction and Energies, City and Landscape.

Our curriculum is based on a model of academic training at university level, which takes advantage of all the opportunities of the discipline and professional practice that many teachers bring to the school, where 45% of the permanent staff manage their own outstanding professional practices. This condition provides for a diverse offer of architectural workshops and courses at the undergraduate stage, allowing our students to move towards a more interdisciplinary and in-depth study in project design in the existing Master's programmes: Master of Architecture; Landscape Architecture, Urban Project and Sustainable Architecture and Energy<sup>1</sup>. The stage leading to the title of architect and the Master's degree, also allows some students to progress to the Doctorate in Architecture and Urban Studies, an interdisciplinary academic programme offered by the same Faculty to which we belong.

## **Common disciplinary training and training of expanded fields of architecture**

### **Part 1: *Licenciate in Architecture (8 semesters)***

Part 1 includes the Workshops and Formative Courses. Except for the possibility of choosing workshops in semesters 6, 7 and 8, all courses in this stage are compulsory in the areas of Workshops, Theory-History-Criticism, Technology-Building, and City-Landscape. The aim of this common formative stage is to provide a broad range of knowledge and skills so that students have a general understanding of architecture and its fields and can define their skills and interests. The Elective Workshops in semesters 7 and 8 are especially oriented to reinforce professional competences and open options for students to explore their different interests in architecture. This formative stage is especially complemented by elective courses from other disciplines (OFG) as part of the UC General Training Plan<sup>2</sup>.

### **Part 2: *Professional Degree in Architecture + Master (3 semesters)***

Part 2 leads to the Master's Degree and the Professional Degree in Architecture. This stage of training is structured based on the student's choice of one of the four Master's programmes offered by the School in Architecture, Landscape Architecture, Urban Project (Urban Design), and Sustainable Architecture and Energy. Through a format of specialisation courses, research seminar courses and project-oriented research workshops, students acquire research and critical reflection skills in projects of various scales. At this stage, students obtain the Professional Degree along with the master's degree.

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<sup>1</sup> At faculty and inter-faculty level there are several other options such as the Master's in Cultural Heritage, in Advanced Design, in Urban Settlements, among others.

<sup>2</sup> Between 2020 and 2026 the University is implementing an adjustment to its General Training Plan, which will be integrated into our curriculum next year (2024). An explanatory document of this adjustment is provided in the following supplementary appendix: [UC Curricular Update UC\\_General Formation \(2020-2026\).pdf](#)



## 2. SCHOOL APPRAISAL 2023

The six Themes and Values for Architectural Education identify the specific areas of concern and direction that the RIBA has identified as of particular importance to the institution and profession, since 2021. We have critically appraised (1) how and where we address each one at present and (2) how we intend to develop it over the next 5 years.

- 2.1 Health and life safety
- 2.2 Ethical and professional practice
- 2.3 Structures, construction, and resources
- 2.4 Histories, theories, and methodologies
- 2.5 Design pedagogies and architectural expression
- 2.6 Business skills

### 2.1 Health and life safety: Demonstrating authoritative knowledge of statutory frameworks to safeguard the community and end user.

**(1) Current status:** Coursework provides an evaluative, critical thinking, and design perspective, reviewing the implementation of various public policy approaches to housing, public space, and the city, from the perspective of the user and local communities (especially vulnerable ones), contributing to the construction of a healthy habitat.

#### Courses

- 1) CMD Vive Salud: building a healthy habitat (multidisciplinary PART 1 course, taught by the architecture and medicine teaching team): develops a social project to improve the residential habitat of vulnerable people and communities (diagnosis, justification, strategy, objectives, design of activities).
- 2) Optional collective housing workshop (minimum PART 1 course): develops housing and public space proposals for the regeneration of 9x18 neighbourhoods<sup>3</sup>.
- 3) Habitability in vulnerable contexts (optional PART 1 course): reviews the implementation of public housing and city policies from a specific territory, proposing ideas for improvement.
- 4) Tools for urban housing regeneration (optional course within the Master's degree in Urban Project/Design): reinforces the idea of methodology and design of participatory tools for dialogue with communities seeking to improve their neighbourhoods.

Finally, all courses in the "City and Landscape" line contribute to the understanding of the effects of urban form on social equity, social organisation, and integration in the quality of life in cities and neighbourhoods.

**(2) Development vision:** In the next 5 years, these courses will be able to incorporate content associated with new public policies on housing, public space, and the city, the use of massive digital tools, new

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<sup>3</sup> Model of densification of 9x18 lots through the construction of independent dwellings on a site belonging to the same residential family unit, to give low-income Chilean families the possibility of having their own homes rather than living in high-rise apartment buildings.

techniques of social inclusion and co-production in neighbourhood regeneration processes and ethical aspects for working with local communities.

We also expect to enhance the interdisciplinary dimension of these courses, to integrate content, methodologies, and problems from different disciplinary fields more solidly in the exercise of evaluation, dialogue, and project development. Coordination with public and private bodies to complement, implement, and transfer the learning and results achieved by these courses is also a focus for improvement.

Finally, it will be necessary to expand the range of courses and other teaching and research initiatives associated with the challenge of improving living conditions and community participation in the development of neighbourhood improvement initiatives.

In short, we aim to update, complement content, and promote interdisciplinarity and coordination with other actors working on the subject as we expand the range of teaching and research associated with urban and residential improvement for the construction of a healthy and sustainable habitat.

## **2.2 Ethical and professional practice: Acquiring professional and communication skills to ensure projects are delivered with integrity and accountability within global, national, and professional climate targets.**

**(1) Current status:** ARQ UC prepares its students to work in an increasingly complex world. This preparation is based on a solid education, both in ethical values and in academic excellence, which are characteristics of the UC Educational Project. The study programme promotes a reflective attitude towards architectural design on different scales, aiming to address the current and future demands of the built environment.

This aim is achieved in graduate and postgraduate phases within Design Studio courses, the core of our teaching, where creative processes are based on the combination of critical thinking and technical knowledge, communicated throughout the development of different representational skills. To achieve the previous, Design Studio courses are based on the concept of synthetic practice, understanding architectural design processes as a medium through which the multiple areas of knowledge are applied and articulated in an architectural project. Applying this method, the different subjects related to environmental design taught at UC, both in the General Education plan and theoretical courses at the School of Architecture, are taken as a basis to build a reflective attitude towards architectural projects at different scales.

Furthermore, the sequence of Studio Courses addresses the demands of professional training in architecture and exposes the students to the contemporary debates on professional practice and its consequences for the environment. In alignment with the Studio Courses, the Design Studios in the different phases of the study programme are taught by leading architects with innovative professional practice. In this manner, students experience first-hand guidance from outstanding practising architects to undertake several design processes in projects with increasing complexity throughout their educational trajectory. In addition to the above, professional architects participate in the Design Studio Final Exams at the end of the academic semester, evaluating if the students' projects comply with the standard expected at each phase of the curriculum.

**(2) Development vision:** Our goal is to achieve the academic excellence necessary to form professionals with a strong ethical and environmental commitment who can contribute to a world of great challenges and continuous change. Given this goal, the teaching of architecture requires a periodic review of contents and learning methods.

This implies not only review but also adjustment of theoretical and technical contents, as well as design methods, to promote the practice of architecture that can trigger profound changes in the production of the built environment as required by the environmental crisis, technological advances in design and manufacturing, and growing social demands.

Associated with the above, in the next 5 years, one challenge we see is to more extensively incorporate into the curriculum subjects that respond to critical contemporary issues. Some of these challenges our students may face include the unexpected territorial transformations associated with immigration in Latin America, sustainable strategies to face the growing housing deficit, the great inequality and poor quality of life in urban areas, as well as the need to deal with natural disasters as a consequence of climate change that affects our region.

**2.3 Structures, construction, and resources: Demonstrating climate literacy, responsible specification, and ethical sourcing to enhance wellbeing, minimise embodied carbon, waste, and pollution, and reduce demands on energy and water.**

**(1) Current status:** The values related to "Structures, construction and resources" of the ARQ UC curriculum are gathered in the area of "Construction Technologies". This area seeks to provide students with the competences that enable them to master the basic and advanced technical and technological principles for the design and development of structurally stable, constructively coherent, and energy-efficient architectural projects, considering the contemporary technological scenario and its future development from the coordinating role of the architect. The general objective of the area is that students understand, model and design structurally stable, constructively coherent and energy-efficient architectural projects, covering the different scales involved in an architectural project.

Understanding involves mastering the technical principles involved in the form. Modelling involves demonstrating through models (analogue or digital) the functioning of the technical principles involved while designing involves the ability to demonstrate the above competencies through the proposal of a coherent architectural form. The specific objectives of the area are the following:

1. Convey, through the Structures line, the behaviour of the various structural types, including the behaviour of conventional seismic-resistant forms.
2. Ensure, through the Construction line, that students are capable of integrating the technical and productive processes of traditional and contemporary construction in the development of architectural projects.
3. Ensure, through the Energy line, that students are able to understand and model energy-efficient architectural projects.

Additionally, the City and Landscape Area courses address the ecological dimensions of built-environment forms and the effect of urban form on the environment, mitigation strategies and contributions that can be made to climate change mitigation.

**(2) Development vision:** The main challenges of the "construction technologies" area for the next five years are to consolidate a line of construction management and assessment, establish a line of degrees specifically oriented towards technology and consolidate the editorial work with specific support texts for this line.

The first challenge will be met by incorporating specific management and assessment content in the three minimum undergraduate courses, providing students with the necessary skills to understand the



basic concepts of construction site management, interact with other professionals involved in the different stages of the architectural project, and become actively involved in the economic and administrative management of its different stages.

With regard to postgraduate research and graduate activity focused specifically on technological aspects, we are proposing to implement a pilot research plan and project based on the Master's programme in architecture (MARQ), specifically oriented towards construction technology, laying the foundations for implementing a Master's programme in technologies (MATEC), and consolidating a line of research and postgraduate teaching in this area.

As for teaching support publications, work will be done on the edition and compilation of a teaching support Reader, aimed at contextualising the minimum contents of the area. At the same time, we will work on the development of a guide text for the two courses on structures and a guide text for the "Installations and Systems" course, complementing the existing material published by the ARQ publishing house.

**2.4 Histories, theories, and methodologies:** Critically analysing and researching narratives and cultural, environmental, and social values in architecture to understand and extend architectural pedagogy.

**(1) Current status:** Undergraduate training at ARQ UC focuses on the critique and investigation of cultural, environmental, and social narratives and values in architecture. The four minimum courses in our history, theory, and criticism of architecture area provide comprehensive training in these matters.

Teaching history provides students with knowledge of different historical moments, theories, and associated architectural concepts. This enables them to develop critical skills to evaluate and reflect on past architecture, enriching their theoretical understanding and ability to reflect on the discipline.

The teaching of theory establishes an integrative link between courses, allowing them to understand the principles and values that have shaped the practice and study of architecture. This enables students to evaluate and appreciate architecture in a situated way and develop their conceptual approach.

The teaching of criticism enables students to form criteria for making informed judgments about the practice and conceptualization of the discipline, based on historical and theoretical knowledge. Through criticism, they develop skills to analyse and evaluate architecture, considering its quality, and social, cultural, and environmental impact. Thus, they are prepared to practice the profession in a responsible, enlightened, and rigorous manner, committed to excellence and socio-environmental responsibility.

In brief, through an understanding of history and theories, and the development of analytical and evaluative skills, students acquire a broad and reflective view of architecture. This training enables them to intellectually meet the challenges of a constantly changing world and to evaluate architecture in terms of excellence.

**(2) Development vision:** In the future, this area should reflect the changes and challenges facing architecture in contemporary societies. A globalized, interconnected, and environmentally concerned world will expect more of future architects and the architectural discipline as a whole.

In the next five years, the minimum courses in the area could be enriched by including content that addresses the impact of issues such as ecology, sustainability, artificial intelligence, virtual reality, and the use of digital design and fabrication tools.

Content should be increased to address the relationship between architecture and communities, and the manner in which projects relate to the needs of different social and cultural groups. Other content should stimulate reflection on the ethical implications of the discipline, insisting on the social responsibility of architects in the preservation of natural and cultural heritage, in the design of habitable spaces, and in the development of better cities. Other content should emphasise the connections between architecture and knowledge of areas such as art, design, geography, politics, anthropology, philosophy, sociology, ethnography, and psychology. This would enable students to understand the specific value of architects' work and encourage interdisciplinary practices. Certain content should stimulate knowledge about the diverse architectural traditions of Latin America, their relationship with natural and cultural environments, and the cultural exchange and syncretism present in pre-Hispanic, colonial, modern, and contemporary architecture.

In summary, in the next five years, the Theory, History and Critique area should incorporate content that addresses recent changes in society and in the discipline. This will enable students to intellectually confront the challenges of a changing world and to evaluate architecture in terms of excellence, inclusion, diversity, equity, and responsibility.

## **2.5 Design pedagogies and architectural expression: critically evaluating authentic aesthetic, compositional, and spatial principles to synthesise socially, ecologically, and environmentally sustainable integrated studio projects.**

**(1) Current status:** The pedagogies of architectural design and expression, both in the undergraduate and postgraduate workshops, focus on nurturing creative skills forms, plastic compositions, and spatial principles. These skills enable students to formulate projects that respond to contexts characterised by increasing social, ecological, and environmental demands.

Under the concept of Synthetic Practice, the design methods implemented in the workshops aim to ensure that architectural projects incorporate, from their origin, critical views of the social, urban, ecological, and environmental phenomena that have been studied in parallel theoretical courses. At the same time, the projects also seek to explore various formal and aesthetic principles that allow for innovative responses to these demands.

