Degree in

Architecture

Studies

ETSAB GArq

Courses in English 2025-26

Credits:
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Maria Ruiz, Officer
Mireia Nosàs, Officer
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Welcome to ETSA**B**!

The origins of the Barcelona School of Architecture ETSAB date back to the noble School of Arts and Trades La Llotja, founded in 1775. The institution formed Master Builders by means of an official degree since 1850, the most immediate precedent of the future school of architecture. In 1875 the Barcelona School of Architecture would assume definitively its present name and almost a hundred years later, in 1972, the ETSAB became a co-founder of the UPC Barcelona-TECH.

The Barcelona School of Architecture ETSAB is the **largest and oldest university in Catalonia**, with 3,000 students, 400 teachers and more than 50 administrative staff. The school offers training in all stages of university education and plays a **leading role in research and doctoral studies in the Spanish and Latin American contexts**, through departments and research groups. The school is also a leader in the teaching of Landscape Architecture in Spain, in constant collaboration with the most prestigious schools in Europe in this field of knowledge.

The Barcelona School of Architecture has a **continuous influence on the development and design of Barcelona**, a model of architecture and urbanism, and actively participates in the permanent dialogues generated by the city. The school is a world reference in planning, urban design and building. Attentive to debates on environmental culture, it also offers intense technical training, while promoting criticism and historical research through its important archive. As a result, the school is currently ranked among the top twenty schools in the world, according to the QS World University Rankings, and the second in Spain.

To celebrate the ETSAB's 150th anniversary in 2025, this guide reproduces fragments of images from the ETSAB-Càtedra Gaudí Archive at the Escola Tècnica Superior d'Arquitectura de Barcelona – UPC. These images are featured in the exhibition and catalogue of the same name, ***Transhistorical Pedagogies. 150 years of the ETSAB*** held the Espai Picasso, COAC, Barcelona from 10 July to 21 September 2025.

How to Read this Guide?

This guide should be viewed as a collection of elements that do not align perfectly: the images presented may not correspond to the same academic year as the detailed syllabuses, which may differ this year as courses are reformulated annually. However, when considered as a whole, these materials provide an accurate overview of the topics covered by the school's English-language courses.

This guide supplements the detailed information available on the school's website (https://etsab.upc.edu/en/studies/garqetsab/syllabus). These pages show the syllabus and results from previous years of the courses offered by ETSAB in English. You can find extensive information on this here: https://www.instagram.com/open_etsab. To make the most of your time at ETSAB, we also recommend looking at the courses taught in Spanish and Catalan, which are detailed and illustrated here: https://etsab.upc.edu/ca/escola/cultura/publicacions/handbook-etsab/handbook-etsab-2018-2020 and here: https://etsab.upc.edu/ca/estudis/garqetsab/guia-docent/guia-docent-grafica.

For each course, symbols indicate whether the English group is in the morning or afternoon, whether it is in the first or second semester, and which level of the Architecture Studies degree local students need to enrol on.

Fall Semester

Core Courses

	M	A	1	2	1	2	3	4	5
Architectural Representation I	●	○	●	●	○	●	○	○	○
Architectural Representation II	●	○	●	●	○	○	●	○	○
Architectural Representation III	●	●	●	●	○	○	○	●	○
Architectural Representation IV	○	●	●	●	○	○	○	●	○
Design Studio I	●	●	●	○	○	●	○	○	○
Design Studio III	●	●	●	○	○	○	●	○	○
Design Studio V	●	●	●	○	○	○	○	●	○
History II	●	○	●	○	○	○	●	○	○
Structures II	●	○	●	○	○	○	●	○	○
Urban Design I	●	●	●	○	○	●	○	○	○
Urban Design III	●	●	●	○	○	○	●	○	○
Urban Design V	●	●	●	○	○	○	○	●	○

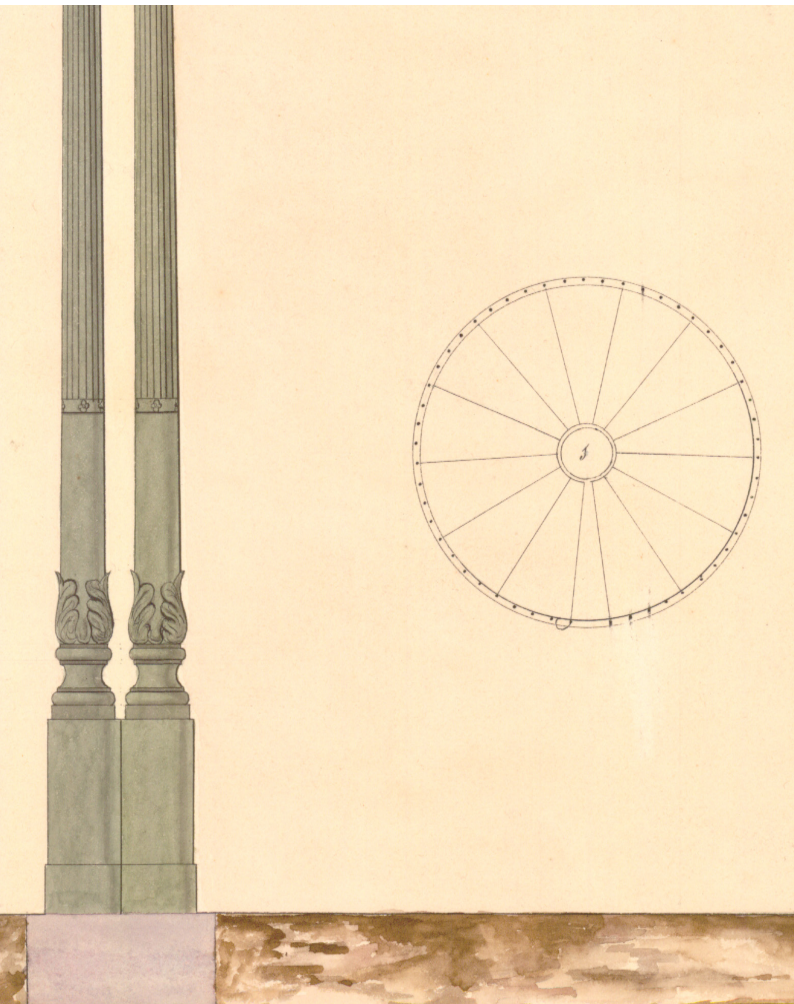
Elective Courses

	M	A	1	2	1	2	3	4	5
Adaptative Architecture, Furniture and Design	●	○	●	○	○	○	●	●	●
Barcelona Light Festival**	●	○	●	○	○	○	○	●	●
History of architectural recycling: heritage; adaptability; symbolism***	●	○	●	○	○	○	○	●	●
Walking Barcelona***	●	○	●	●	○	○	●	●	●

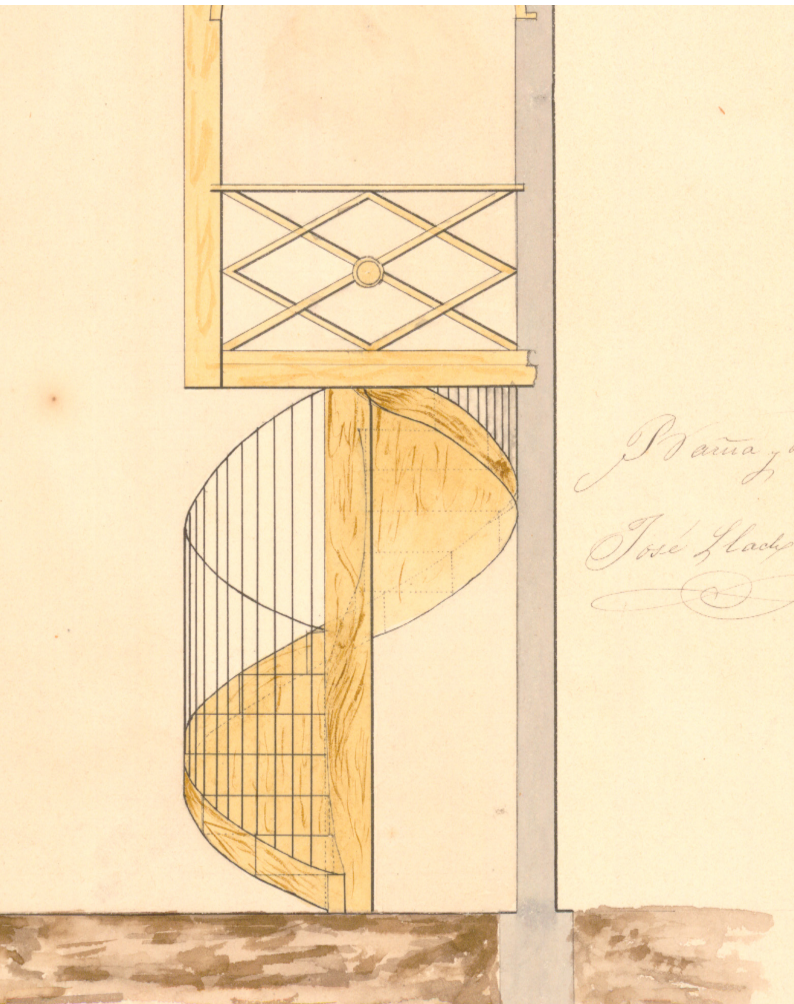
* both subjects require joint enrolment
** semi intensive course
*** intensive course: mornings and afternoons

Eusebi Bona, Pelai Martínez and Josep Maria Segarra, Barcelona university campus - technicalartistic sector, ca. 1955. Fragment.

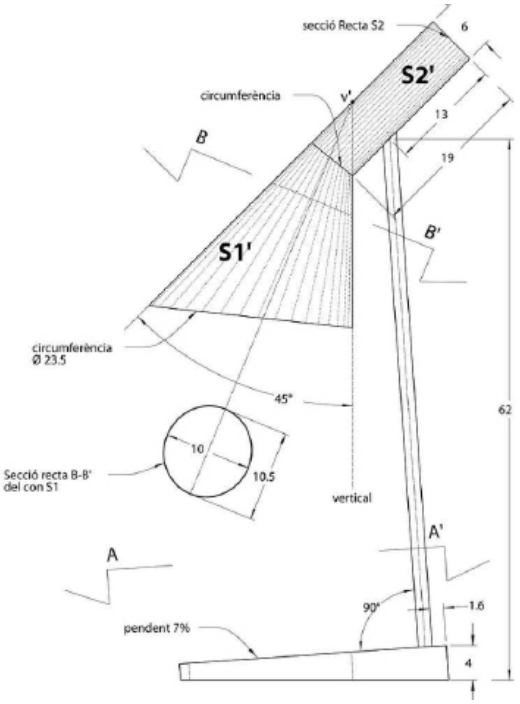
José Llach Tomás, project for a casino in a town of 400 residents, 1859. Fragment.



Core Courses
Fall Semester



Architectural Representation I
Representació Arquitectònica I



Course Learning Objectives

Main objectives

- Master the basic principles and methods of descriptive geometry and its application in architectural design.
- Be competent in the use of computer aided design (CAD) software(s) for the creation of geometric and architectural models.

Specific objectives

- Develop the ability to visualise and represent three-dimensional objects in two dimensions using projection and perspective techniques.
- Correctly apply orthogonal, axonometric and perspective projection techniques to represent architectural objects and structures.
- Create accurate and detailed three-dimensional models using 3D modelling software.
- Interpret and analyse plans and technical drawings and identify constructive and geometric details.
- Solve complex geometric problems by applying principles of descriptive geometry and manual and digital tools.

Analysis and Creativity

- Analyse and solve complex spatial problems through the application of geometric concepts and the use of manual representation and digital media.
- Apply descriptive geometry concepts to explore and develop innovative and creative design solutions.
- Communicate design ideas effectively through accurate and clear graphic representations.

Communication

- Present design projects using digital models and graphic documentation, demonstrating the ability to explain geometric concepts and processes.
- Apply acquired knowledge in real or simulated architectural projects, from conceptualisation to final presentation.

Content

- Basic concepts Architectural Geometry: points, lines, construction plans, metric control.
- Coordinate systems and conic projections and perspectives, auxiliary views.
- Geometric relations: Tangencies, angles, scale, symmetries, proportions, intersections.
- Representation of multiple views, Sections and cuts, Analysis of multiple views, Creation of working planes.
- Solids, intersections, matrices, repetitions, Boolean operations, Transformations
- Conic perspective and types, Vanishing points, Horizon lines, Axonometries, Creating views.
- Conic curves, Surfaces, NURBS, Splines, Roof surfaces, Architectural volumes.
- Assoleig, sun path, orientations, shadows, lighting.
- Image processing - Composition - Visualisation
- Final project documentation, Layouts, Presentations.

Dedication: 125h
Large group/Theory: 11h
Small group/Laboratory: 32h
Directed activities: 12h
Autonomous learning: 70h

Assessment:

Group work and exercises 100%

Continuous assessment will be based on the work that students will carry out during the course, by means of the delivery of assignments or written and/or oral tests, according to the criteria and timetable established.

Final assessment

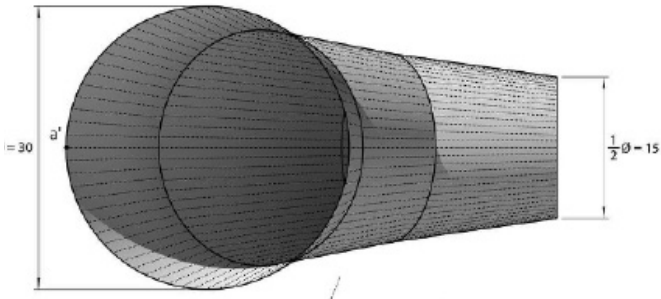
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the following format the format established in accordance with the criteria of the teacher in charge (written or oral test and/or submission of work).

Faculty:

Omar Fabrisio Avellaneda Lopez, course coordinator

First Semester:
Omar Fabrisio Avellaneda Lopez (English Group)
Jose Ramon Domingo Magaña
Lucia Gutierrez Gonzalez
Guillem Haro Barcelo

Second Semester
Omar Fabrisio Avellaneda Lopez (English Group)
Guillem Haro Barcelo
Jordi Subiros Brunet
Hector Zapata Cebrian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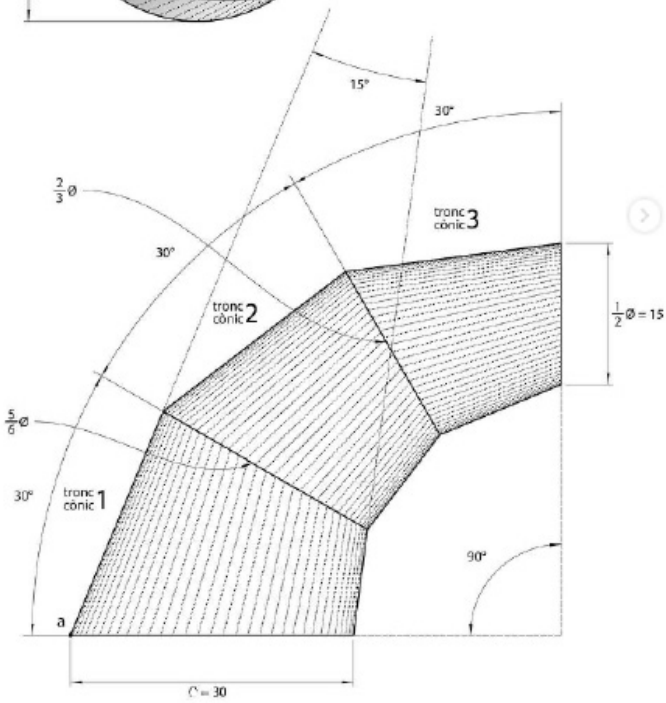
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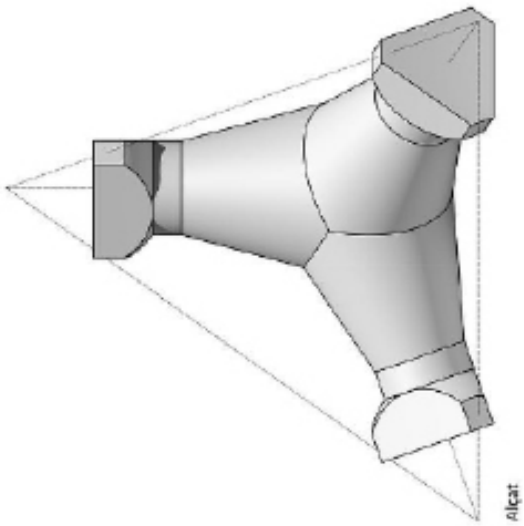
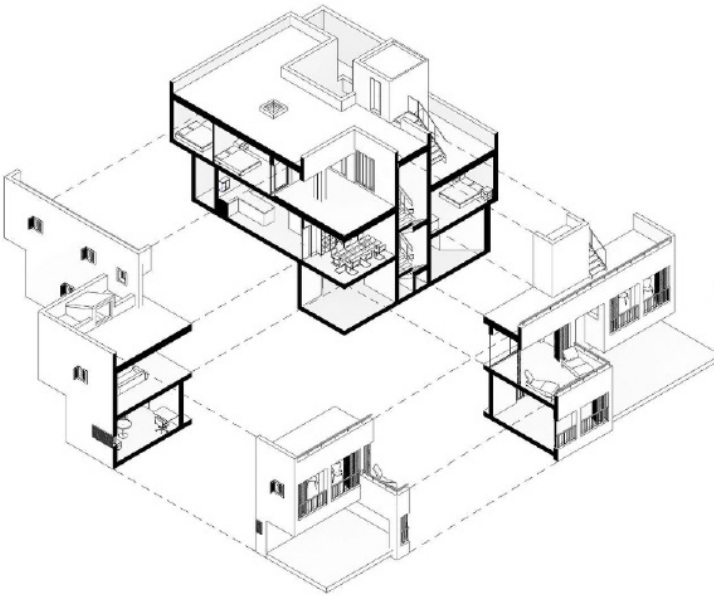

Alçat

Architectural Representation II
Representació Arquitectònica II



Jean Carlos Pimentel

Eduard Carbonell

Learning Objectives:

The subject will be organised through Project-Based Learning -which we will call action-research process-, that is to say, learning to draw by projecting. With the aim of continuing to introduce students to architectural representation through six themes:

/ TOPOGRAPHY/FORM. Aspects relating to form, geometry and geo-localisation. Knowledge, use and manipulation of geometrically defined and situated in the territory/context.

/ SCALE: HUMAN/SPATIAL/TERRITORIAL. Aspects relating to people, in two areas:
1- physical area (ergonomic, dimensional)
2- sensory (perception, senses, movement). Explicitly relate elements at different scales (between 5:1 and 1:50.000).

/ CULTURE/HISTORY/SOCIETY. Social and cultural significance of architecture. Representation and culture of object and place.