As students progress through their curricula, they acquire conceptual and technical tools that allow them to work with greater degrees of conceptual complexity and technical specificity to address projects at various scales and topics of interest. In this way, they develop architectural projects through design methods that seek sustainable responses to the diverse challenges facing our society and our territory.

Throughout the training, the methods of architectural design and expression in the different phases of the curriculum evolve from an initial approach that focuses on the conceptual management of compositions of simple forms and spaces that respond to basic programmes and specific places. This allows them to understand and exercise the basics of an architectural project. Then, as they progress through the sequence of workshops, students approach projects with progressively greater degrees of complexity, in terms of conceptual formulation, the handling of forms and structures, and the technical and constructive development that their proposals achieve.

**(2) Development vision:** In the next 5 years, we foresee a set of challenges that need to be addressed by architectural design pedagogies. Design methods will have to be continuously revised to adapt to technological, environmental, and social changes.

During this period, we expect strong technological breakthroughs that will impact design methods, especially in terms of analysis, design, and digital fabrication processes. These include the integration of artificial intelligence and virtual reality into the creative processes of architectural design that will be part of the world in which students will develop. During this same period, we will delve into the climate emergency, which is increasingly affecting ecological systems and having a growing impact on inhabited areas. This is also generating greater social demands that will require creative design responses to address this new reality. Therefore, students' environmental awareness must be strengthened in an effort to address the need for buildings and, in general, projects in the territory that integrate sustainability principles from their origin.

Along with the above, it will be essential to encourage interdisciplinary work, so that architectural projects can involve a diverse set of professional perspectives that seek better responses to the environmental, ecological, and social changes the near future demands. Consequently, teaching processes in architecture must reinforce creative capacities supported by new technologies, while at the same time strengthening the construction of critical and creative thinking to formulate innovative responses to new contemporary variables.

## **2.6 Business skills: Developing capability in business skills relevant to working in practice and practice management.**

**(1) Current status:** Although all courses and workshops in the first years refer to management, finance, regulations and the implementation of architectural projects as relevant variables in the creation of architectural projects in the present and throughout history, these skills are systematically introduced only in the courses "Construction Practice" and "Professional Practice." These courses expose students to Project management and execution, offering an integrated learning experience and interaction with other professions and institutions.

In the "Construction Practice" course, students actively participate in the construction phase of a project, gaining an understanding of the architect's role in the implementation process. Over a semester, students collaborate with a construction company during the execution of a substantial project, exploring the management, administration, and construction processes involved.

Similarly, in the Professional Practical Experience (Office) course, students work in a private architecture office or a public sector entity engaging in support tasks related to project planning and design. This experience helps students understand client relationships, project life cycles, and the economic, administrative, and technical variables associated with designing architectural projects at different scales.

During the master's stage, students delve deeper into courses directly focused on forming Project management skills. However, these courses are not mandatory for all students. Among the courses associated with these competences are "Urban Project Management," "Topics in Social Housing," and "Project Conception and Lifecycle."

**(2) Development vision:** There is a deep conviction that the School's strengths in the areas of project design and theory of architecture, the city, and landscape need to be reinforced with greater

competencies in project implementation and professional management. These areas are considered to be weak in the teaching of architecture in this school. To move towards a more integrated architecture education, the minimum courses of the formative stage will need to reinforce the understanding of the economic, social, technological, political, and institutional variables that affect the design and implementation of architectural projects.

Just as management courses have been incorporated at the master's degree stage to provide training for all students, the aim is to reform the "Professional Practices Experiences" to incorporate content at the bachelor's degree stage that provides skills in the following areas: management and leadership; relations, communication, and negotiation with clients and communities; knowledge of construction site management processes; basic financial evaluation and project life cycle costs; and management of regulations and standards applied to architectural projects, landscape architecture, and urban design.

### 3. STUDENT APPRAISAL

#### 3.1 Student Appraisal – Part 1

This document was written by the current members of the Student Centre of the School of Architecture (CEARQ).

Daniela Díaz - President  
Martín Fernández - Internal Vice-President  
Andrés Saavedra - External Vice-President  
Gabriela Salgado - Treasurer  
Michelle Reyes - General Secretary  
Raimundo Dufflocq - Communications and Image  
Clemente Ruiz – Spokesperson

As students of the Pontificia Universidad Católica de Chile (UC) School of Architecture (ARQ UC), and with the help of our peers, we have assessed that ARQ UC contributes integrally to our development as students and future architects, focusing increasingly on social and sustainable architecture. The identity and quality of our scholars are built in large part through the high-achieving student body, one of UC's core values. This is achieved through a highly demanding university admissions process and the existence of special programmes, such as scholarships and loans, for those who do not have the resources but do have the skills to be part of our community.

We value and enjoy extracurricular activities in our courtyard, which is conveniently located in the center of campus, and where social gatherings and academic activities occur regularly. Students have the possibility to participate in decision-making about such activities, through our center, CEARQ, at the school level and through the Federation of Students (FEUC) at the university level.

#### ***Quality of the student teaching and learning experience: at school***

The student experience in terms of teaching/learning is of very high quality. The school offers a realistic view of architecture in the world we live in, focusing on social and sustainable issues. ARQ UC and its professors promote responsibility and autonomy in the formation of students, offering guidance and freedom to explore architecture. The academic staff is highly qualified, with different areas of interest in the professional field, which they introduce in their courses through topics they are actively researching. However, the workshop experience is often hampered by the lack of pedagogical tools of some of the teachers.

#### ***Teaching and learning: peer group***

In the early courses, most of the work is done individually but as students' progress, the courses require collaboration, which results in classmates learning from each other as well as from teachers. In addition, the school also encourages interaction between undergraduate and graduate students through teaching assistantships and by promoting social activities, studios, and open exhibitions. However, the high expectations of the academic body can lead students to be competitive and guarded with their knowledge. ARQ UC could improve by offering more interdisciplinary courses, where we



would have the opportunity to learn with engineering, design, and art students, among others, making the experience even more interdisciplinary.

### ***Managing workload: support and advice***

UC has good programmes and courses to support mental and physical health, such as good rest, and how to manage anxiety, among many others. Most students feel supported by their peers and some professors; however, the school could work on the pressure that students face, as some have trouble meeting the high expectations and the large workload required by teachers, especially in the first two years. The mental health of the student body is assessed as poor in general, having to choose in some cases between good results and sleep or other basic needs. There could be on-campus sports courses, given that those that exist are taught on the other campuses.

### ***On- and offline facilities: studios, classrooms, workshops***

In terms of infrastructure, the Lo Contador Campus offers great facilities such as the Prototyping Lab (Fab Lab), where we can 3D print, laser cut, and thermoform; the Biomaterials Lab, where we explore the possibilities of new materials; the Lighting Lab, the Photography Lab, the Sustainability Lab, the computer room, and the library. In addition, a new building was inaugurated this year, with large classrooms to be used for studios and other courses and a large courtyard that connects campus activities. However, indoor common spaces could be increased, either for relaxing and socializing or for work outside of class hours. In addition, the computer room could be updated along with the equipment available to students.

### ***Links to practice: professional experience***

The school fosters the development of autonomous students and the ability to solve problems by focusing on collaborative work. The studios are a good first approach to professional experience, as each semester we work on an architectural project, in addition to the mandatory internships, especially in architectural firms and in social services, where we are expected to act as professionals. However, the School could improve its teaching on regulations, budgeting, and project management.

## **3.2 Student Appraisal – Part 2**

This appraisal was written by the current ARQ UC master's students' representative, with the collaboration of representatives of each master's degree of the school.

To begin this assessment, we believe it is necessary to start by highlighting the existence of the four different master's that our School offers. Although they belong to the same School, the experiences of those who take them are diverse since they develop topics in very different areas of architecture.

### ***Quality of the student teaching and learning experience: at school***

The master's programmes operate in similar ways but with minimum different requirements to qualify for the master's degree with the defined specialty. We value the possibility that we have as students to be able to put together our curriculum according to our interests. For this, the School offers us a wide variety of in-depth elective courses for each programme, in which classmates of the other programmes

can also be enrolled. This is a crossover/encounter that we consider fundamental for the richness of the discussion between and among programs.

It is worth highlighting the outreach agenda of the different programmes and our school. It is through these extracurricular activities that we can deepen our knowledge on various current topics and not just those we deal with in our own master's degrees.

Finally, we value the opportunity offered by some courses to have field experiences, such as technical visits to different places, as well as visits and lectures by professionals from different areas of architecture.

### ***Teaching and learning: peer group***

We highlight the opportunity to meet colleagues who study topics that are very different from those we are used to addressing in our own master's programme since there is the possibility of taking courses from other programmes. Also, since the courses have a smaller number of students than in the undergraduate programme, we value the relationship that is formed between students and professors, since it is much more personalized, and it is possible to address topics that would be complicated in courses with more students. On the other hand, the development of the thesis for the master's degree is done in group studios, in which – due to its size and the guidance of the professors in charge – it is possible to open conversations and debates which result in individual research and projects, but always in the company of a group that is reviewing similar topics to the personal ones.

Finally, we value the possibility of enriching our knowledge with peers from other backgrounds, whether from other national and international schools, or from other professions, who decide to enter these programs offered by the school.

### ***Managing workload: support and advice***

Although the academic load depends on each student and how he/she organizes each semester, there is support and advice from the coordination of each master's programme for the selection of our courses. This is provided to generate a complementary curriculum and thus acquire tools for better development of our interests although the master's programmes have a high academic load and require full dedication.

Though we recognize a cross-cutting communication problem at the school level, we can attest that we are working on the implementation of a website at the school and master's level so that information is clearer at each academic level.

### ***On- and offline facilities: studios, classrooms, workshops***

The efforts to have more classrooms, workshops, offices for teachers, and laboratories of high standards and quality can be observed over time. Unfortunately, and due to the large number of students that this Faculty has, we believe that many times the amount of space for the relaxation of colleagues and workplaces outside class time falls short.

We appreciate the speed in acting during the pandemic since we were quickly given the tools to continue our training remotely. At the same time, there is an availability of software licenses limited to our discipline and if any more specialized software is required, it is possible to manage these licenses for each master's program and/or specific course.

### ***Links to practice: professional experience***

The four master's degree programmes that the School hosts have outstanding professors in their professional fields, who, together with the guest professors, are always open to sharing their experiences in the different areas of the profession. It depends on the personal motivations of each

student to make direct contact with them to generate possible professional internships or other future opportunities.

Finally, as part of the curriculum, we must complete a course (Service Practice) through which we must put ourselves at the service of communities, institutions, or foundations linked to the profession of architecture.

## 4. COURSE STRUCTURE DIAGRAMS

The ARQ UC curriculum responds to the UC educational project and the profile of the UC Architect, both as an opportunity for the development of the discipline and the profession. It is oriented towards training professionals who are interested in and will contribute to the development of the country within the discipline of architecture and in the field of culture applying ethical principles and Christian values. Its primary task is to train professionals who can respond adequately to the current and future needs of society through a permanent commitment to architecture and sustainable, urban, territorial, and heritage realities, with a special dedication to service and concern for the common good.

This translates into knowledge of the architectural discipline, based on the relation between the design studios, minimal courses, practical experiences, and optional disciplinary courses. These are organized into **4 main disciplinary areas**:

1. Design studio and representation (AQT)
2. Theory, history, and criticism (AQH)
3. Building, technologies, and energy (AQC)
4. City and landscape (AQU)

The Disciplinary Areas are detailed below:

### 1. Design Studios and Representation (AQT)

This area brings together, in a coordinated and unitary whole, the design studio and representation courses, understanding both as part of the same activity proper to the architect's work. From this point of view, representation is understood as a design process and not only as an illustration tool but also as a way of architectural thinking.

In general terms, the area is based on three principles: The Design Studio as *Synthetic Practice*, The Design Studio as *Reiterative Practice*, and The Design Studio as *Reflective Practice*.

The Design Studio as *Synthetic Practice*: This design studio constitutes the core around which the other areas of the Licentiate connect. This condition is translated into the notion of design studios as the place in which all the knowledge acquired in other courses of the curriculum is applied and verified in a synthetic design practice.

The Design Studio as a *Reiterative Practice*: This design studio is understood as that which contributes with experience and an exhaustive dedication of time to architectural learning.

The Design Studio as *Reflective Practice*: This design studio is the place where learning is by doing, characterized by a dedication to doing things right as an ethical stance for creativity. Throughout the curriculum, design studios become gradually more complex through the assignments and thematic programs that each develops.

### 2. History, Theory, and Criticism of Architecture (AQH)

This area brings together three fields related to architecture: architecture as a discipline, the buildings, and architecture as a form of expression. Even though they are closely related, each involves different approaches. History implies recognition of the cultural and temporal dimensions of architecture, which in turn reflects the sociocultural projection, dimensions inseparable from our discipline. Theory links to the speculative exercise on the nature of architecture while critical vision is related to the valuation that both the practice and the objects of architecture deserve. Through history, theory, and criticism, the courses of the area focus on linking the architectural project, culture, and art. The courses of the area

propose, on the one hand, a reflective approach to the architectural project, focusing on the critical examination of ideas and project techniques. On the other hand, they locate these ideas and techniques historically. Altogether, these courses aim to enable students to engage in reflective professional practice in the future and to acquire architectural communication skills that will allow them to speak and write competently in the discipline.