/ CONSTRUCTION/TECHNOLOGY. Relationship between the parts and the whole. Exploding and addition. Deconstruction-Identification-Reconstruction. Processes, stages and sequences. Generative processes, transformations.

/ PHYSICAL REALITY AND ABSTRACT REPRESENTATION. Ability to interrelate and work together from physical reality (direct observation and personal extraction of data) and representations or data that explain or describe unvisited or non-visited realities.(direct observation and personal extraction of data) and representations or data that explain or describe unvisited or non-physically existing realities.

/ SUSTAINABILITY CRITERIA. Triple bottom line: Economic/Ecological/Social. Transversal and explicit application of environmental and social as a factor for the assessment of proposals/interventions.

Specific learning objectives:
O1.- Understand and apply the fundamental principles of descriptive geometry in order to represent three-dimensional objects in two.
O2.- Develop spatial visualisation skills to interpret and modify complex geometric designs, with an appropriate and personal style.
O3.- Use geometric tools and techniques to solve practical problems related to architecture, with control of the architectural vocabulary and precision.

Programme:

In the subject of Architectural Representation II, the aim is to provide students with the tools and techniques necessary to solve problems in descriptive geometry, focusing also on the different systems of geometric representation. First, the course will continue with the dihedral system, where students will represent the architectural object in orthogonal projections, including plan, elevation and profile, and to solve problems of intersection of geometric bodies. Next, axonometric projections will be explored, allowing students to draw in axonometric projections, in order to better visualise and communicate the project. In the conical system, special emphasis will be placed on the creation of photomontages, using photographs of the real environment to integrate the design in a realistic way. This will include calculating the focal length and adjusting the angle of view to ensure an accurate representation. Students will also tackle the design of ramps and stairs, applying geometric and normative principles to guarantee the functionality and safety of the design. Finally, they will work with the topography of the site, interpreting and modifying topographical plans to adapt the project and condition it to the shape of the terrain, using geometric tools

and techniques to make the necessary adjustments.
This integrated approach will allow students to develop skills in spatial visualisation, technical communication and practical application of descriptive geometry knowledge in real architectural projects.

Assessment:
Long-answer tests 80%
Group work and exercises 20%

Continuous assessment
The continuous assessment will be based on the work that students will carry out during the course, by means of the delivery of assignments or
written and/or oral tests, according to the criteria and timetable established.

Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the format established in accordance with the criteria of the lecturers responsible (written or oral test and/or submission of assignments).

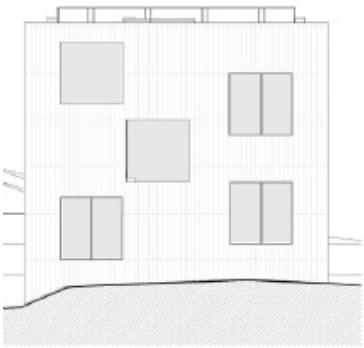
Faculty:
Francisco Javier González Pérez, course coordinator

First Semester:
Francisco Javier González Pérez
Manuela Ianni
Jordi Subirós Brunet
Hector Zapata Cebrian (English Group)

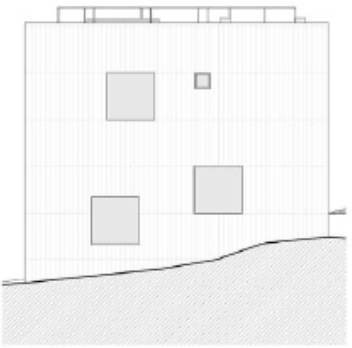
Second Semester
Francisco Javier González Pérez
Jose Ramon Domingo Magaña
Jordi Subirós Brunet
Sebastian Francis Harris (English Group)

Planta Baja
1 : 100

Planta Primera
1 : 100



Alzado Izquierda
1 : 100



Alzado Frontal
1 : 100

Neus Cardona Cardona

Pedro Manuel Vázquez

Architectural Representation III
Representació Arquitectònica III

Yelyzaveta Hryhorieva

Tobias øygard Skodvin

Daniel Fernandez Cosmo

Architectural Representation III focuses on the visual simulation of models and urban and architectural designs. Because of the quick evolution of architectural rendering software, fuelled by the progress in both software and hardware through the innovations from the videogame industry, during the course multiple software is employed in the different groups: non-real time renderers (V-Ray, Corona, Blender), real time renderers (TwinMotion, Enscape, D5), and modelers (3DS Max, SketchUp, Blender). This variety of software has the objective of illustrating the strengths and weaknesses of the different options, and encourages learning multiple alternatives to adapt to different and changing circumstances.

The course is structured in three thematic blocks of roughly the same duration of one month, depending on the specific available dates during the academic year. While the three blocks are independent and focus on different aspects of the curriculum, they are related because they share the same urban setting around which the course is structured.

At the beginning of each block the task statement of the exercise to be developed is provided, along with supplementary material that may be required. During the development of each of the block the required concepts are introduced and explained, following examples that are developed in the classroom and projected onto the screen. These lessons are also supported by material in PDF format and recorded videos. As each block is developed, the format of the classes gradually phases to an eminently practical and applied format, where the students develop their proposals with the support of the instructors.

First block:

The first and initial block focuses on the visual simulation of an urban proposal consisting in the articulation of modular dwellings within its urban context, in coordination with the urban design course of the same year. The objective is learning the basic operation of the software that will be used during the course: management of digital models; lighting simulation in daylight and night-time situations; inclusion of vegetation, urban furniture, and virtual characters; topographic manipulation; production of model cut-outs and elevations; and presentation of the results. In this block only (near) real-time render engines are used, and the complexity of colour and texturing is not yet introduced, generating only monochrome volumetric studies.

Second block:

The second block focuses on a photomontage, and consists of integrating a virtual digital model within a photograph of an urban context. The objective is understanding the capture of a snapshot of reality and replicating the process digitally: matching the perspective and point of view from the vanishing points of orthogonal pairs of parallel lines in space; learning the operation of a physical camera and its virtual counterpart; estimating and matching the sun position; replicating the sun and sky contribution to lighting; integrating the virtual model using simulated shadows, reflections and indirect lighting; post production and layering to achieve the final composition.

Third block:

The third and last block focuses on the realistic simulation of an interior or interior/exterior space, achieving the maximum quality that modern render engines are capable of. The students are provided a model of an architectural space where they must define realistic materials and accurate lighting, placing objects according to the intended use and establishing the point of view of the image to explain the architectural or urban proposal. In this block the students can also produce a rendered image of the project that is developing in the project design course in the current academic year.

Additional exercise:

Finally, there is a complementary exercise that is not compulsory to deliver to receive a passing grade but contributes a small amount to increasing the final grade, which consists of a video animation of the proposal, taking advantage of the increased speed in modern rendering engines to produce video content in a short amount of time. The video can include camera movement, changes in sun position, whether effects, animated persons and vehicles, moving architectural elements like opening doors or revolving fans, and even contextual audio.

Assessment:

During the last week at the end of each of the blocks, the work developed by the students is delivered electronically in the Atenea platform, and a practical exam is conducted focusing on the most crucial aspects explained in each of the blocks.

In addition, the deliverables of the first and second blocks can be improved and re-submitted for evaluation until the end of the course. If all the blocks are passed, the students attain a passing grade for the course (continuous assessment). After this evaluation, there is a final exam that the students that have not obtained a passing grade or have not been able to follow the course can conduct. Furthermore, the students with a passing grade can also opt to increase their grades in this exam, and their final grade will never be lower than the one attained by continuous assessment.

Faculty:

Francesc Valls Dalmau, course coordinator

First Semester
Francesc Valls Dalmau (English Group)
Juan Ignacio Valgañon Alvarez

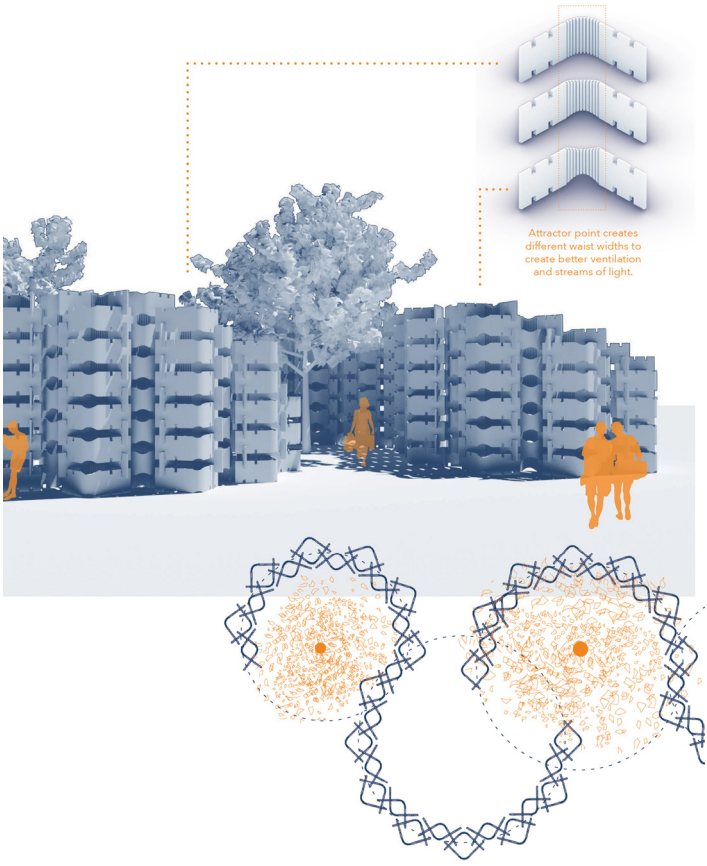
Second Semester
Francesc Valls Dalmau (English Group)
Anna Mañosa Tarruella
Alberto Marin Navarro
Alberto Sanchez Riera
Juan Ignacio Valgañon Alvarez

Carla Berlanga Santiago

Clara Llonch Vidal

Rita Arenas Martin

Architectural Representation IV
Representació Arquitectònica IV



Vera Bensch

Gerard Amengual Vives

Contents:
Architectural Representation IV focuses on parametric modeling and environmental simulation applied to architectural design. The course introduces students to visual programming methodologies using parametric software such as Grasshopper, enabling the development of constructive solutions for façades, roofs, and structures. It also incorporates digital simulation tools to analyze the environmental performance of architectural proposals, combining parametric logic with structural and environmental behavior. The course is oriented toward applied design processes, where students progressively integrate knowledge into practical exercises and a final project.

- / Knowledge of the tools necessary for the application of work with objects in the development of the architectural project.
- / Control of architectural elements in global building information systems.
- / Generation of architectural application components through integration in metric and constructive control systems.
- / Resolution of the implantation of the building in the natural space. Graphic control of the topography of the terrain.
- / Introduction to parametric systems of free geometry forms in the application of architectural projects. Application of parametric tools for the resolution of architectural forms.
- / Interaction of parametric tools in order to give versatility and modification possibilities in the elaboration of building processes.
- / Basic knowledge in the management and research of construction processes.
- / Knowledge of the possibilities of exchanging graphic and alphanumeric information for its application to the technical processes of calculation and the representation of shapes and forms.

The course is structured in four main thematic blocks, each addressing specific aspects of parametric modeling, geometry generation, simulation, and project integration.

First block: Basic principles and fundamental geometries

- / Introduction to Grasshopper
- / Concepts of point, plane, vector
- / Components and basic data management
- / NURBS curves and parameterization

Second block: Generation and manipulation of geometries

- / Complex representations: Data Tree and ordering strategies
- / Control of complex geometries through lists and hierarchical structures
- / Mesh subdivision: use of Weaverbird
- / Introduction to smoothed surfaces and polygonal meshes

Third block: Digital simulation and environmental performance

- / Structural simulation using Kangaroo (cables, membranes, catenaries)
- / Concepts of elastic behavior and simulated physics (Hooke, shells)
- / Environmental analysis with Ladybug (sun, radiation, shading)

Fourth block: Final project

- / Development of a self-directed architectural project in pairs
- / Integrated application of modeling, data, and simulation
- / Production of graphic documentation and final presentation

Assessment:

Long-answer tests 70%
Multiple-choice tests 20%
Individual work and exercises 10%

Continuous assessment
Continuous assessment will be based on the work carried out by the students during the course, by means of the delivery of assignments or
written and/or oral tests, according to the criteria and timetable established.

Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the following format
the format established in accordance with the criteria of the teacher in charge (written or oral test and/or submission of work).

Rules for Taking Tests:

In order to carry out the assessment tests, it will be necessary to use a portable personal computer, with a network connection, capable of working with computer graphics programmes.

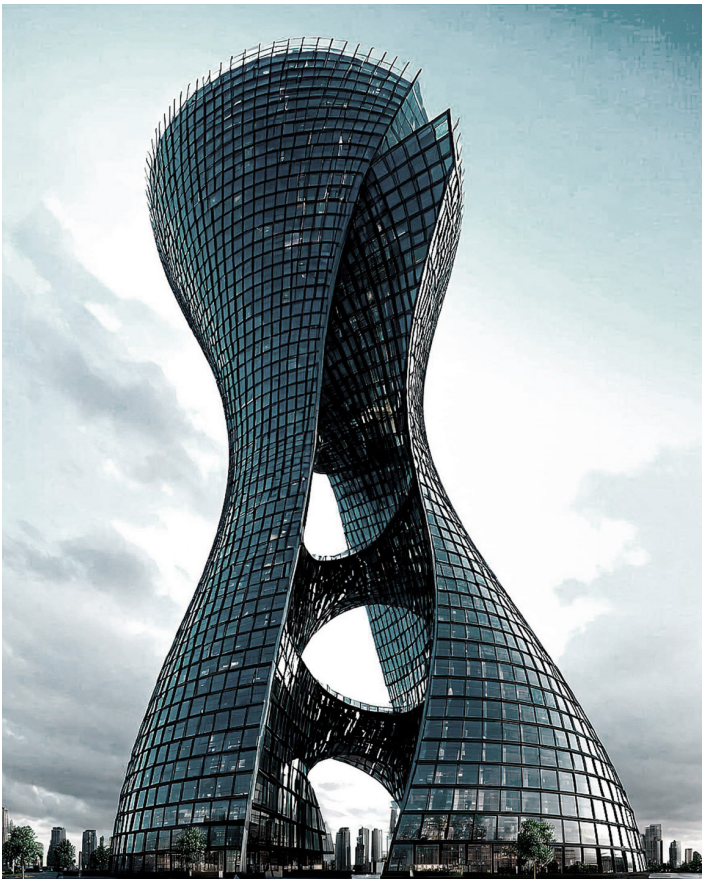
Faculty:

Isidro Navarro Delgado, course coordinator

First Semester:
Isidro Navarro Delgado (English Group)
Omar Fabrisio Avellaneda Lopez
Joaquim Narcís Moya Sala
Galdric Santana Roma

Second Semester
Isidro Navarro Delgado (English Group)
Luis Gimenez Mateu
Joaquim Narcís Moya Sala
Galdric Santana Roma

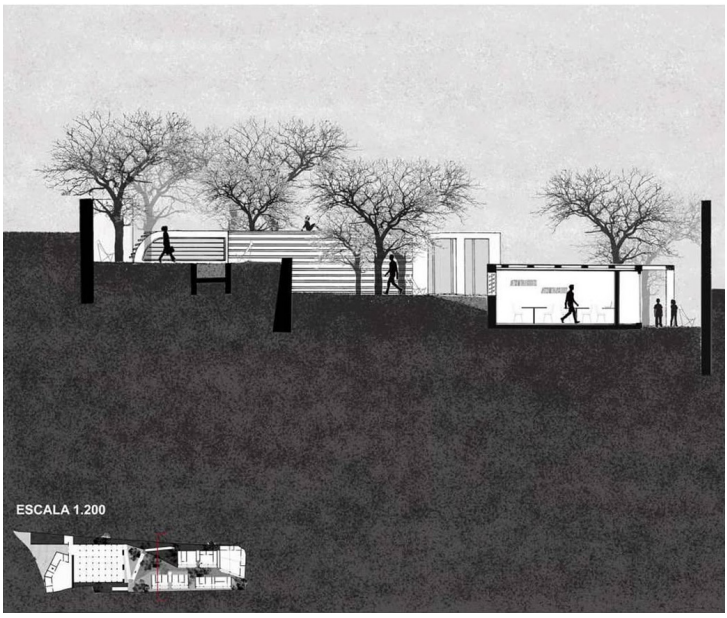
Santi Brualla Alcaraz + Sofía Borrell García



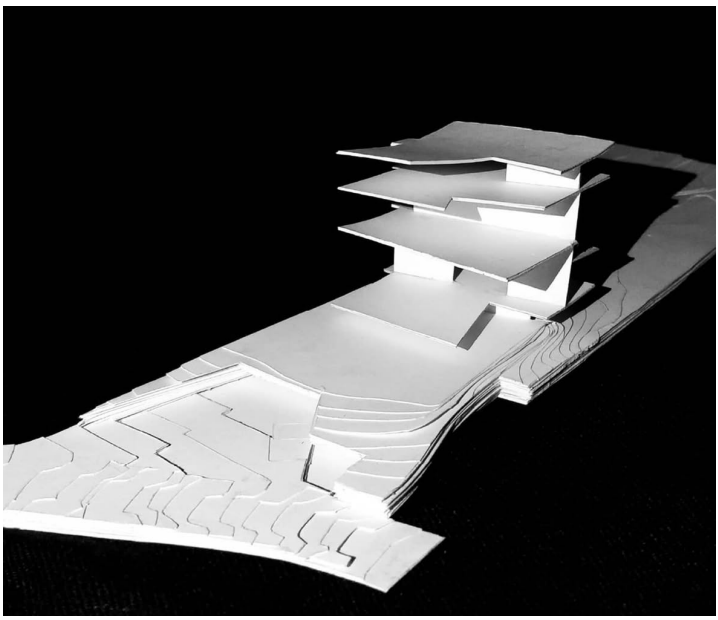
Manel Ayala Jané + Pablo Navarro Ruiz

Design Studio I
Projectes I

Design Studio I / Morning group
Sergio Garcia



Design Studio I / Morning group
Foix Garriga



Design Studio I / Morning group
Helena Bonet

The course aims to provide students with knowledge and understanding of the genuine usefulness of architecture and of the relationships that its inherent forms establish with ways of living, locations, and techniques. This knowledge is approached from a historical perspective in order to be applied critically to architectural design. At the same time, the course seeks to develop both analytical skills and concrete imagination, using graphic representation abilities as a means to cultivate the capacity for abstraction that allows architectural practice to be grounded in the conception and formalization of reality.

Students are encouraged to design architecture by consciously employing basic spatial matrices and technical systems of a strictly formal nature, which, when brought into relation with life and place, acquire meaning and anthropological value. The course also emphasizes the practice of oral and written communication in architectural contexts, both through public presentations and evaluations of learning outcomes and in collective debate sessions on the theoretical premises employed and the values that underpin them.