### **3. Building, technology, and energy (AQC)**

This area is intended to provide the skills that enable students to dominate the technical and technological – basic and advanced – principles for architectural design to be structurally stable, constructively consistent, and careful with the environment, considering the contemporary technological scenario and its future development as it relates to the coordinating role of the architect. The courses in this area include structure and conventional seismic form behaviour, traditional and contemporary methods of construction, and topics related to energy, installations, and the environment. Finally, through Practical experiences, students can understand the networks and systems in architectural design as the basic concepts of management involved within the scope of building construction.

### **4. City and Landscape (AQU)**

The city and landscape course area aims to form professional skills and to provide analysis, design, and operational tools, other than those required for the architectural building design. The new approaches in this field recognize the contemporary phenomena that the effects of societal intervention in the development of the city and landscape have surpassed the typical definitions of “urban” and “urbanism” and thus require a broader understanding.

The concept of city is understood as the multiple collective ways of living, of producing or interacting in the territory – not only the traditional limited and compact space in the urban areas – also landscape as the natural open space, urbanized or intervened, capable of integrating and connecting new forms of living, from public spaces to urban infrastructures, including the environmental recovery of degraded areas and the generation of mobility networks. To integrate these concepts, the courses in this area concentrate on the theoretical and practical comprehension of the design process – economic, social, and functional – that shapes contemporary cities and landscapes.

## **Organization of the curriculum**

The curriculum is organized into 3 stages: Bachelor, Licentiate, and Qualification: The Bachelor considers four semesters and 200 credits. The Licentiate (that includes the Bachelor) considers eight semesters and a total of 400 credits, and the Professional Qualification or professional title + master's degree includes three semesters and 150 credits. The three stages are completed with a total of 550 credits.

Each of these stages aims to fulfil one or more targets of the UC Architect Profile. The Profile is determined, among other things, by the historical strengths of the EAUC, the challenges of our current times, the duties set by the existing legal framework, and above all, the higher ethical principles that emerge from the UC Mission.

The knowledge and skills that constitute the UC Architect Profile include the learning achievements for each of these phases (Bachelor, Licentiate, and Qualification). A series of characteristics necessary for a proper professional exercise and the integration of particular knowledge and skills define this profile.

The ARQ UC study programme aspires to train professionals with the following **UC Architect Profile**: Students are committed to resolving current and future problems of society with the following:



1. Ethical values inspired by Christianity and a concern for human beings in all their diversity.
2. The capacity to lead and work in multidisciplinary teams.
3. Historic and cultural knowledge firmly based in the contemporary world.
4. A capacity for research within the discipline and the creative application of such research.
5. The ability to appeal to the state of the art in the discipline.
6. A mastery of the profession as an architect based on a reflective practice.
7. The ability to design the shape of the space integrally considering its relationship with the inhabitants.
8. The capacity to manage architectural space with a multitude of complexities.
9. The capacity to communicate with and represent the various participants in the production and use of liveable space.
10. The ability to handle the material aspects and structural resistance of buildings.
11. The ability to handle the environmental and energy aspects of buildings with a special awareness of sustainability.
12. The ability to handle the normative aspects of the profession.
13. The capacity to understand the administrative, legal, economic, and ethical aspects of professional practice.
14. Respect for historical and cultural heritage.
15. The ability to handle the diverse architectural design scales: the city, landscape, and territory.

## Credits System

To achieve the objectives and learning achievements of the course or curricular activity, the credit is used as a quantitative expression of the academic work done by the student. The credit includes both the hours of direct teaching (theoretical or lecture classes, practical, laboratory or workshop activities, clinical or field activities, professional practice, assistantships), and the hours of autonomous work of the student (homework, personal study, preparation for and completion of exams or evaluations, among others).

**\* General Education Electives (OFG):** Each UC student must take 50 credits of general education, which can be taken at any campus and faculty of the University.

Undergraduate students will be able to specify the general training area in a disciplinary or thematic area through the selection of an Academic Certificate. There are Disciplinary Certificates formed by courses from one Academic Unit, and Interdisciplinary Certificates, which integrate courses from different Academic Units. ARQ UC offers an academic certificate in Regional Urban Studies and Integral Design.

**\*Optional Proficiency Courses / Specialty Elective Courses (OPR):** Students must complete 60 credits of specialty elective courses, which may be 5 or 10-credit courses to complement their education and promote personal interests.

## Licentiate Qualification Curricular Structure

LICENTiate IN ARCHITECTURE							
1° YEAR		2° YEAR		3° YEAR		4° YEAR	
I SEMESTER	II SEMESTER	III SEMESTER	IV SEMESTER	V SEMESTER	VI SEMESTER	VII SEMESTER	VIII SEMESTER
FORMATIVE STUDIO AND REPRESENTATION I AQT0000 20	FORMATIVE STUDIO AND REPRESENTATION II AQT0200 20	FORMATIVE STUDIO AND REPRESENTATION III AQT0300 20	FORMATIVE STUDIO AQT0400 20	FORMATIVE STUDIO IV AQT0500 20	RESEARCH AND PROJECT STUDIO AQT006X 20	ELECTIVE STUDIO I AQT007X 15	ELECTIVE STUDIO II AQT008X 15
		GEOMETRY MAT1307 10	DIGITAL PRODUCTION I AQR1000 5	DIGITAL PRODUCTION II AQR2000 5		SPECIALTY ELECTIVE COURSE OPR 5	SPECIALTY ELECTIVE COURSE OPR 5
INTRODUCTION TO ARCHITECTURE AQH0000 10	ANCIENT ARCHITECTURE AND THE CLASSICAL TRADITION AQH0200 10		ARCHITECTURE AND THE MODERN TRADITION AQH0300 10		CONTEMPORARY ARCHITECTURE DEBATES AQH0400 10		
		CITY AND LANDSCAPE I AQU0000 10	CITY AND LANDSCAPE II AQU0200 10	CITY AND LANDSCAPE III AQU0300 10		CITY AND LANDSCAPE IV AQU0404 10	
		INTRODUCTION TO BUILDING AQC0100 10		BUILDING AND TECHNIQUES AQC0200 10	BUILDING SYSTEMS AND ARCHITECTURAL AQC0300 10		
GENERAL PHYSICS FIS1032 10	STRUCTURAL ELEMENTS AQC0110 10		SEISMIC RESISTANT FORM AQC0210 10	CONSTRUCTION SITE PRACTICE I (70 hours) AQC0101 0	CONSTRUCTION SITE PRACTICE II (70 hours) AQC0201 0	OFFICE PRACTICE (240 hours) AQO0100 0	
ETHICS IN ARCHITECTURE, IN THE CITY AND IN LANDSCAPE FIL184A	MATHEMATICS MAT1000 10					ELECTIVE COURSE 10	ELECTIVE COURSE 10
				THEOLOGY TTF 10	ELECTIVE COURSE 10	ELECTIVE COURSE 10	ELECTIVE COURSE 10

## Professional Qualification Curricular Structure

IX SEMESTER	X SEMESTER	XI SEMESTER	PROFESSIONAL DEGREE IN ARCHITECTURE
ELECTIVE STUDIO III AQT009X 15	DEGREE PROJECT STUDIO I AQT010T 20	DEGREE PROJECT STUDIO II AQT020T 30	
SPECIALTY ELECTIVE COURSE OPR 5			
PROBLEMS IN CONTEMPORARY ARCHITECTURE ARQ3001 10	CONTEMPORARY URBAN PROJECT: THEORY AND CRITIQUE ARQ3502 10		
SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	
SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	
SERVICE EXPERIENCE (160 hours) AQS0100 0			

## Professional Qualification Curricular Structure + Master's Programme

IX SEMESTER	X SEMESTER	XI SEMESTER	PROFESSIONAL DEGREE IN ARCHITECTURE
ELECTIVE STUDIO III AQT009X 15	DEGREE PROJECT STUDIO I AQT010T 20	DEGREE PROJECT STUDIO II AQT020T 30	
SPECIALTY ELECTIVE COURSE OPR 5			
PROBLEMS IN CONTEMPORARY ARCHITECTURE ARQ3001 10	CONTEMPORARY URBAN PROJECT: THEORY AND CRITIQUE ARQ3502 10		
SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	
SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	SPECIALTY ELECTIVE COURSE OPR 10	
SERVICE EXPERIENCE (160 hours) AQS0100 0			

See **Appendix 4.1. ARQ UC Curricular Framework**, as a theoretical introduction to these diagrams.

Professional practical experience courses can be recognized in blue in the diagrams. For further information please check section **8. Professional practical experience /PPE** in the Resource Document:

[2. Visiting Board Resource Document \(ARQ UC CHILE\) 2023.pdf](#)

## 5. GRADUATE ATTRIBUTE MAPPING DOCUMENT

We present a succinct mapping document explaining where each RIBA Graduate Attribute is assessed - in part or in full - in our minimum (required) courses.

### PART 1

**Graduate Attribute 1 (GA1):** Apply analytical techniques and problem-solving skills to different types of architectural questions, understanding a complex body of knowledge, some at the current boundaries of the discipline.

**Graduate Attribute 2 (GA2):** Use the principles of collaborative and interdisciplinary work to critically evaluate evidence, arguments, and assumptions to reach sound judgements, communicated creatively and effectively.

**Graduate Attribute 3 (GA3):** Demonstrate ethical design proposals in the context of the climate emergency with an understanding of the relevant building physics informing zero carbon design standards.

### PART 2

**Graduate Attribute 4 (GA4):** Understanding how the boundaries of knowledge are advanced through research to creatively synthesise complex environmental, social, and spatial issues, showing originality and the use of hypothesis in the application of knowledge.

**Graduate Attribute 5 (GA5):** Undertake study at, or informed by, the forefront of the academic and professional disciplines.

**Graduate Attribute 6 (GA6):** Demonstrate the ability to generate design proposals which integrate an understanding of environmental building physics and comply with relevant statutory standards to meet the RIBA Sustainable Outcomes Guide targets (including standards for zero carbon design).

**Graduate Attribute 7 (GA7):** Develop the qualities for employment including sound judgement and personal and collective responsibilities, response to evidence-based feedback, and the use of initiative in complex and unpredictable professional environments.



The attribute is delivered in full



The attribute is delivered in part



**PART 1: 1°- 4° Year**

		Code	Course	GA1	GA2	GA3
1st YEAR	1st Semester	AQT0000	Formative Studio and Representation I			
		AQH0000	Introduction to Architecture			
		FIL184A	Ethics in Architecture, in the City & Landscape			
		FIS1032	General Physics			
	2nd Semester	AQT0200	Formative Studio and Representation II			
		AQH0200	Ancient Architecture and the Classical Tradition			
		AQC0110	Structural Elements			
		MAT 1000 o 1920	Mathematics			
2nd YEAR	3rd Semester	AQT0300	Formative Studio and Representation III			
		MAT1307	Geometry			
		AQC0100	Introduction to Building			
		AQU0000	City and Landscape I			
	4th Semester	AQT0400	Formative Studio IV			
		AQR1000	Digital Production I			
		AQH0300	Architecture and the Modern Tradition			
		AQU0200	City and Landscape II			
		AQC0210	Seismic Resistant Form			
3rd YEAR	5th Semester	AQT0500	Formative Studio V			
		AQR2000	Digital Production II			
		AQU0300	City and Landscape III			
		AQC0200	Building and Techniques			
		AQC0101	Building Site Experiences I			
	6th Semester	AQT006X	Research and Project Studio			
		AQH0400	Contemporary Architecture Debates			
		AQC0300	Building Systems and Architectural Project			
		AQC0202	Building Site Experiences II			

4th YEAR	7th Sem	AQT007X	Elective Studio I			
		AQU0404	City and Landscape IV			
		AQO0100	Practical Office Experience			
	8th	AQT008X	Elective Studio II			

## PART 2: Professional Title + Master Degree

### 1. Master in Architecture (MARQ)

		Code	Course	GA4	GA5	GA6	GA7
MARQ	9th Semester	ARQ3070	TES - Speciality Studio MARQ				
		ARQ3001	Contemporary Architecture Problems				
		ARQ3000	Formulation of Research Projects				
		AQS0100	Practical Service Experience				
	10th	ARQ3071	TIP - Research and Project Studio				
		ARQ3002	Architectures in Latinamerica				
	11th	ARQ3603	TIA - Advanced Research Studio				
		AQT100A	TPT - Degree Project Studio				

### 2. Master in Urban Project (MPUR)

		Code	Course	GA4	GA5	GA6	GA7
MPUR	9th Semester	ARQ3070	TES - Speciality Studio MPUR				
		ARQ3502	Contemporary Urban Project: Theory and Critique				
		ARQ3000	Formulation of Research Projects				
		AQS0100	Practical Service Experience				
	10th	ARQ3071	TIP - Research and Project Studio				
		ARQ3506	Urban project Management				

	11th	ARQ3603	TIA - Advanced Research Studio				
		AQT100A	TPT - Degree Project Studio				

### 3. Master in Landscape Architecture (MAPA)

		Code	Course	GA4	GA5	GA6	GA7
MAPA	9th Semester	ARQ3070	TES - Speciality Studio MAPA				
		ARQ3306	Vegetal Material				
		ARQ3000	Formulation of Research Projects				
		AQS0100	Practical Service Experience				
	10th	ARQ3071	TIP - Research and Project Studio				
		ARQ3353	Landscape Architecture Stories				
	11th	ARQ3603	TIA - Advanced Research Studio				
		AQT100A	TPT - Degree Project Studio				

### 4. Master in Sustainable Architecture and Energy (MASE)

		Code	Course	GA4	GA5	GA6	GA7
MASE	9th Semester	ARQ3070	TES - Speciality Studio MASE				
		ARQ3606	Evaluation of Design Strategies				
		ARQ3000	Formulation of Research Projects				
		AQS0100	Practical Service Experience				
	10th	ARQ3071	TIP - Research and Project Studio				
		ARQ3605	Energy and Efficiency				
	11th	ARQ3603	TIA - Advanced Research Studio				
		AQT100A	TPT - Degree Project Studio				

## 6. AWARD LEVEL PROJECT BRIEFS

As established in Section 4. *Course Structure Diagram(s)*, Part 1 is completed at the end of the eighth semester with the Licentiate degree in Architecture, and Part 2, is completed at the end of the architectural programme, which can be completed through the Professional qualification program or the Master's degree program.