Finally, the subject introduces students to the acquisition of the ability to conceive and develop architectural projects in all their standardized formats, including preliminary design, basic design, and execution project.

By conceiving the project as a task aimed at organizing and spatially formalizing life in a place through technical resources, students' work begins with objective construction systems, specific spatial elements, and concrete uses. The purpose is to achieve a coherent architectural form, one capable of resolving the conflicts between the technical systems employed, endowed with its own meaning, and participating in the construction of a place. In this way, students come closer to understanding the relationships between building and inhabiting through the inherent forms of architecture. The exercises, carried out on an approximately monthly basis, require the combination of different structural and construction systems with various types of sites.

Content of the proposal, submission documents, and working scales:

Documentation of the current building and its surroundings will be provided, as well as basic information on the construction systems. Students must familiarize themselves with the existing building, its qualities, and material constitution to modify it consciously and exploit its potential. Student might draw the current state before proposing a reorganization. The exercises involve awareness of urban space and appreciation of the qualities and conditions of pre-existences. It must demonstrate knowledge of basic construction systems.

The definition and location of the new construction and the relationship of all new and existing elements will be evaluated. Clarity and internal logic of the proposal, quality and variety of graphic delineation techniques will be assessed. The neatness, eloquence of the drawing, the ability to distinguish structural systems from enclosures, and the ability to represent vegetative elements will be valued. Recognition of the existing architecture will be assessed. The quality and appropriateness of the resulting spaces will be evaluated.

Assessment:

Continuous assessment

Continuous assessment will be based on the work carried out by students during the course, through the submission of assignments or the completion of written and/or oral tests, according to the criteria and schedule established.

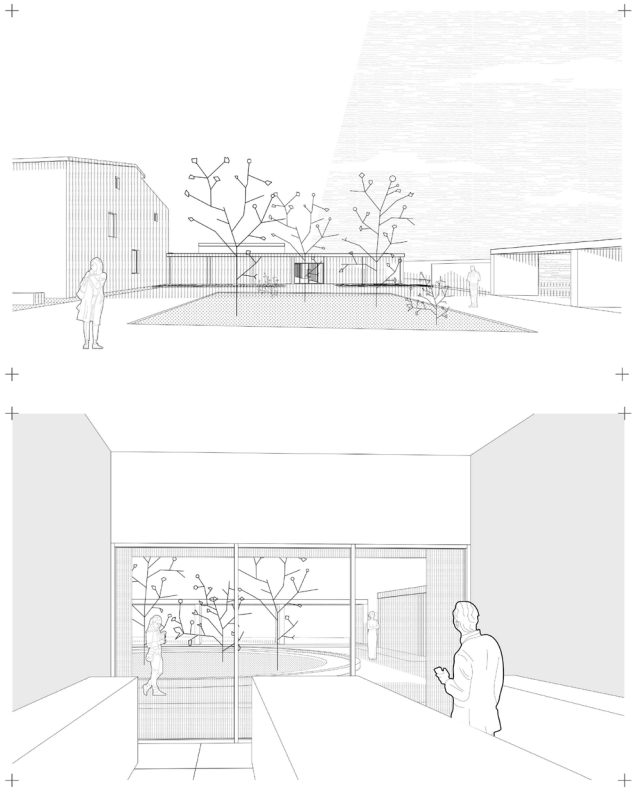
Final assessment

If the continuous assessment is not satisfactory, a second assessment may be undertaken. This will consist of a comprehensive final test in the format determined by the responsible teaching staff (written or oral test and/or submission of assignments).

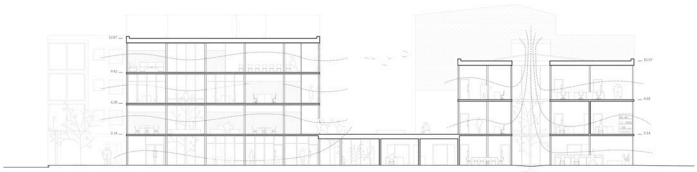
Faculty:

Morning Group
Cristina Gaston Guirao, course coordinator.
Andreu Arriola Madorell
Laura Bonell Mas
Mamen Domingo Domingo
Jan Güell Rotllan (English Group)
Eva Maria Jiménez Gómez
Eduardo Miralles Millon
Estel Ortega Vázquez

Afternoon group
Jaime Jose Ferrer Fores, course coordinator.
Ignacio Martinez Molina
Yolanda Ortega Sanz
Jofre Roca Calaf
Jorge Roig Navarro
Sergi Serra Casals



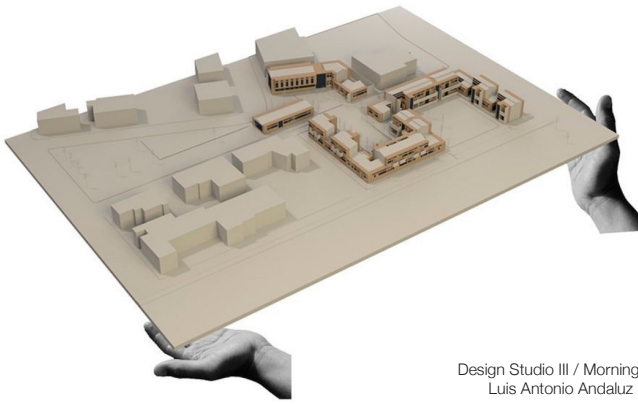
Design Studio I / Afternoon group
Núria Espina



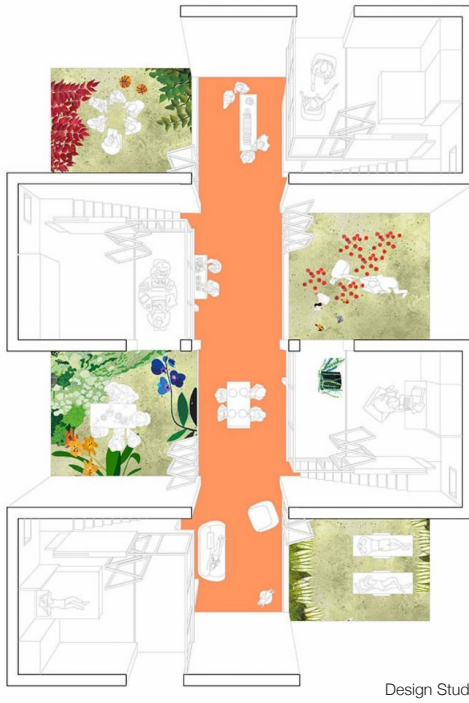
Design Studio I / Afternoon group
Núria Espina

Design Studio I / Afternoon group
Núria Espina

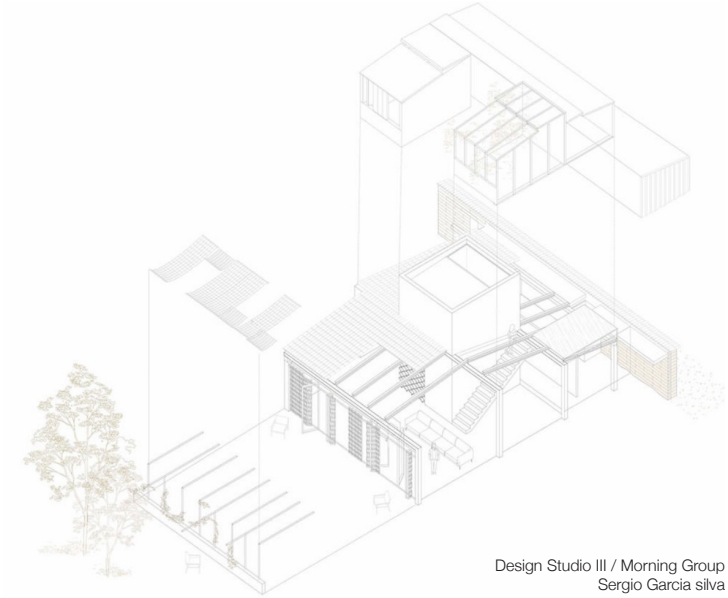
Design Studio III
Projectes III



Design Studio III / Morning Group
Luis Antonio Andaluz Burgos



Design Studio III / Morning Group
Justine Valois



Design Studio III / Morning Group
Sergio Garcia silva

Design Studio III aims to consolidate the design knowledge acquired in previous courses while beginning to understand the project in all its complexity. To synthesize within the project the specific content of other subjects, a synthesis exercise that takes place for the first time in this course within the architecture degree.

This course is dedicated to the relationship between housing design and the city. The relationship of the project with its surroundings and the complementarity between building and public space are, from this perspective, essential questions. This approach to the project aims to facilitate work at different scales and give meaning to a continuous process of reflection. The public–private duality is a fundamental aspect in the case of housing, and the transitional spaces that emerge from this issue are especially important—particularly the ground floor, where the inevitable contact between the verticality of the building and the horizontality of its environment takes place.

The objective of this course is to understand and analyze the different systems of residential aggregation. This involves both the understanding of aggregation mechanisms and the consequences of their application in terms of density, organization, and urban form.

To understand the topic of housing as the core of the social life of cities and individuals, by assimilating the basic habitability requirements and housing programs. Special attention must be paid to the programmatic and dimensional questions that the project is required to resolve in a reasonable and effective manner. This deliberate closeness to real circumstances should not be seen as a limitation—on the contrary, it is in the real world of contingencies that the project can fully develop.

To understand the project through the disciplinary tools of the profession, and in particular through attention to the site in its broadest sense, the social organization of a program, the consideration of new ways of living, and the proposal of the spatial container through the implementation of geometry, construction systems, material, and light. In this sense, experience is understood as an important ingredient in the intellectual formation of future architects.