The following is a representative sample of the Studios and Final Projects, as well as the obligatory and specialty elective (OPR) courses for all students. Given the variety of contents and their constant updating, the General Education Electives (OFG) are not included in this document.

### 6.1 Award-Level Project Briefs: Part 1

LICENTATE IN ARCHITECTURE							
1° YEAR		2° YEAR		3° YEAR		4° YEAR	
I SEMESTER	II SEMESTER	III SEMESTER	IV SEMESTER	V SEMESTER	VI SEMESTER	VII SEMESTER	VIII SEMESTER
FORMATIVE STUDIO AND REPRESENTATION I AQT0000 20	FORMATIVE STUDIO AND REPRESENTATION II AQT0200 20	FORMATIVE STUDIO AND REPRESENTATION III AQT0300 20	FORMATIVE STUDIO AQT0400 20	FORMATIVE STUDIO IV AQT0500 20	RESEARCH AND PROJECT STUDIO AQT006X 20	ELECTIVE STUDIO I AQT007X 15	ELECTIVE STUDIO II AQT008X 15
		GEOMETRY MAT1307 10	DIGITAL PRODUCTION I AQR1000 5	DIGITAL PRODUCTION II AQR2000 5		SPECIALTY ELECTIVE COURSE OPR 5	SPECIALTY ELECTIVE COURSE OPR 5
INTRODUCTION TO ARCHITECTURE AQH0000 10	ANCIENT ARCHITECTURE AND THE CLASSICAL TRADITION AQH0200 10		ARCHITECTURE AND THE MODERN TRADITION AQH0300 10		CONTEMPORARY ARCHITECTURE DEBATES AQH0400 10		
		CITY AND LANDSCAPE I AQU0000 10	CITY AND LANDSCAPE II AQU0200 10	CITY AND LANDSCAPE III AQU0300 10		CITY AND LANDSCAPE IV AQU0404 10	
		INTRODUCTION TO BUILDING AQC0100 10		BUILDING AND TECHNIQUES AQC0200 10	BUILDING SYSTEMS AND ARCHITECTURAL AQC0300 10		
GENERAL PHYSICS FIS1032 10	STRUCTURAL ELEMENTS AQC0110 10		SEISMIC RESISTANT FORM AQC0210 10	CONSTRUCTION SITE PRACTICE I (70 hours) AQC0101 0	CONSTRUCTION SITE PRACTICE II (70 hours) AQC0201 0	OFFICE PRACTICE (240 hours) AQC0100 0	
ETHICS IN ARCHITECTURE, IN THE CITY AND IN LANDSCAPE FIL184A	MATHEMATICS MAT1000 10					ELECTIVE COURSE 10	ELECTIVE COURSE 10
				THEOLOGY TTF 10	ELECTIVE COURSE 10	ELECTIVE COURSE 10	ELECTIVE COURSE 10

#### Minimum Courses

1. AQT007X/ AQT008X: Elective Project Studio I & II
2. AQU0404 - City and Landscape IV: Contemporary Urban Phenomena
3. AQC00100 - Professional Practical Experience (Office)
- 4.

#### OPR - Specialty Elective Course

See list below.

## **1. AQT007X/ AQT008X: Elective Project Studio I & II**

The “Projects Studio” is the backbone of the curriculum and is organized in three consecutive phases: a professional training phase, comprising five studios which are designed to train the basic skills required to deal with architectural design challenges; an intermediate phase, comprising the “Research Studio” which focuses on linking traditional research methodologies with architectural project challenges; and an exercise phase, which includes two elective studios, where students can deepen their content knowledge in the four disciplinary areas offered by the School: Architecture (A), History, Theory and Criticism (H), City and Landscape (U), and Technology (C).

### **OBJECTIVES**

#### **General Objective**

In this context, Elective Studio I is the first of the “Project Studios” in the exercise phase of the programme, and it is designed so that students acquire a certain level of specialization in some of the disciplinary areas offered in the curriculum. These electives are designed to work in conjunction with the Master’s degrees offered by the different disciplines in the graduate school’s curriculum (Master’s in Architecture, Master’s in Landscape Architecture, Master’s in Urban Projects, Master’s in Sustainable Architecture and Energy).

Elective Studio II is designed to allow students to go further in depth in the practical application and implementation of the content learned in all their required and elective courses, i.e., all the required courses in the curriculum. This studio increases the level of complexity encountered in Elective Studio I by allowing the students to solve complex problems with a formal architectural project.

#### **Specific Objectives**

- To connect the students with experienced professionals through reflective practice to help them develop their critical exercise of the profession.
- To allow the student to explore different areas of professional development in conjunction with the different thematic areas offered in the curriculum.
- To provide specific skills that will allow the students to develop a professional profile.
- To give students the proper tools and criteria to decide which degree path and licensing methodology to follow (bachelor’s degree and completed architectural project or a master’s degree).
- To provide an environment for the students to reflect on what specializations to undertake in completing their degree.

### **CONTENT**

Given the nature of the course, content is jointly determined by the School’s administration and the teaching teams responsible for each of the sections.

### **METHODOLOGY**

The studio’s methodology is based on a simulated exercise project, carefully selecting specific project variables by the types of learning sought. The students complete exercise projects with intensive instructional support, where they can apply the different skills, they have acquired during their course of study to specific problems or challenges they encounter.



The exercise phase in Elective Studio I & II is the first opportunity for the students to select which studio they would like to participate in based on their personal and academic interests. The Elective Studio format allows each student to choose a variable number of sections with different areas of focus taught by specialized teaching teams. Working in conjunction with the School's administration, each teaching team will determine the specific skills to be developed and the level of complexity to include in each studio.

## ASSESSMENT AND GRADING

Due to the nature of the course, the intermediate and partial assessment methods are determined by the teaching teams responsible for teaching/tutoring each section and the School's administrative body.

Nonetheless, at the end of the semester, studio participants must engage in some kind of public examination in which the students, either individually or in teams, make a presentation to an examining committee composed of U.C. School professors and/or well-regarded professionals. The committee is responsible for commenting on and grading the work presented, and assessing whether it is of a sufficient standard to be approved.

## BIBLIOGRAPHY

Due to the nature of the course, each section's bibliography will be determined jointly by the School's administration and the teaching teams responsible for teaching/tutoring the course.

The following were the *Elective Project Studios* offered in the first and second semester of 2022.

2022-1	Martín Hurtado and Andrés Sierra: <i>Wood Architecture Competition "CORMA"</i>
	Sebastián Irrarrazabal: <i>Chilean Poets Pavilion</i>
	Paula Livingstone and Sebastian Delpino: <i>Landscape in Extinction</i>
	Patricio Mardones and Osvaldo Larrain: <i>Georgic and bucolic</i>
	Juan Ignacio Baixas and Arturo Lyon: <i>Emergency House</i>
	Paula Velasco and Nicolás Norero: <i>MIGRATION: Thresholds, Frontiers and Borders</i>
	Mario Carreño and Piera Sartori: <i>Urban Interior / MUSEO Padre Gustavo Le Paige, San Pedro de Atacama</i>
	Alberto Moletto and Cristobal Tirado: <i>CAP: Industry, Innovation, and Infrastructure</i>

2022-2	Paula Velasco and Nicolás Norero: <i>Material Studio/Laboratory: Architectural production. Mixed social facilities in the center of Lo Espejo neighborhood.</i>
	Sebastián Irrarrazabal: <i>The common: Citizen Co-Work in Renca.</i>
	Juan Ignacio Baixas and Arturo Lyon: <i>Redevelopment of a large building and its surroundings. Lo Blanco sports park and gymnasium.</i>
	Rodrigo Tapia and Cristián Robertson: <i>Neighbourhood regeneration at Human Scale.</i>
	Alberto Moletto and Cristóbal Tirado: <i>Operating on pre-existing assets: housing in the harbour</i>
	Loreto Lyon and Alejandro Beals: <i>Polyfunctional Infrastructures: Public spaces and line 7 Metro de Santiago stations + Train Santiago-Batuco</i>
	Mario Carreño and Piera Sartori: <i>Urban Interior/ Museo Astronómico de Santiago - Foster Observatory</i>
	Sebastián Gray and Francisco Vergara: <i>Residential architecture: Antumapu Urbanization</i>

## 2. AQU0404 - City and Landscape IV: Contemporary Urban Phenomena

This course addresses contemporary urban phenomena in Chilean cities, situating the reflection on the trend that urban dynamics are taking in the cities of the world today. The course is oriented towards discussion and critical reflection on the urban environment in which the work of the architect is inscribed at present and in the future. The scenarios of economic, political, environmental, and social change faced at the beginning of the 21st century are described, giving an account of the role of urban regeneration in this period, of the main poles in which urban development is currently located, and of the challenges of sustainability.

### LEARNING OBJECTIVES

1. Reflect critically and systematically on urban phenomena and the national and international context in which they are located, considering that this is the context in which the future work of architects will be inscribed.
2. Identify the theories that can illuminate critical reflection on these phenomena.
3. Study the theories and develop a discussion based on them to establish a systematic reflection on the urban phenomena that are being observed in Chilean cities and to consider phenomena also observed abroad.
4. Analyse concrete urban phenomena illuminated by the theories studied and discussions elaborated. Apply the theories to case studies in Chilean cities.
5. Debate with well-founded arguments and in a systematic way about the observed urban phenomena, their variables, and possible implications for the architect's work today and in the future.

### METHODOLOGY AND EVALUATION

- Theoretical Classes (30%): Theses and historical cases that are tested in quizzes
- Text Readings (20%): Theoretical discussions and readings, supported by bibliographical resources
- Field Trips: Observation of real-life cases
- Group Work (20%): Bridge between theory, argumentation, and practice. Identification of an argumentative thesis, construction of the state of the art, identification of edges and evidence. Conceptual formulation, theoretical interpretation of reality, and search for evidence. Example of Group work objective *"Know and work with theories on the main urban transformations stemming from the "vision of Development" of cities, determining the socio-spatial conditions that drive them and the effects that they generate on urban morphology"*
- Critical Essay (Exam 30%): The closing of the City and Landscape IV course coincides with the end of a formative stage of the City and Landscape line and constitutes the connection between undergraduate and postgraduate programmes. Thus, the course exam, which consists of a critical essay, follows the objective of providing specific knowledge about contemporary urban theory and the skills to prepare a critical argumentative manuscript.

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### **3. AQC00100 - Professional Practical Experience (Office)**

Office practice is an experience that allows students in the last semester of their licentiate degree to learn about and relate their disciplinary work with the reality of the professional practice of architecture associated with private and public initiatives. The purpose of this internship is for students to experience the operation of an established office and participate in the various stages of a real project. This opportunity complements their formative vision with the experience of applied practice, providing students with a point of view on the professional reality.

#### **OBJECTIVES**

- Supplement the student's undergraduate education with a professional workplace experience in public or private offices or institutions recognized (and approved) by the EUAC professional experience faculty.
- Work and situate themselves in a specific context of the professional environment, assuming the responsibilities of an architect who is part of an interdisciplinary team.
- Participate in the development of real commissions, which include studies and specific architectural projects in any stage of management, design, or construction, integrating the processes that are necessary to in professional practice.

- Experience the functioning of an office (public or private), its system of work, number of professionals, stages, and the disciplines of which it is comprised.
- Generate, strengthen, and apply the capacity for critical observation.
- Value the work that can be developed from the discipline as a contribution to the profession, the users, and the city.

## CONTENTS

1. This internship does not include weekly classes, but there is a follow-up between the professor in charge of the internship and the tutor who receives the student in the office.
2. This internship includes mandatory face-to-face workshops in which relevant topics of the discipline are presented, such as professional development, management, and regulations, among others.
3. During the internship, the student must recognize the organization and structure of the receiving institution, know the context in which he/she will be part, and actively participate in the preparation, development, review, and execution of specific projects and studies.

## METHODOLOGY

The student must complete a minimum of 240 hours. The internship will be carried out during a period that allows the student to have a constant presence in the office for at least half a day per week.

The Professional Practice Experience will be carried out after having finished the training stage to take the fullest advantage of the professional office assignments.

Each student will be responsible for choosing and presenting his/her internship to the professor in charge of the course, before starting the 240 hours, including a justification for the selection of the office where he/she will work for at least a month and a half. In this instance, the student will also receive the support of the professor of the course to give guidance concerning their selection. This presentation will be done through a Practice Plan that will establish the general aspects of the office and the topics to be reviewed during the development of the practice, such as forms of representation of a project according to the different stages that compose it, organization of the institution and teamwork, strengths, and weaknesses of the office at the moment of the practice, etc. In this document, the tutor will commit to carrying out the requested evaluations at the end of the 240 hours.

At the end of the internship, the student will present a report as a summary of the experience, where the points to be reviewed that were presented in the Internship Plan converge. In addition, the tutor who receives the student will generate a letter of recommendation highlighting the main contributions and those aspects to be improved by the student intern.

## EVALUATION

The completion of the minimum 240 hours will be accredited by employing an online form that will be sent directly to the tutor by the professor in charge of the course. This instance presents a series of questions to evaluate the student's participation and at the same time, to transmit to the professor in charge of the course, and then to the student, the achievements, and aspects to improve in his/her performance.

## BIBLIOGRAPHY

Given the characteristics of the Office Practice, each student will create their own bibliography on a case-by-case basis.

*\*For further information please refer to section 8 in the Resource Document.*

## OPR - Specialty Elective Course

To complement their education and promote personal interests, students must complete 10 credits of specialty elective courses during the last year of their Licentiate degree.

These courses may change each semester. The following were the courses available for the first and second semester of 2022.

Code	Course Name	Credits
AQC1306	Natural Lighting in Architecture and Design	10
AQC2010	Building Observation. Notable Works in Chile.	5
AQE6200	Model Workshop	5
AQI001	CMD Live Healthy: Building a Healthy Habitat	10
AQI0002	CMD UC Proposals: Undergraduate Architecture Research	10
AQI0003	CMD Healthy Housing Design	10
AQI0106	CMD Conservation and Architectural Rehabilitation	10
AQI0203	CMD Furniture: The Construction	10
AQI0302	CMD Poetics of Inhabitation	10
AQC2010	Building Observation. Notable Works in Chile.	5
AQI0002	CMD UC Proposals: Undergraduate Architecture Research	10
AQI0106	CMD Conservation and Architectural Rehabilitation	10
AQI0203	CMD Furniture: The Construction	10
AQI0302	CMD Poetics of Inhabitation	10
AQI0303	CMD Liveability in Vulnerable Sectors	10

Award Level Part 1 Courses Programmes: [Course programmes Award level Part 1](#)

## 6.2 Award-Level Project Briefs: Part 2

### Studios

1. **Research and Project Studio (TIP)**
2. **Advanced Research Studio (TIA) / Project Degree Studio (TPT)**

The four Master's programmes include these Studios, with different themes and teachers to suit each specialty, but they share the same methodology as described below.

### DESCRIPTION

The Studios in the final two semesters of the programme are focused on small groups that speculate on the different themes of the master's programme through an approach which involves researching and writing about the findings. During this period students gradually develop their project thesis from a set of consecutive and integrated studios: the Research and Project Studio –TIP– during the first semester and the Advanced Research Studio –TIA– during the second semester. Both workshops are guided by the same teaching team under the same theme in a continuous process.

Additionally, those students who are pursuing a Master's degree must also enrol in the Degree Project Workshop –TPT– during the second semester, which complements the Advanced Research Studio by going deeper into the field of project design.

### CONTENTS

Each teaching or studio team will propose the thematic area of the students' projects. Each student will define the line of research, the concepts, the theoretical contents, the working hypothesis, and the design contents to be included in his/her project.

### METHODOLOGY

- Project and research exercises
- Exploration of representation tools
- Presentation of the project rationale

### EVALUATION

The studio consists of a series of mandatory activities through which the development of the project will be systematically evaluated by the guiding teacher. However, the final evaluation will be based on the presentation of the project in two instances before an Examining Committee:

- Intermediate exam: 30%.
- Final exam: 70%.

## BIBLIOGRAPHY

The minimum and complementary bibliography will be determined according to the research and project topics addressed each semester.

## Minimum Master's courses

Each Master's programme has two minimum courses to be completed by its students. These will be described below, separately by programme.

## OPR - Specialty Elective Course

To complement their education and promote personal interests, students must complete 55 credits of specialty elective courses during their Master's degree programme. These courses may change each semester.

- Award Level Part 2 full Courses Programmes: [Course programmes Award level Part 2](#)

### 1. Master in Architecture (MARQ)

- **ARQ3071 – Research and Project Studio (TIP)**
- **AQT100A/ ARQ3072 – Project Degree Studio (TPT) /Advanced Research Studio (TIA)**

Titles and teachers in charge of the TIP and TIA/TPT Studios offered to students in the first and second semester of 2022:

1. "Santiago Microcosmos" (Alejandra Celedón)
2. "Atriums: about interiors that look like exteriors" (Nicolás Stutzin)
3. "Mat building and the structures of the rural territory" (Rodrigo Pérez de Arce + Emilio de la Cerda)
4. "Translations: Learning from Atelier Bow–Wow" (Diego Grass)
5. "Modes of existence: life care and human rights" (Gonzalo Carrasco + Gabriela Medrano)
6. "The house of machines" (Ignacio García + Arturo Scheidegger)
7. "Housing laboratory: improbable soils" (Sebastián Gray + José di Girolamo)
8. "The intermediate scale" (Hugo Mondragón + José Hassi)
9. "The building event: a Chilean perspective on international expositions" (Sebastián Cruz + Rayna Razmilic)
10. "Copy, Paste, Edit" (Guillermo Hevia + Bárbara Rozas)

## Master in Architecture Minimum Courses

### 1. ARQ3002 - Latin American Architectures

#### I. DESCRIPTION

The reconfiguration of states at the end of the 1940s as a result of the Second War presents architectural culture within new ideological scenarios. These new scenarios can be understood not only as concerns the so-called “Cold War” but also as the reformulation of the paradigms of so-called Modern Architecture, with a scope including the dimensioning of the territory and the design of cities. From the reconstruction of old states to the creation of new ones, from the definitions of the limits of State sovereignty to the development of international relations and transnational organizations, models vary from the Welfare State and the planning of social democracy to dictatorial and autarkic regimes.

In the following decades, the State operated, openly or not, as a dominant framework of social, political, and cultural life on a global scale. Issues related to the construction of the State are confronted through architectural strategies, such as the migration of populations, ethnic diversity, urban and rural territorial management, centralization, and decentralization. In short, these included state initiatives such as urban planning, expansion, or new cities, the provision of public housing and services (such as health and education), buildings for new institutions, new legislative measures in the planning and construction, and the international projection of the image of a state through cultural objects.

A new stage began in the 1980s, with relevant political transformations and the open installation of the market economic model called “neoliberalism.” The architectural impact that it will have in Latin America coincides with the international trends of radical criticism of the Modernist Movement and the appearance of two fundamental texts in architectural theory: *Complexity and Contradiction in Architecture*, by Robert Venturi, and *Architecture of the City*, by Aldo Rossi. In this context of so-called post-modernity, a stage of review and vindication of local attributes takes place, one of whose legitimizing texts was Kenneth Frampton's “Critical Regionalism.”

International architecture will develop from the platform provided by globalization, and Latin America will display a particular manifestation of modernity in a global key, which constitutes the current situation. What is called Global Society – of a deterritorialized architecture that went through digital design, topology, the return to craftsmanship, and materiality – constitutes the scenario that does not differentiate place, technology, or user.

#### II. OBJECTIVES

- This course explores the dynamics between architecture, urbanism, and the state during the following decades of post-war: How architects determined and took a position of collaboration, critical negotiation, or resistance against the apparatus of the state and what were the instruments devised, at conceptual and practical levels, to support these positions.

The meanings of the experience must be extrapolated by the students as the protagonists of history (of architecture). In this way, they must be able to explain – orally and in writing – the meanings of the current events in the discipline of architecture and the context in which these events developed.



### III. CONTENTS

- **Initial Class 01:** Course presentation. The end of World War II. The winners: Capitalism and Communism, the confrontation. The Marshall Plan in Europe. Condition of Latin American countries, Truman's Point 4. Import substitution policy. The Alliance for Progress.
- **Class 02/03:** The Latin American Condition. The debate on Sigfried Giedion's New Monumentality. University Cities in Latin America: Brasília, Mexico, Caracas, Puerto Rico, Panama, Tucumán and Concepción.
- **Class 04:** Housing: Large housing complexes in Mexico, Brazil, and Venezuela.
- **Class 05:** CIAM urban planning in Latin America. The case of Ciudad Guayana: Orinoco Mining and the Joint Center for Urban Studies MIT-Harvard. Brasília and Cidade two engines.
- **Class 06/07:** Private and civil architecture. Corporate buildings, services, and individual housing. Castillo-Huidobro-Bresciani-Valdes; Solsona, Alvarez (Mario Roberto); Gonzalez de León, Legorreta; Mendes da Rocha, Niemeyer.
- **Class 08:** The experience of new social housing. The Previ Plan, in Lima and Villa Portales, in Santiago.
- **Class 09:** The "Latin America in Construction Exhibition 1955-1980" at the Museum of Modern Art in New York, March-July 2015, 60 years after the exhibition "Latin American Architecture, since 1945", New York: The Museum of Modern Art, by Henry-Russell Hitchcock.
- The end of the Welfare State: Dictatorships. Populism and Regionalism
- **Class 10:** Postmodernity in Latin America.
- **Class 11:** The Latin American Architecture Seminars: Salmona, Dieste, Díaz, Baraco, Fruto Vivas. Critical Regionalism. Globalization and architecture of individual figures.
- **Class 12:** Chile from the Pavilion at the 1992 Seville World's Fair, to the Serpentine Pavilion, in 2014.
- **Class 13:** A brief review of the contemporary situation in Latin America: the cases of Paulo Mendes da Rocha, Rafael Iglesia, and Solano Benítez. The current conditions of teamwork, collectives, and transitional installations: the case of MoMa's YAP.
- **Class 14:** Discussion on current architecture in Chile.
- **Final class 15:** Conclusion.

### IV. METHODOLOGY

Each class will be divided into 2 modules. In the first module, students will present a text that will serve as a basis for the development of the class content. The second module will be a lecture on the course topics by the teacher. In both modules, the participation of students in the discussion of the contents is important to achieve the objectives of the course.

At the same time, each student will develop a single essay during the semester that will be delivered at the end of the course.

- **Presentations (group):** Based on the general bibliography of the course, students will be organized into 10 groups of 2 members each to make two presentations of texts assigned during the semester in the first module of classes. Starting from the presentations, the entire course will discuss the topics raised. Presentations must be uploaded to the course Drive [https://drive.google.com/drive/folders/1B0rV-CNlb7s\\_un7e0kTOd3ym\\_w4oD8bZ?usp=sharing](https://drive.google.com/drive/folders/1B0rV-CNlb7s_un7e0kTOd3ym_w4oD8bZ?usp=sharing) no later than noon of the day of the class in .pdf format and named according to the following example: *SURNAME, SURNAME\_Title of the text.pdf*

- **Essay (individual):** Throughout the semester each student will complete an essay in which they critically review the relationship between the political-economic agenda that conditioned the periods studied in the course with the architectural production of the moment.

During the semester, two progress evaluations will be carried out and at the end of the course, the final essay will be delivered with the development of the selected topic and case study. This essay will be developed throughout the semester, which will be reviewed and corrected by the teaching team and will be delivered in print and digitally as the final work of the course.

The first advance will be delivered on Wednesday, April 13, 2022, and must contain an abstract of 300 words, a representative image, title, and keywords, in which the topic to be discussed, and the case study from which it is based are explained. to evaluate the topic, the problem identified in the topic and case, a research question, its respective hypothesis, in addition to a selection of bibliography relevant to the essay to be carried out. Progress must be uploaded to the course Drive no later than 2:00 p.m. of the day of the class in .doc format and named according to the following example: *SURNAME, FirstName\_Title.doc*

The second advance of the essay will be delivered on Wednesday, May 18, 2022, and must contain, in addition to what was requested in the first advance with incorporated comments, an advance of approximately 1,000 words (or more) with CHICAGO citation protocol, in which the hypothesis raised in the previous delivery must be developed. In addition to the text, the arguments should be accompanied by referential images that complement the ideas presented (maximum 5 images). Progress must be uploaded to the course Drive no later than 2:00 p.m. of the day of the class in .doc format and named according to the following example: *SURNAME, FirstName\_Title.doc*

The final essay will be delivered on Wednesday, June 15, 2022, and will have a maximum length of 2000 words, CHICAGO citation protocol, a maximum of 5 images, an Abstract, a Main Image, a Title, and keywords. The Final Essay must be uploaded to the course Drive no later than 2:00 p.m. on the day of the class in .doc format and named according to the following example: *SURNAME, FirstName\_Title.doc* and delivered in printed format on the last day of class.

## V. EVALUATION

- Participation in classes 15%
- Text presentation 01 15%
- Text presentation 02 15%
- Essay progress 01 10%
- Essay progress 02 15%
- Essay 30%

## VI. BIBLIOGRAPHY

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- DEAMBROSIS, F. (2011) New visions. (Buenos Aires: Infinito Editions)
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- FERNÁNDEZ-GALIANO, L. (2009) The bicentennial Americas, in: *AV* 138, 2-3.
- FRAMPTON, K. QUANTRILL, M. (1999) Latin American Architecture: Six Voices (Texas: Texas A&M University Press)
- FRAMPTON, K. (2009) Mark the earth, in *Pulse. New Architecture in Chile*. Santiago: Constructo, 8-12.
- FRAMPTON, K. (1981) Critical regionalism, in *Critical history of modern architecture*. Barcelona: Gustavo Gili, 318.
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- GUTIERREZ, R. (1983) Architecture and Urbanism in Ibero-America, Madrid: ed. Chair
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- LIERNUR, F. (2008) Traces of the future (Santa Fé: National University of the Litoral)
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- **ARQ3001 - Problems of Contemporary Architecture**

## **I. DESCRIPTION**

Changes in the economic and political structure of the contemporary world determine a different integration and articulation of architecture in the cultural and production processes of the space. Progressively reduced to a functional and instrumental practice, the discipline of contemporary architecture has significantly narrowed its critical impact on the definition of formal and use of the territories of the contemporary city. As architecture progressively approaches other fields of aesthetic production (fashion, design, graphics), it seems to be gradually assuming an ephemeral character where the relationship between theoretical elaboration and development of the project has been radically modified.