To practice the communication of the architectural project in all its forms: oral, written, graphic, and through representation models. Its scope will include public presentations and evaluations as well as collective debate sessions.

Course contents:

The course proposes the development of collective housing projects through successive deliveries, with special attention given to site analysis and its relationship with the city. Beyond this connection to the urban context, emphasis will be placed on the organizational and typological definition of the housing complex, as well as on the development of a housing program that includes reflection on interior activities and the value of communal or transitional spaces. In light of the constant evolution of society, its ways of living, technological advancements, and an increasing awareness of energy efficiency, it is timely to question how these concepts influence design thinking—particularly when it comes to housing.

Assessment:

Continuous assessment

Continuous assessment will be based on the work developed by students throughout the course, through the submission of assignments or the completion of written and/or oral tests, according to the criteria and calendar established by the teaching staff.

Final assessment

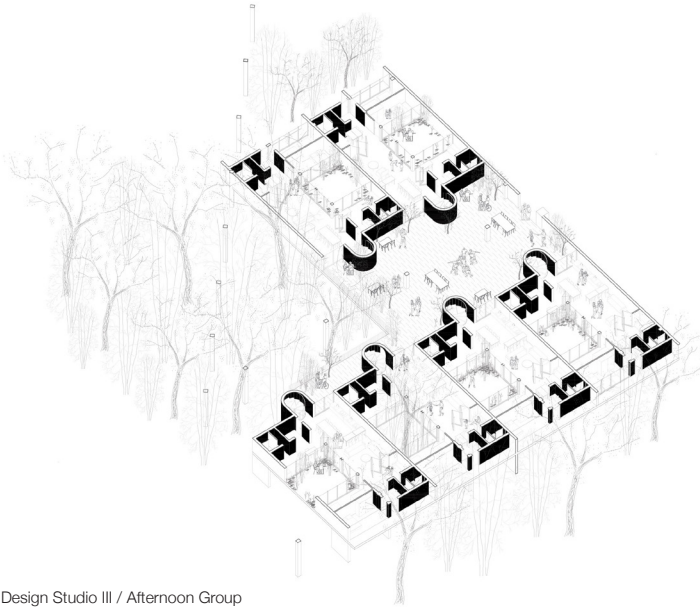
If the student does not pass continuous assessment, a second evaluation will be offered. This will consist of a final, global test in a format determined by the responsible faculty, which may include a written or oral exam and/or the submission of coursework.

Faculty:

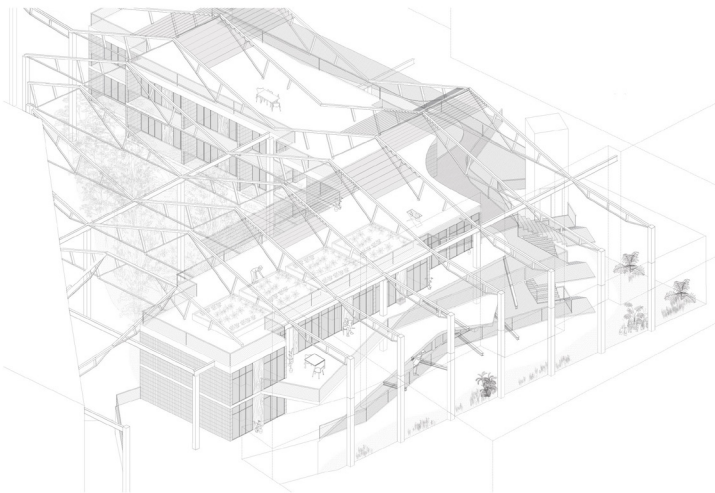
Morning group
Jaime Coll Lopez, course coordinator.
Eduard Callís Freixas
Cristina Gamboa Masdevall
Ariadna Perich Capdeferro
Arnau Sastre Cuadri
Marc Subirana Ribera
Roger Such Sanmartin
Antoni Vidal Jordi (English Group)

Afternoon group
Pere Joan Ravetllat Mira, course coordinator.
Marta Peris Eugenio, course coordinator.
Jordi Badia Rodriguez
Pau Genís Bajet Mena (English Group)
Concepcion Balcells Blesa
Miquel Mariné Nuñez
Pablo Roel Herranz
Xavier Ros Majo
Aleix Salazar Aloy

Design Studio III / Afternoon Group
Dani Mañan i Jaume Monroig



Design Studio III / Afternoon Group
Daniel Fernandez



Design Studio III / Afternoon Group
Martí Hereu i Sakura Gamez

Design Studio V
Projectes V

Design Studio V / Morning Group
Catalina Maria Ginard

Design Studio V / Morning Group
Carmen Sanz

The course of Design Studio V is fundamentally a studio-based discipline. It is its natural field of development. But as such, it necessarily needs to draw on other subjects in order to achieve its objective: the realization of an architectural project. It is therefore cross-disciplinary, as it brings together the knowledge acquired in other areas of study. Students must apply and combine skills and concepts learned in Architectural History, Construction, Structures, or Urban Design, among others. The process and evolution of the design exercise must therefore establish a balanced relationship among all of these disciplines.

The course deals with buildings and public spaces. Their relationship is necessary and essential. This allows for a reflection on the project at different scales, from its urban placement to its material and spatial reality:

- / Urban planning
- / Historical awareness
- / Analysis and study of reference projects
- / The program as a requirement, and structural and constructive awareness as determining aspects of the project
- / Incorporation and optimization of energy resources and sustainability

Working with assignments framed within the concept of "building and public space" makes it possible to prioritize the study of structural, constructive, and energy-related aspects, which form part of the preliminary considerations the project must address from the outset.

The public building as a meeting place for social activity. Its location in the city. The requirements and demands of its functional program. The role of architectural techniques as design tools in the determination of form.

It is essential to address the real complexity of programs and to understand their architectural dimension. A vision of economy must be fostered that includes criteria for optimizing energy resources.

The architectural project is intimately linked to intellectual work, requiring a balance between theory and practice. The relationship between theory and practice must be one of mutual reciprocity. Practice offers multiple dimensions and responds to diverse needs. Theory does not have its own method of work or knowledge; it depends largely on other disciplines, although the architectural work itself is what truly sustains it.

Course contents:

The course proposes the development of public building and public space projects. It complements the previous course and reinforces similar parameters. The objective is the integration and consolidation of technical requirements (structural, construction-related, energy-related, historical, and referential) as fundamental tools for achieving the level of definition required by the project. This course is understood as a design tool from the outset.

Public buildings—whether single-function or multi-functional—present various levels of complexity. One aspect is their urban integration, acting as focal points for collective activity. A second aspect lies in the specific complexity of the program, beyond the concept of type. To this must be added the intrinsic characteristics of structure and the construction process. Compared to the previous course, this studio introduces a higher degree of complexity, as it builds on tools and knowledge already initiated in earlier stages.

Morning group:
- / Preliminary analysis: 10%
- / Intermediate proposal: 30%
- / Final submission: 45% (also used for final assessment: 100%)
- / Model: 15%

Afternoon group:
- / Preliminary analysis: 10%
- / Intermediate proposal: 30%
- / Final submission: 45% (also used for final assessment: 100%)
- / Model: 15%

Continuous assessment
Continuous assessment will be based on the work carried out by students during the course, through the submission of assignments or the completion of written and/or oral tests, according to the criteria and schedule established in the specific course syllabus.

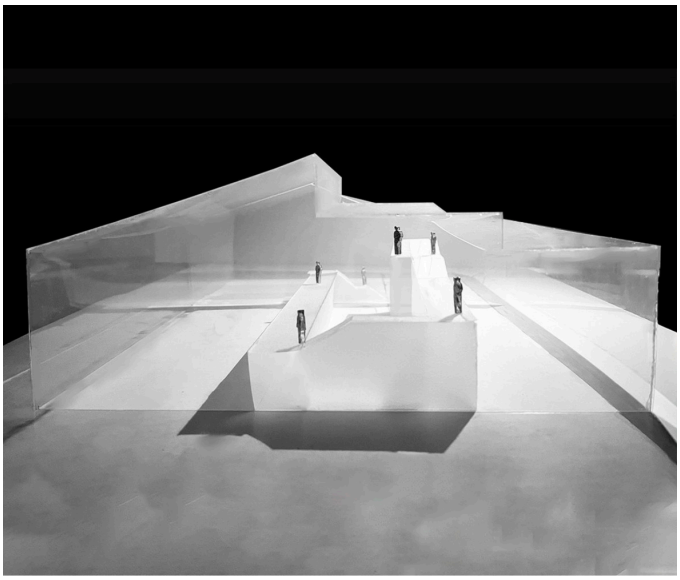
To be eligible for continuous assessment, students must meet two requirements:
1. A minimum attendance rate of 80%
2. Completion of all partial submissions as defined on Atenea

Final assessment
If the continuous assessment is not successfully passed, a second evaluation may be undertaken. This will consist of a final global assessment, in the format determined by the responsible faculty (written or oral exam and/or submission of coursework).