## **II. OBJECTIVES**

### **General objectives**

1. Deepen the knowledge of the conceptual tendencies of current architecture.
2. Study the relationship and interdependence between discursive elaboration and project practice.
3. Question the paradigmatic changes in the relationships between own theoretical elaboration of architecture and contributions from other disciplines.

### **Specific objectives**

1. Identify the current concepts and themes in the intellectual debate about the project of architecture.
2. Stimulate the ability to connect between theoretical speculation and elaboration of analysis and project tools.
3. Deepen students' knowledge and critical and analytical skills concerning abstract speculation in architecture.

## **III. CONTENTS**

- Sigfried Giedion: a contemporary re-reading of "Space, Time and Architecture"
- Sanford Kwinter: The spatio-temporal relationship in contemporary culture
- Bernard Tschumi and the theory of the event
- Warped Space: The psychology of Space and Architecture in the texts of Anthony Vidler
- Koolhaas and writing
- Space as stratification of images: Toyo Ito

- The place of data. Critique of MVRDV
- Eisenmann and Terragni
- Materiality and contemporary art. Herzog & de Meuron's "Natural history"
- Perceptual phenomenology of architecture in the writings and projects of Steven Holl

#### IV. METHOD

The course is developed from a series of theoretical classes, accompanied by practical exercises that investigate conceptual elaborations related to contemporary architecture.

Theoretical elaborations will be analysed on the subject of space, considered central in the reflection on architecture, identifying differentiations, trend lines, and useful specificities to define a timely and precise picture of the conditions of the current debate.

#### V. EVALUATION

- Essay: 50%
- Reading controls: 20%
- Mandatory minimum attendance and class participation: 30%

#### VI. BIBLIOGRAPHY

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- Aureli, Pier Vittorio. The project of autonomy: politics and architecture within and against capitalism. New York, Temple Hoyne Buell Center for the Study of American Architecture, 2008.
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#### ***OPR - Specialty Elective Courses***

The following were the courses available for the first and second semester of 2022.

- ARQ3049 - Critique of contemporary architecture
- ARQ3009 - Soil
- ARQ3044 - Architectural Components
- ARQ3097 - Totalizers
- ARQ3108 - Curatorial Practices: Citizen Interventions
- ARQ3027 - Ruins
- ARQ3107 - Japan: contemporary residential architectures

- ARQ3252 - Future Questions
- ARQ3112 - Future Pasts
- ARQ3106 - Graphic arguments
- ARQ3053 - The sense of rules
- ARQ3110 - Copies
- ARQ3113 - Dialectics of materials
- ARQ3027 - Urban scenes

Master in Architecture full Course Programmes: [Course programmes MARQ](#)

## 2. Master in Urban Design (MPUR)

- **ARQ3551 – Research and Project Studio (TIP)**
- **AQT100U/ ARQ3552 –Advanced Research Studio (TIA) / Project Degree Studio (TPT)**

Titles and teachers in charge of the TIP and TIA/TPT Studios offered to students in the first and second semester of 2022:

1. "PLUS Santiago: Densification, settlement, and social integration in high-rise housing developments as a strategy for urban regeneration" (Thomas Batzenschlager + Beatriz Mella)
2. "Housing laboratory: improbable soils" (Sebastián Gray + José di Girolamo)
3. "Metropolitan lines: The architecture of Santiago's subway system" (Rocío Hidalgo + Felipe Temtem)
4. "The density of/in the ruin: The building as the universe and the city as an object" (Dino Bozzi + Paula Orta)
5. "A capital region for Chile" (Carolina Katz + Ricardo Abuauad)

## Master in Urban Design Minimum (required) Courses

### 1. ARQ3502 - Contemporary Urban Project: Theory and Critics

#### I. DESCRIPTION

The course introduces the theoretical debate on the practice and evolution of urban design as a discipline. Based on the theoretical understanding of the social, cultural, and economic forces that shape cities and their territories. The emerging urban problems are analysed within the framework of the economic, institutional, and territorial restructuring processes of recent decades, and the critical analysis of the role that the urban project plays in the reconfiguration of the city in this period. Through the discussion of different currents of urban design, a frame of reference is built to interrogate urban projects in their various dimensions: the ideological and projected conceptions, and the games of actors that underlie them.

#### II. OBJECTIVES

- Identify emerging urban problems because of territorial restructuring in recent decades.
- Place the role of the urban project as an instrument of urban planning in this context.
- Understand the social, economic, and cultural forces that shape cities and their relationships with urban projects.
- Understand and develop a critical reflection on the currents of thought and the intervention and design strategies associated with the urban project in this period.
- Analyse and interpret the key themes of urban design in Chilean cities and their relationship with the current development model in our country.

### III. CONTENTS

#### 1. Urban design as a discipline

- 1.1. Urban design as a discipline
- 1.2. Types and problems of urban project
- 1.3. Theories of the urban design process

#### 2. Problems of contemporary urban development

- 2.1. From national modernization to the globalization process: economic, sociocultural, and institutional restructuring.
- 2.2. Emerging urban issues: reconversion of disaffected areas, poverty and urban segregation, densification-extension-dispersion, public space, and gentrification, increased mobility and equity.
- 2.3. Territorial restructuring and the urban project as a tool of urban planning in a neoliberal context.

#### 3. The contemporary urban project

- 3.1. Urban project in the postmodern and post-industrial city
- 3.2. Urban project in the fractured city
- 3.3. Urban project: compact city - dispersed city
- 3.4. Metropolization and urban project

#### 4. Ideological approaches in the design of urban projects

- 4.1. The post urban approach: generic urbanism
- 4.2. Ecological and landscape approaches: Ecological Urbanism and sustainability
- 4.3. Traditionalist approaches: New Urbanism
- 4.4. Participatory approaches: everyday urbanism, tactical urbanism

### IV. METHODOLOGY

- Teaching classes.
- Seminar. Presentation by students of selected texts, followed by a reflective and critical discussion in which students and teachers participate.
- Research work and essay preparation.

### V. EVALUATION

- Presentations in class            35%
- Contribution to debate           20%
- Essay (stages of progress)    10%
- Final essay                            35%

### VI. BIBLIOGRAPHY

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## **2. ARQ3506 - Urban Project Management**

### **I. DESCRIPTION**

The course positions the urban project as a tool to resolve the requirements of the contemporary city in areas of public policy or private development. To this end, the principles that govern the formulation of projects are presented, analysing – from the conception of the idea to resolve demands or requirements – the factors that influence project design, feasibility, and profitability and which are grouped into four dimensions that must be balanced in a “key equation”: economic, social, environmental, and political.

### **II. OBJECTIVES**

- Understand the factors that explain the growth of the current city and that constitute the field of action of urban projects.
- Identify the variables that influence the design and profitability of urban projects and that must be incorporated to improve their feasibility of implementation.
- Analyse the tensions that occur between private and social objectives, identifying the strategies that must be followed to balance the key equation.

### **III. CONTENTS**

1. The City and the Urban Project: the contemporary growth trends of cities and the factors that explain the processes of urban growth and transformation. The role that urban projects play at different territorial scales and areas of application from infrastructure to real estate development.

2. Definitions and Dimensions of the Urban Project: The demands or impacts derived from urban growth. Differences and similarities with engineering or architecture project dimensions that must be incorporated to balance the key equation.

3. The Urban Project Cycle: Sequence from idea to design, evaluation and implementation of projects, approval instances before public organizations and organized communities with an emphasis on management.

### **IV. METHODOLOGY**

Lectures, discussions, and analysis of cases seen on the ground.

### **V. EVALUATION**

- Group work 60%
- Individual work 40%

### **VI. BIBLIOGRAPHY**

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- Catholic University and BBVA Bank (2008). "Market and City: Challenges of an Urban Country", -Chapters 1, 3, 5, 6.
- Saunders, William (2006) "Urban Planning Today" Harvard Design Magazine Reader. Preface, Introduction and Chapters 3, 5, 7 y 11.

## **OPR - Specialty Elective Course**

The following were the courses available for the first and second semester of 2022.

- ARQ3543 - From regulatory plan to urban design
- ARQ3537 - Tools for Urban Housing Regeneration
- ARQ3548 - Tools and free data to visualize the city
- ARQ3535 - Urban mobility systems and the built environment
- ARQ3544 - Social housing topics
- ARQ3538 - Housing and density development
- ARQ3324 - Public Space and Climate Change Resilient Infrastructures
- ARQ3549 - From techno-utopias to the generic city
- ARQ3539 - Urban planning law
- ARQ3534 - Mobility and cycling inclusion
- ARQ3011 - Spatial analysis technologies
- ARQ3547 - Global Housing

Master in Urban Project Full Course Programmes: [Course programmes\\_MPUR](#)

### 3. Master in Landscape Architecture

- **ARQ3351 – Research and Project Studio (TIP) in Landscape Architecture**
- **AQT100P/ ARQ3352 –Advanced Research Studio (TIA) / Project Degree Studio (TPT)**

The following are the TIP and TIA/TPT Studios offered to the students in the first and second semester of 2022:

- *DISPLACEMENTS / SETTINGS*

Research and Project of Landscape Architecture in the National Panorama (Osvaldo Moreno + Danilo Martić)

#### Master's minimum (required) courses

##### 1. ARQ3306 - Vegetal Material

#### I. DESCRIPTION

Plants have been used since ancient times as a fundamental element in the design and ornamentation of urban spaces. Initially, humanity used species from nearby places. Trade and travel gradually allowed the introduction of plant species from one place to another. Today, we use species from the five continents in the country's urban environments, with crown architectures, shapes and colours, growth strategies, and varied ecological requirements. Of all the plants, particularly the trees, constitute the broad support of a landscape, knowing the fundamentals of their growth, the dimensions and shapes they can achieve, and their ecological needs and predicting their development and changes over time allow better decisions to be made when choosing species for a landscaping project.

#### II. OBJECTIVES

##### General

The main objective of the course is to know the fundamentals of the structure, development, and growth of plants, with particular emphasis on trees, and to develop skills for a fine selection of species and the planning of urban trees considering ecological aspects, growth, and form, environmental and abiotic benefits.

##### Specific

1. Know the fundamentals of the distribution and taxonomy of plants
2. Know essential elements of morphology and physiology of trees
3. Know the benefits of urban trees
4. Understand the challenges that a tree presents in the urban environment
5. Analyse the elements of the environment that intervene in the development and growth of plants as a strategy for the selection of species
6. Understand the elements involved in urban tree planning

At the end of the course, the student will understand the value of ecological and forestry knowledge for decision-making in urban environments. Students will have objective skills for selecting species according to their characteristics, the environmental conditions, and the overall project in which they are to be included.

### **III. CONTENTS**

#### **1. Biomass and vegetation distribution**

- a. Definition of biomass
- b. Classification of natural forests
- c. Distribution of urban tree species in the cities of the world
- d. Urban tree species commonly used in Chile

#### **2. Kingdom Plantae**

- a. General taxonomy of vegetation
- b. Tree classification and taxonomy of conifers and broad-leaved trees

#### **3. Species recognition**

- a. Definition and basic organ classification (leaves, stem, roots, fruits)
- b. Keys to taxonomic recognition of species
- c. Plant traits
- d. Tree structure: aerial and root growth
- e. Development and growth in trees (longevity, maximum size to reach, maximum crown)
- f. Tree architecture

#### **4. Role and benefits of urban trees**

- a. The urban tree and biodiversity
- b. The urban tree and microclimate
- c. The urban tree and its role in decontamination
- d. Impacts of urban trees on human health
- e. Social aspects of urban vegetation
- f. Positive and negative ecosystem services
- g. Quantification of ecosystem services
- h. Valuation of ecosystem services

#### **5. Urban forestry inventory**

- a. Inventory methods
- b. Data collection
- c. Uses of inventories
- d. Temporality

#### **6. Planning and management of urban forestry**

- a. Strategic planning of urban trees and green infrastructure
- b. Tree governance and its relationship with the community
- c. Planting site rating
- d. Soil Management
- e. Water Utilization
- f. Crown management
- g. Root management
- h. Pests and diseases

#### i. Management and conservation of monumental trees

#### **7. Selection of tree species**

- a. Selection matrix
- b. Selection tools

#### **8. Green Infrastructure**

- a. Green walls and roofs
- b. Water-sensitive urban design

### **IV. METHODOLOGY**

The course will consist of weekly lectures and three field trips during class hours. Field trips will expose students to the different types and forms of vegetation found in urban environments. Therefore, we will visit two different contexts where we can observe trees: Quinta Normal and Parque Aguas de Ramón.

Additionally, we will carry out an exploratory walk around the Lo Contador campus. The field trips' objective is to recognize in-situ the elements discussed in classes, including species recognition, morphology, ecosystem services, and management.

### **V. EVALUATION**

As it is a graduate course, the course will be evaluated from practical work that applies the class contents.

- **Assessment 1:** Create an online herbarium of urban tree species that includes their location and general characteristics, characteristics of the site where they were found, and their photo to link with Google Earth Location.
- **Assessment 2:** Determine a set of ecosystem services, disservices, and biodiversity connections.
- **Assessment 3:** Evaluate the species collected by the whole class in terms of location, climate, aesthetics, and state. Elaborate a list of relevant species for each climatic zone of Chile, including ten species per zone and explain the choices made.

Each assignment is worth one-third of the final grade.