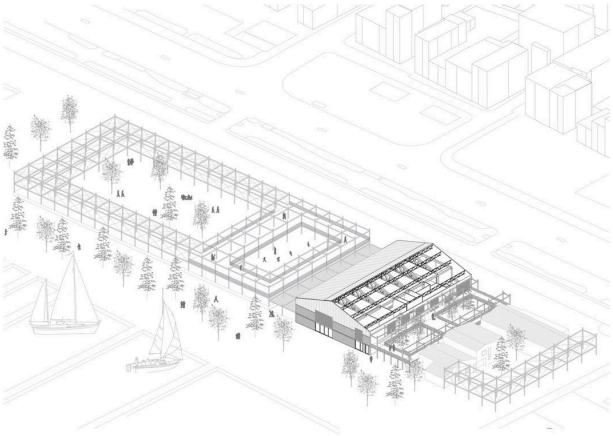
Faculty:

Morning group
Elena Fernandez Salas, course coordinator.
Jordi Adell Roig
Luis Felix Arranz San Vicente
Eugeni Bach Triado
Oriol Cusidó Garí
Martí Sanz Ausas
Marta Domenech Rodriguez (English Group)

Afternoon group
Fèlix Solaguren-Beascoa de Corral, course coordinator.
Antoni Barcelo Baeza
Maria Pilar Calderon Martinez
Cristobal Fernandez Zapata
Gustau Gili Galfetti
Carlos Vinardell Puig



Design Studio V / Afternoon Group
Adrián de Luna Fernandez



Design Studio V / Afternoon Group
Mireia Parramón Verdú

Design Studio V / Afternoon Group
Mireia Parramón Verdú

History II
Història II

Modernity from Industrial Revolution to the Archistar System

The program is organized following a thematic subdivision in four blocks. Each session will have the first hour and a half dedicated to the proper lecture from the table, while the rest of the time will be for guided debate and workshops around the requested individual paper.

We will work around the concept of 'critical history', meaning that we won't present our version of history as the only and truer reconstruction of events. On the contrary, instead, we will look at the topic with critical attitude, aimed at revealing problems, rather than pacifying them. Therefore, no idols, prophets or truths will be exposed, but authors, theorists and cultural trends.

In a school of Architecture, History is an essential component of the critical growth of the students towards a higher disciplinary maturity. Therefore, History cannot but be understood as a kind of legitimation of some type of contemporary intervention over another, nor grant eternal approval. Simply, it configures a territory of knowledge where critical intelligence constructs the version of the facts, using verifiable methods with criteria of plausibility, without aspiring to impose an interpretive univocity.

Content:

1. The arrival of the future: Modernity and metropolis. Technical changes and renewal of architectural languages.
   - / London: Ruskin, Morris, Arts&Crafts, Howard, Unwin, Geddes.Paris: Haussmann, Henard, Viollet-le-Duc, Art Nouveau, impressionism.
   - / Vienna and the crisis of forms: Wiener Secession, Klimt, Olbrich, Hoffman, Sitte, Wagner, Loos.
   - / Berlin, industry and metropolis: the Deutsche Wekbund, Behrens, Poelzig, Mendelsohn, Taut, Scharoun.
   - / The architecture of the future in the United States: the Chicago School, Richardson, Sullivan, Burnham and the City Beautiful. Wright: From Prairie Houses to Broadacre

2. Vanguards: the militant Modernity. Futurism, dadaism, surrealism.
   - / Russian Suprematism and Constructivism: Malevic, Lissitzsky, Tatlin, Melnikov, Ginzburg, Vesnin.
   - / Formal abstraction: Dutch De Stijl: Mondrian, Rietveld.
   - / First and second Bauhaus: Gropius, Meyer.
   - / Le Corbusier until 1930. Le Corbusier and the unspeakable space.

3. A plural scene. Modernity in motion
   - / Mies van der Rohe between Germany and United States.
   - / Viennese modernity and physical culture in the American West: Schindler and Neutra.
   - / GATCPAC, Tecton, Austral, TVA.
   - / Italian Rationalism and the era of totalitarisms.
   - / Wright and the return to America of wonders.
   - / Alvar Aalto: the affable utopia.

4. Modernity in crisis
   - / Neoempiricism, neorealism and new monumentality: Scandinavia, England, Italy after the 2nd world war.
   - / Team X, New Brutalism: Aldo van Eyck, A&P Smithson.
   - / Situationist drift and megastructural utopias: Debord, Constant, Tange, Archigram.
   - / Louis Kahn: from the dialectic between form and design, to the sublimation of light.
   - / Aldo Rossi: the city of memory.
   - / Robert Venturi: the language of communication.
   - / Design from New York: Hejduk and Eisenman.
   - / New image and fall of the wall: Koolhaas, Gehry, Hadid.

Activities:

- / Presentation of case studies that synthesize key topics developed in the theoretical sessions.
- / Presentation of topics and problems for their development in collective discussion.
- / Visits to exhibitions or temporary events related to the subject matter of the course.
- / Interdisciplinary lectures through cinematography, aesthetic culture materials, literary reflections, etc.
- / Detailed study of cases through graphic re-elaborations and three-dimensional restitutions of analytical character.
- / Orientation and documentary and bibliographic research of the artistic and architectural work.

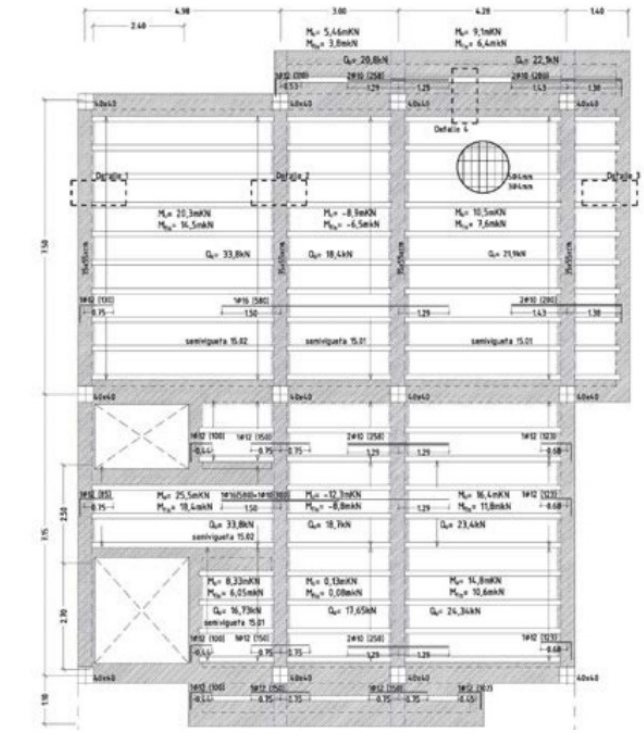
Faculty:

Guillem Carabí Bescos, course coordinator.
Antonio Pizza de Nanno, course coordinator,¡.
Helena Martin Nieva
Ruben Navarro Gonzalez
Alessandro Scarnato (English Group)

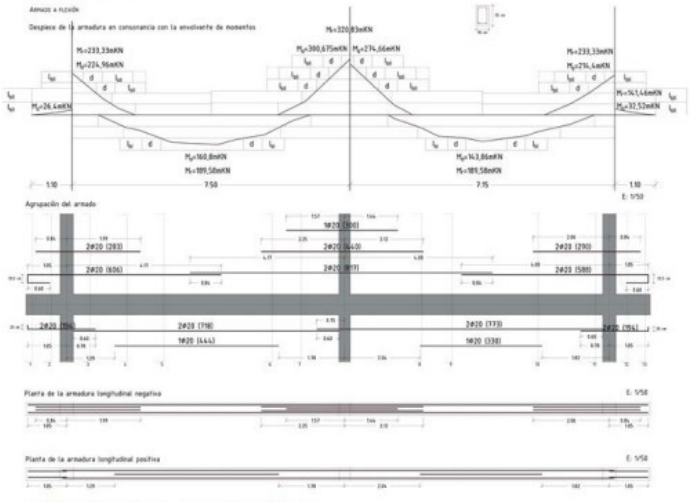

ESPACIO, TIEMPO y arquitectura
Sigfried Giedion
Pioneros del Diseño Moderno
Nikolaus Pevsner
Mies van der Rohe
Textos completos, 1922-1969
WALTER GROPIUS
INTERSECCIONES
Hacia una arquitectura
Le Corbusier
Louis H. Sullivan


escritos
DEPERO
Aldo Rossi
La arquitectura de la ciudad
Historia crítica de la arquitectura moderna
Kenneth Frampton
autobiografía científica
aldo rossi
GG REPRINTS
AUTOBIOGRAFÍA CIENTÍFICA
ALDO ROSSI
Louis I. Kahn
Robert Venturi
Complejidad y contradicción en la arquitectura

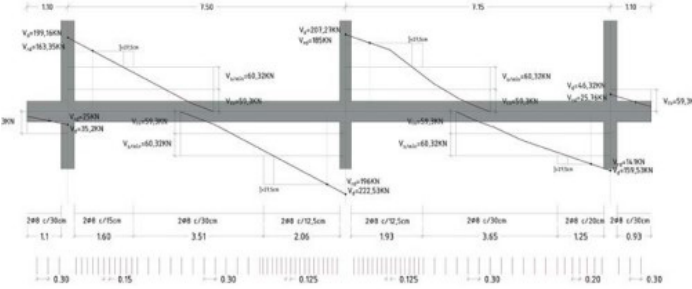
Structures II
Estructures II



Beam details



Reinforced bending ↑ and reinforced shear ↓



The main objective of this course is to introduce the design of reinforced concrete structures through basic concepts about their behaviour and design criteria. The course uses a specific typology (i.e., frame structures with beam-and-block floor system) as a common thread to explain design criteria and calculation procedures.

The course focuses fundamentally on the structural typology of rigid concrete reinforced concrete reinforced beam and one-way bidirectional columns. The teaching will emphasise the suitability and field of application of each structural typology and the relationship between architecture and structural design. The training carried out will also enable the pre-dimensioning of the main elements of the structure (pillars, girders and slabs), as well as the determination, at a basic level, of the stresses they require and their main reinforcements.