### **VI. BIBLIOGRAPHY**

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- Beytía, A.; Hernández, C.; Musalem, M.; Prieto, F. & Saldías, M.G Guía de arborización urbana. Especies para la Región Metropolitana, Santiago de Chile. Asociación Chilena de Profesionales del Paisaje AG. 2012
- Chanes, R. Deodendron. Árboles y arbustos de jardín en clima templado. Blume, Barcelona. 2000
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- Niemelä J. Urban ecology: Patterns, processes, and applications. Oxford University Press New York. 2011
- Riedemann, P. & Aldunate, G. Flora nativa de valor ornamental. Zona Sur. Editorial Andrés Bello. Santiago de Chile. 2003
- Riedemann, P.; Aldunate G. & Teillier, S. Flora nativa de valor ornamental. Zona Norte. Ediciones Chagual. Santiago de Chile. 2006

## **2. ARQ3353 - Histories of Landscape Architecture: Texts, representations, practice, and use**

### **I. DESCRIPTION**

This course introduces essential topics in the history of landscape architecture that will illustrate the conception, production, evolution, and reception of designed landscapes, particularly during the 19th and 20th centuries. The course attempts to understand the landscape as a physical place and as a cultural context, resulting from social, political, artistic, and intellectual interventions and the topographic and climatic conditions of the site in which it is located. Using diverse sources such as texts, illustrations, and films, the course offers various approaches to developing and transferring ideas between and among cultures, countries, geographic regions, and periods.

### **II. OBJECTIVES**

1. Critically discuss the concept of landscape from the exploration of key academic frameworks that have restructured the way we think about the landscape today.
2. Understand, from the spatial and formal characteristics of landscapes, parameters of projectual, cultural, and theoretical interaction through the analysis of the historical processes of landscape architecture and their contribution to the understanding of postmodern culture.
3. Discuss and interpret the cultural meanings inherent to the significant transformations of landscape discourse from the mid-nineteenth century, considering the social, political, and technical contexts of selected works.
4. Propose new disciplinary arguments based on understanding the interaction between architecture, art, and landscape.
5. Apply some of the theoretical principles addressed in the course to develop landscape architecture in Chile.

### **III. CONTENTS**

1. Landscape Architecture's theory
2. The search for a modern language in Landscape Architecture
3. Nature / Culture Debate
4. The expanded field in Landscape Architecture
5. Landscape and the cult of Ruin
6. The Representation, Theorization, and Adjectivation of the Landscape

### **IV. METHODOLOGY**

- Lectures
- Reading and critical discussion of bibliography.
- Debate of current landscape architecture problems.
- Development of final essay.

### **V. EVALUATION**

- Discussion of mandatory bibliography: 40%
- Intermediate submission 20%
- Final essay: 40%

### **VI. BIBLIOGRAPHY**

- Allen, Stan. "Field Conditions." In *Points + Lines*. New York: Princeton Architectural Press, 1999. 90-103.
- Berrizbeitia, Anita. "The Amsterdam Bos: The Modern Public Park and the Construction of Collective Experience." En James Corner, ed. *Recovering Landscape*. New York: Princeton Architectural Press, 1999. 187-203.
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- Eckbo, Garret. "What do We Mean by Modern Landscape Architecture?" In *Journal of the Royal Architectural Institute of Canada* Vol.27:8 (1950). 268-271.
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- Meyer, Elizabeth. "The Expanded Field of Landscape Architecture." In G.F. Thompson y F. Steiner, eds. *Ecological Design and Planning* (New York: John Wiley, 1997). 70-76.
- Simmel, Georg. "The Ruin." In Kurt Wolff, ed. *Georg Simmel, 1858-1918*. Columbus, OH: The Ohio State University Press, 1959. 259-266.

## OPR - Specialty Elective Course

The following were the courses available for the first and second semester of 2022.

- ARQ3313 - Landscape Technologies: Topographic form and processes
- ARQ3256 - Forest ecosystems in territorial planning and project development: Tools for sustainable management
- ARQ3233 - Strategies for management and social evaluation of landscape projects
- ARQ3318 - Workshop LAND + SCAPE: The project as a process / The process as a Project
- ARQ3231 - Landscape Technologies Laboratory: Vegetation, water and processes
- ARQ3355 - Urban Ecology and Green Infrastructure
- ARQ3900 - SIG: Land and Urban Landscape Modeling and Simulation
- ARQ3230 - Landscape Visualization and Representation
- ADU4002 - Research Status in Architecture and Landscape
- ARQ3009 - Modeling and Simulation
- ARQ3228 - Cultural Landscapes
- ARQ3236 - Project Formulation
- ARQ3354 - Landscape design in arid areas
- ARQ3234 - Dronescares
- ARQ3314 - Woven Landscape
- ARQ3235 - Latin American Landscape

Master in Architecture and Energy full Course Programmes: [Course programmes\\_MAPA](#)



#### 4. Master in Sustainable Architecture and Energy

- **ARQ3602 – Research and Project Studio (TIP) in Sustainable Architecture and Energy**
- **AQT100E/ ARQ3604 –Advanced Research Studio (TIA) / Project Degree Studio (TPT)**

Titles and teachers in charge of the TIP and TIA/TPT Studios offered to students in the first and second semester of 2022:

1. Materials (Juan José Ugarte + Andrés Sierra)
2. PLUS Santiago: Densification, settlement, and social integration in high-rise housing developments as a strategy for urban regeneration (Thomas Batzenschlager + Beatriz Mella (MPUR + MASE))
3. Circular economy (Renato D'Alencon + Anamaría De León)
4. Materials and Climate Change: Carbon Neutral Architecture and Wood (Felipe Victorero + Diego Palma)
5. Materials: Biomaterials (Francisco Chateau + Sebastián Rozas)
6. GEAF UC (Study Group in Architecture and Facades) (Claudio Vásquez)

#### Master in Sustainable Architecture and Energy Minimum (required) Courses

##### 1. ARQ3605 - Energy and Efficiency

##### I. DESCRIPTION

The course provides the necessary tools to analyse, evaluate, and propose energy-efficient design strategies in conjunction with HVAC systems and NCRE-based applications, to achieve performance standards close to zero energy. In this sense, the course is based on the premise that to obtain energy-efficient buildings it is necessary to provide a comprehensive vision of the architectural project, incorporating active systems as a fundamental part of it.

##### II. OBJECTIVES

1. Understand the thermodynamic principles that underlie and explain the operation of active air conditioning systems (HVAC)
2. Understand and analyse from a critical point of view the advantages and disadvantages of conventional air conditioning systems (HVAC) versus those based on non-conventional renewable energy (NCRE), with special emphasis on environmental impact aspects and from a cost /benefit perspective
3. Know and apply building performance analysis through passive comfort measurement campaigns
4. Propose and apply HVAC and NCRE systems in buildings with the objective of accessing the category of close to zero energy

##### III. CONTENTS

- **Thermal Comfort Conditions**
  - Comfort conditions in different climates of Chile
  - Thermal balance of the human body, according to the destination of the buildings and enclosures.

- Mean radiant temperature and resulting temperature. Effects of temperature, relative humidity, air velocity
- Comfort Diagrams. Post-occupancy measurement campaign. Interpretation of measurements.

Adaptive comfort.

- **The energy performance of buildings**

- Types of models in steady state and dynamic regime (calculation and interpretation of results).
- Static calculation methods and air conditioning power sizing.
- Estimation of energy demand and energy consumption by type. Analysis criteria.
- Interpretation of results and difference between energy demand and consumption.

- **Introduction to thermodynamic systems**

- Laws of thermodynamics
- Systems diagrams: components and flows
- Principles of air conditioning systems
- Thermodynamic processes
- Efficiency as a concept: thermodynamic performance and COP (coefficient of performance)
- Energy balance
- HVAC active air conditioning systems, mechanical ventilation systems, and their installation
- Conventional and condensing boilers
- Refrigeration systems: chillers, fan coils, VRV
- Heat, air, water, and geothermal pumps.
- Networks, distribution systems and applications and coordination in architecture
- Controlled mechanical ventilation and its architectural integration.
- Heat recovery systems

- **Systems, applications, and installation of NCRE (non-conventional renewable energies)**

- Solar thermal collectors, calculation with F chart.
- Photovoltaic panels, Net billing law, Solar calculator.
- Geothermal energy applications, Underground ventilation (Canadian pipe)
- NCRE and the possibilities for architectural integration
- Biomass, pellets, chips, polyfuel.

- **Integration of HVAC and ERNC systems to obtain buildings close to zero energy**

- Towards a definition of near-zero energy buildings
- MOP standardized reference terms and national regulations
- Comparative study of fuels, equipment, and their efficiencies
- Examples of integration of HVAC and NCRE systems to obtain buildings close to zero energy
- Comparative analysis of systems, technical, and economic evaluation for project decision-making.

#### IV. METHODOLOGY

- Lectures
- Field measurement campaigns
- Site visits to relevant buildings

## V. EVALUATION

3 evaluations (assignments):

1. Housing post-occupancy measurement campaigns
2. Comparative evaluation of office buildings
3. Application and integration in a residential building

## VI. BIBLIOGRAPHY

- BROPHY, Vivienne and J. Owen Lewis. The Green Vitruvius. London. Earthscan 2011.
- BUSTAMANTE W., R. Cepeda, F. Encinas, P. Martinez and Y. Rozas. Design guide for energy efficiency in social housing. Santiago. MINVU/ MINENERGIA. 2009
- BEHLING, Sophia and Stephan Sol Power, the evolution of sustainable architecture Ed. Gustavo Gili 2002
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- EVANS, JM and DE SCHILLER, S. Bioenvironmental Design and Solar Architecture, Previous Editions, Eudeba / SEU-FADU-UBA, 3rd edition, Buenos Aires 1996.
- LOPEZ DE ASIAÍN, Jaime. Architecture, City and Environment, by Asiaín, University of Seville, 2001.
- KREIDER, J., Curtiss, P. and Rabl, A. Heating and cooling of buildings. Design for efficiency. Second edition, CRC Press, 2010.
- LECHNER, N. Heating, cooling, lighting. Sustainable Design Methods for Architects. Fourth Edition, Wiley, 2014.
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- McQuiston, Faye C. Heating, ventilation, and air conditioning: analysis and design. Mexico, DF Limusa Wiley, 2007.
- VOKALDERS, Varis and María Blocks. The Whole Building Handbook: How to Design Healthy, Efficient and Sustainable Buildings. London. Earthscan. 2010.
- Further reading:
- ALLARD, Francis and GHIAUS, Cristian. Natural ventilation in the urban environment. London, James and James, 2005
- DANIELS, K. Advanced Building Systems. A Technical Guide for Architects and Engineers. Basel, Birkhäuser, 2004.
- GUZOWSKI, Mary. Zero energy: aesthetics and technology with alternative energy saving and generation strategies and devices. Barcelona, Blume, 2010.
- LAUGHTON, Chris. Solar domestic water heating: the Earthscan expert handbook for planning, design, and installation. London, Earthscan, 2010.
- LAY Ong, Boong, Beyond Environmental Comfort, Routledge, 2013
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- OCHSNER, Karl. Geothermal heat pumps: a guide for planning and installing. London, Earthscan, 2008.
- Sarmiento, Pedro. Solar energy in architecture and construction. Santiago, Chile. RIL, 2007.
- OESTERLE, E.; LIEB R.; LUTZ, M.; HEUSLER, W. Double-Skins Facades. Integrated Planning. Edited by Rolf-Dieter Lieb. Munich-London-New York: Prestel Verlag, 2001.

## **2. ARQ3606 - Evaluation of Architectural Design Strategies with Energy Efficiency Criteria**

### I. DESCRIPTION

The course seeks to quantify the effects achieved in the interior environment of buildings by the application of different passive heating and cooling strategies in different types of climates. Advanced level software

will be applied for dynamic simulation of buildings, which constitute tools of proven effectiveness for decision-making in the design process, with criteria of environmental comfort and efficient use of energy.

## **II.OBJECTIVES**

1. Analyse the environmental performance of buildings by using passive architectural design strategies, with criteria of comfort and efficient use of energy.

Use computational tools in a dynamic regime for the analysis of the environmental performance of buildings applying architectural design with natural ventilation strategies.

## **III.CONTENTS**

### **1. THERMAL PHENOMENA AND THEIR EFFECTS ON BUILDINGS**

- 1.1. Heat transfer.
- 1.2. Thermal transmittance and thermal protection.
- 1.3. Properties of materials and construction systems.
- 1.4. Heat gains and losses. Thermal balance.
- 1.5. Thermal inertia.
- 1.6. Heat gains in a building (internal + solar).
- 1.7. Materiality, form.
- 1.8. Heating and cooling energy demand.
- 1.9. Estimates in a stationary regime.
- 1.10. Recommendations for design and construction systems.
- 1.11. Condensation phenomena.
- 1.12. Construction systems according to hygrothermal criteria.

### **2. EVALUATION OF THERMAL PERFORMANCE OF BUILDINGS**

- 2.1. The stages of architectural design and support tools.
- 2.2. Main characteristics of tools to support architectural design.
- 2.3. The input parameters (climate, architecture, internal gains, ventilation rates, air infiltrations, materiality, environment, and others).
- 2.4. The output parameters (temperature, humidity, thermal comfort, surface temperature, mean radiant temperature, resulting temperature, natural ventilation, energy demands, and others).
- 2.5. Modelling, process, and postprocess.

### **3. THERMAL EVALUATION OF BUILDINGS IN STATIONARY REGIME**

- 3.1. Building hygrothermal comfort analysis models.
- 3.2. Evaluation of design strategies according to climate: Givoni Diagram.
- 3.3. Estimates of demands and energy consumption.
- 3.4. Applications in buildings according to climate.

### **4. THERMAL EVALUATION OF BUILDINGS IN DYNAMIC REGIME**

- 4.1. Methods and simulations in steady state.
- 4.2. Building modelling.
- 4.3. Quantification of building use parameters.
- 4.4. Materiality and analysis criteria.
- 4.5. Models for the analysis of thermal comfort in buildings.
- 4.6. The parameters for the analysis of the thermal behaviour of the building demands and energy consumption.
- 4.7. Simulations for the thermal evaluation of buildings.

## **5. EVALUATION OF PASSIVE DESIGN STRATEGIES Simulations to quantify the effect of heating strategies:**

- 5.1. Passive solar use.
- 5.2. Conservation and distribution of heat.
- 5.3. Heat accumulation.
- 5.4. Sensitivity analysis and applications in buildings.
- 5.5. Solar protection on transparent surfaces.
- 5.6. Risk of overheating.
- 5.7. Convective Cooling
- 5.8. Geothermal Cooling
- 5.9. Evaporative Cooling
- 5.10. Sensitivity analysis and applications in buildings. convective. geothermal.

## **6. VENTILATION IN BUILDINGS**

- 6.1. Equations that regulate the natural movement of air in buildings.
- 6.2. Natural ventilation strategies.
- 6.3. Night ventilation: in what climates and building characteristics.
- 6.4. Daytime ventilation: in what climates and building characteristics.
- 6.5. Quantification of controlled double-flow mechanical ventilation.
- 6.6. Models in dynamic regime.
- 6.7. Simulations in dynamic regime.
- 6.8. CFD (Computer Fluid Dynamics) models.
- 6.9. Examples and case studies with the use of software (dynamic regime and CFD) in different climatic conditions.

## **7. ETHICAL CONSIDERATIONS IN ENERGY AND SUSTAINABILITY**

- 7.1. The common good
- 7.2. Rights and duties
- 7.3. Justice, freedom and responsible action
- 7.4. Discussion about the ethical dimension of Sustainability in Architecture

## **IV. METHODOLOGY**

- Theoretical classes.
- Applications for using software in a "dynamic regime" for the analysis of environmental performance of buildings.
- Reading and analysis of articles on thermal performance and natural ventilation in buildings.

## **V. EVALUATION**

- Project 1:30%
- Project 2:30%
- Final project:40%

## **VI. BIBLIOGRAPHY**

### ***Minimum***

- BUSTAMANTE, Waldo; Felipe Encinas; Roberto Otarola and Alan Pino "Analysis of Strategies for thermal and lighting comfort in buildings in different climates of the central zone of Chile." Technique Booklet. ARQ82. pp 112-115. Santiago de Chile. 2012.

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- LECHNER, Norbert. "Heating, cooling, lighting. Sustainable design methods for architects." Fourth Edition, John Wiley & Sons, Hoboken, New Jersey. 2014.
- PINO, Alan; Waldo Bustamante Rodrigo Escobar and Felipe Encinas. "Thermal and lighting behavior of office buildings in Santiago of Chile". Energy and Buildings, Volume 47. Elsevier. April 2012.

### **Complementary**

- ATHIENITIS, AK, and Matt Santamouris. Thermal analysis and design of passive solar buildings. London, James and James, 2002. 288p.
- CLIMATIC ARCHITECTURE. A contribution to sustainable development. Volume 1. Physical bases. Talca, University of Talca, 2003.
- BOKALDERS, Varis and Maria Block "The whole building handbook. How to design healthy, efficient and sustainable buildings" Earthscan, London, England. 2010
- DEVON, R. et al., Transformations: ethics and design. Proceedings of the 2001 American Society for Engineering Education Annual Conference & Exposition, 2001.
- DEVON, R. & VAN DE POEL, I. Design ethics: the social ethics paradigm. Int. J. Engng Ed. Vol. 20, n° 3, Great Britain, 2004.
- EBERT, Thilo; Natalie Ebig and Gerd Hauser. Green building systems certification. Edition Detail Green Books, Munich. 2011. 143p. Lavigne, Pierre.
- FAINSTEINS, S. Planning, Justice and the City. Urban, (06), 7-20, 2013. FOX, W. (Ed.), Ethics and the built environment, Routledge, London 2000.
- FRANCIS ALLARD and Cristian Ghiaus. Natural ventilation in the urban environment. London, James and James, 2005. 241 p.
- HARRIES, K. The Ethical Function of Architecture, MIT Press, Cambridge, MA., 1998. LIDDAMENT, M. A Guide to Energy Efficient Ventilation. Coventry: Air Infiltration and Ventilation Centre, University of Warwick, 1996
- LOPEZ DE ASIAIN, J. The bioclimatic approach in architecture. Seville, 1989
- LOPEZ DE ASIAIN, J. Bioclimatic social housing, a new neighborhood in Osuna, Escuela Tecnica Superior de Arquitectura de Sevilla, 1996
- KEELER, Marian and Bill Burke. "Fundamentals of integrated design for sustainable building" John Wiley and Sons. Hoboken, New Jersey. USES. 2009
- ROULET, Claude-Alan. Ventilation and airflow in buildings. London. Earthscan. 2008. 185p. SANTAMOURIS, Matt (editor). Advances in passive cooling. London. James and James, 2007. 303p. SANTAMOURIS, Matt (editor). Solar thermal technologies for buildings. State of art. London. James and James, 2007. 239p.

### **OPR - Specialty Elective Course**

These courses may change each semester. The following were the courses available for the first and second semester of 2022.

- ARQ3616 - Experimental Design of Efficient Façades
- ARQ3634 - Revaluation, Reuse and Recycling of Construction Materials in Architecture
- ARQ3639 - Sustainability Laboratory
- ARQ3646 - Introduction to Biomaterials and Biofabrication
- ARQ3649 - Design and Optimization for Wood Architecture
- ARQ3654 - Carbon Negative Architecture and Wood
- ARQ3715 - Parametric Design of Sustainable Structures
- ARQ3617 - CO2, Embodied Energy and Buildings
- ARQ3624 - Design and Legislation
- ARQ3630 - Design Problems of Sustainable Architecture
- ARQ3638 - Facades: Design Principles

- ARQ3642 - Solar Laboratory
- ARQ3647 - Biofabrication Laboratory
- ARQ3652 - Data Analysis Tools for Research in Sustainable Architecture
- ARQ3635 - Fieldwork in Sustainable Architecture
- ARQ3626 - Wood Construction Techniques and Processes
- ARQ3256 - Forest Ecosystems in Spatial Planning and Project Development

Master in Architecture and Energy full Course Programmes: [Course programmes\\_MASE](#)

## 7. EXTERNAL EXAMINERS' REPORTS

*Up to 3 years of reports*

- **International Certifications/Validations**

### 1. USA National Accrediting Board ([NAAB](#)<sup>4</sup>) International Re-certification process.

Our entire architecture programme, including the Master of Architecture graduation pathway, has been certified by NAAB since 2016 after *Visit 3* of a long application process. This international certification (formerly called '*Substantial Equivalence*') has a duration of 6 years and is of great value, especially given that we are the only School in Latin America that has it.

In 2022, we started preparing for the Re-certification Visit, with a one-year extension due to international delays caused by the Covid-19 pandemic, which was finally held virtually on May 30, 31 and June 1, 2023. The Visiting Team's feedback was very positive; however, our programme will be formally reviewed during the fall NAAB Board meeting scheduled for November 2-4, 2023. The final Visiting Team Report (VTR) with the Board decision letter will be sent to us 30 days after the Board meeting concludes.

To date, we can provide the following official documentation:

- Previous process Report (2016): [NAAB\\_PUC\\_FINAL\\_VTR\\_FOR\\_PUBLIC\\_SEv3\\_rev\\_1\\_1.pdf](#)
- Decision Letter: [SE\\_decision\\_Chili\\_1.pdf](#)
- Current process Self-evaluation Report "PSER" (Submitted in January 2023): [PSER\\_JAN 2023\\_ARQUC CHILE.pdf](#)



All information on our accreditation, certification, and validation processes can be found publicly on our website: <https://arquitectura.uc.cl/programas/pregrado/acreditaciones.html>

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<sup>4</sup> <https://www.naab.org/international-certification/>



- **National Accreditations**

### 1. Architecture Degree Programme Re-accredited by the Chilean Accreditation Agency (A&C).

Our architecture programme was Re-accredited in 2017 for 7 years by the Chilean Accreditation Agency (A&C).

- Name of degree course: Architecture
- Number of years of accreditation: 7 years
- Month and year of expiry of accreditation: 31-07-2024
- Mode, Place, Timetable: In person, Campus Lo Contador-Santiago, Daytime

Institución	Áreas del Conocimiento	Carrera	Resultado	Años	Vigencia Desde	Vigencia Hasta	Agencia	Historial de Decisiones	Oferta AC	Más Info
PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE	ARTE Y ARQUITECTURA	ARQUITECTURA	ACREDITADA	7	31/07/2017	31/07/2024	AGENCIA ACREDITADORA DE CHILE A&C	2002 AC 2010 AC 2017 AC		

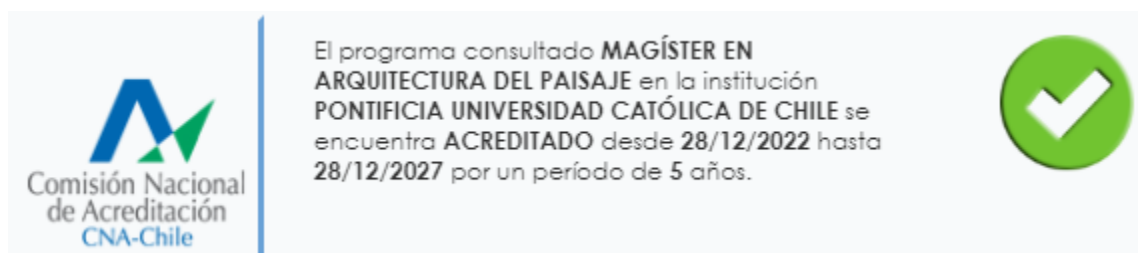
\*Currently re-accreditation is not compulsory for our degree course at our University; one of the factors is that our School is dually certified/validated abroad.

### 2. Master's degree programs Re-accreditation process via the Chilean National Accreditation Commission (CNA):

Master's programmes are not required to be accredited, but quality programmes usually are because accreditation demonstrates that their processes, curricula, and outcomes have been reviewed, and certified and on this basis, the programmes have obtained a certain number of years of accreditation. The importance of accreditation also lies in the prestige and advantages it provides, such as students being eligible for national scholarships and other important benefits.

The four Master's programmes that are part of this revalidation are currently accredited:

1. **Master's degree in Landscape Architecture:** The programme was reaccredited for 5 years, in December 2022. We are currently awaiting the official CNA Resolution/Report.



CNA letter certifying years of accreditation: [CNA Accreditation MAPA 2023.pdf](#)

2. **Master's degree in Urban Project:** The programme was recently reaccredited for 4 years, in September 2023. We are currently awaiting the official CNA Resolution/Report.



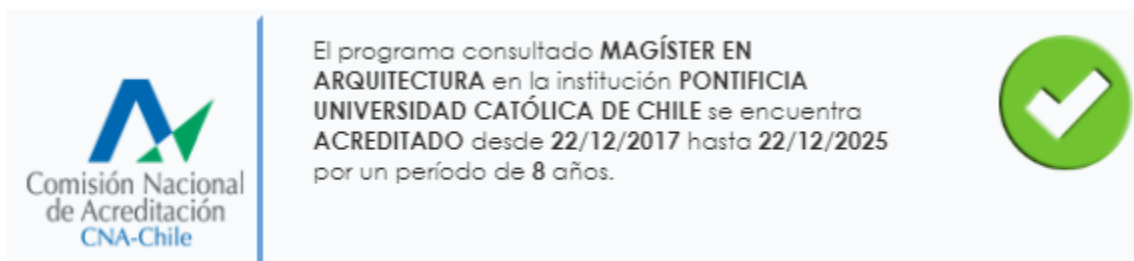
CNA letter certifying years of accreditation: [CNA\\_Accreditation MPUR 2023.pdf](#)

3. **Master's degree in Sustainable Architecture and Energy:** The self-evaluation process was completed in July 2023, and we are currently awaiting a date for the CNA External Evaluation Visit to be held in October/November 2023.



Accreditation Resolution previous process: [Accreditation Resolution MASE\\_N°1199\\_2020.pdf](#)

4. **Master's degree in Architecture:** The latest report dates from 2017, at which time the programme obtained 8 years of re-accreditation. The new re-accreditation process begins in March 2024.



Accreditation Resolution previous process: [Accreditation Resolution MARQ°13\\_2018\\_ACC.pdf](#)

## 8. RESPONSES TO EXTERNAL EXAMINERS OBSERVATIONS

*Up to 3 years of responses*

We have no official responses in this time frame.

For more information on these processes, please contact: [acreditacionesarg@uc.cl](mailto:acreditacionesarg@uc.cl)

## 9. RIBA VISITING BOARD RESOURCE DOCUMENT

1. University and school management
2. Course/programme structure
3. Staffing
4. Studios
5. Assessment
6. Research and scholarly activity
7. Media and production resources
8. Professional practical experience /PPE
9. Admissions
10. Equal opportunities

*Not included in this report, the full document can be found here:*

[2. Visiting Board Resource Document \(ARQ UC CHILE\) 2023.pdf](#)

- **Supplemental Information**

*Brief complementary appendices to supplement some points in the Resource Document in case further explanation is required.*

*Full documentation can be found here:*

[3. Supplemental Information \(ARQ UC CHILE\) 2023](#)

- **Student Academic Portfolios**

*Full documentation can be found here:*

[4. Student Academic Portfolios \(ARQ UC CHILE\) 2023](#)