The course is developed along a common thread, the design of the reinforced concrete bar structure of a residential/office building, in which the student works from the structural design phases to the pre-dimensioning and analysis of the main elements of the building.
The student works from the structural design phases to the pre-dimensioning and analysis of the main elements that make up the framework of the building. that make up the resistant framework.

Structure:

The course will be organized with theoretical classes on Mondays and fully practical classes on Tuesdays. Theoretical classes provide an essential foundation for the design of reinforced concrete buildings. So, the course will be organized as follows:

On Monday's theoretical lessons, the professor will explain the fundamental concepts related to each of the topics that are described above. At the end of these lectures, a conceptual explanation for the practice will be provided.

On Tuesdays, classes will be strictly practical. During the course we will work on the structural design of a residential building located on Avenida Boavista, in Oporto, designed by the Architect Álvaro Siza.

In each session, the student will work on a specific aspect, by applying the theoretical knowledge acquired the day before. The student will solve the assignment in class, with the help and monitoring of the professor, who will answer the questions. It's important to point out that the questions asked by the students must be specific, avoiding generic questions about the subject that should be asked on Monday's theoretical lessons.

Lectures:

- / Introduction to reinforced concrete structures.
- / General approach to the design of structures
- / Actions in building and calculation bases
- / Introduction to the materials: concrete and steel
- / Global analysis of structures: Calculation methods, concept of stiffness, determination of stresses
- / Pre-dimensioning of structures. General criteria and methods for forging, columns and girders.
- / Use of the Wineva programme for the generation of stresses for dimensioning.
- / Normal stress requirements, general calculation principles
- / Simple bending: longitudinal reinforcement of rectangular girders
- / Unidirectional and bidirectional building slabs.

/ Tangential bending: carving and punching.
/ Compound bending: bonding and reinforcement of building columns.
/ The importance of structural detailing.
/ Other structural systems.

To make the most of the practical sessions, it is essential that the student attends the previous lecture and reads the instructions in advance.

Assessment:

Continuous assessment will be carried out based on the following milestones:

/ Two midterm exams, as in previous courses. These exams will have a weight of 75% in the continuous-assessment mark. Exam format will be explained in detail at the right time.
/ Assignments (solved in class), which will have a weight of 20% of in the continuous-assessment mark. The resolution of the assignment will be based on the guidelines and the explanation provided by the professor the previous day.
/ Structural design competition that will have a weight of 5% in the continuous-assessment mark. Further details for the development of the activity will be provided during the course.

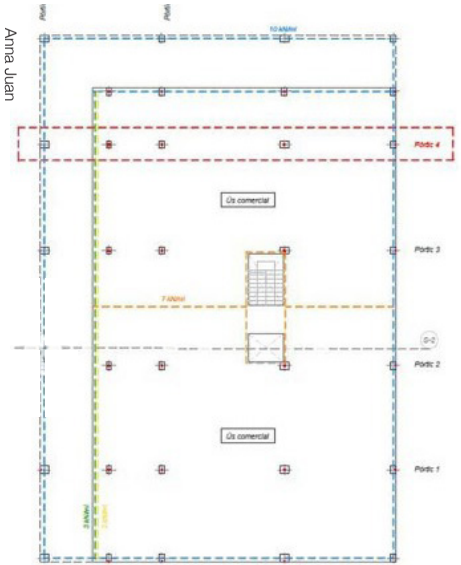
To be eligible for the final exam, there is no obligation to accomplish any of these milestones.
In case the student had to take the final exam or wanted to raise his/her grade, the highest mark between the continuous assessment and the final exam will be considered.

To be eligible for MH Honours, students must obtain a continuous-assessment mark higher than 9.00 and must inform the course coordinator within a period not exceeding one week from the publication of the continuous-assessment marks to undertake a specific exam.

Faculty:

Lucrecia Calderón, course coordinator.
Rodrigo Martin Saiz, course coordinator.
Francesc Xavier Aldabo Fernandez
Francisco Javier Torre-Marin Rodriguez (English Group)

Anna Juan



ESQUEMA PLANTA ALTELL

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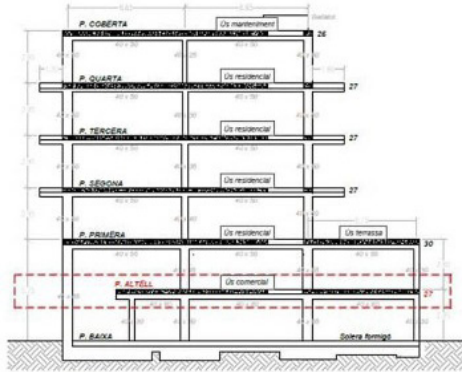
PP Panel separació de 15 cm | PP Barana massissa | PP Façana | Subministrament de la tanca

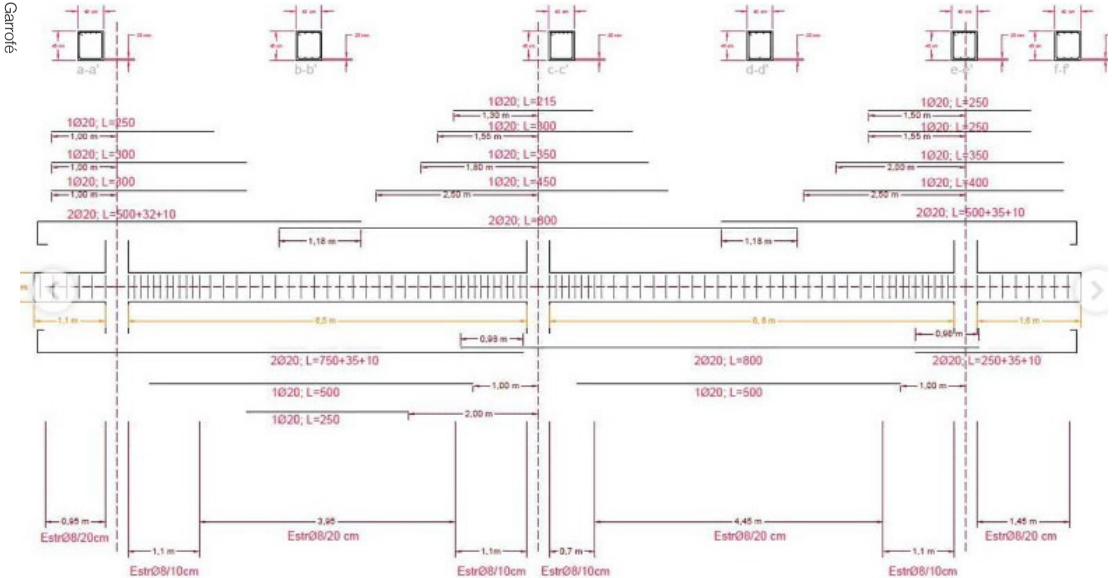


Secció 1

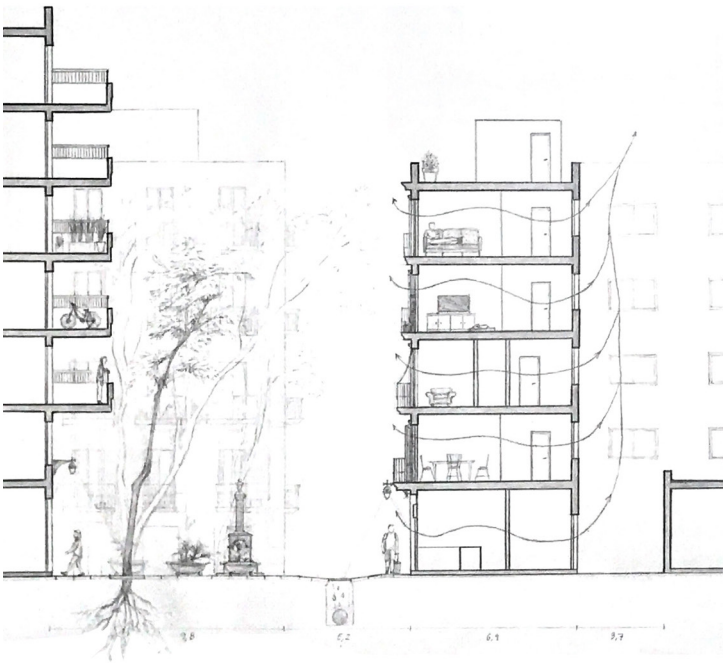
Tabla 1.2 ***Resistencia al fuego*** **de las paredes, techos y puertas que delimitan *sectores de incendio*** [1][6]

Elemento	Plantas bajo rasante	Resistencia al fuego — Plantas sobre rasante en edificio con altura de evacuación: h ≤ 15 m	15 < h ≤ 28 m	h > 28 m
Paredes y techos[13] que separan al sector considerado del resto del edificio, siendo su *uso previsto*: [14]				
- *Sector de riesgo mínimo* en edificio de cualquier uso	(no se admite)	EI 120	EI 120	EI 120
- *Residencial Vivienda, Residencial Público, Docente, Administrativo*	EI 120	EI 60	EI 90	EI 120
- *Comercial, Pública Concurrencia, Hospitalario*	EI 120[8]	EI 90	EI 120	EI 180
- *Aparcamiento* [6]	EI 120 [7]	EI 120	EI 120	EI 120
Puertas de paso entre *sectores de incendio*	EI_2 t-C5 siendo t la mitad del tiempo de *resistencia al fuego* requerido a la pared en la que se encuentre, o bien la cuarta parte cuando el paso se realice a través de un *vestíbulo de independencia* y de dos puertas.			

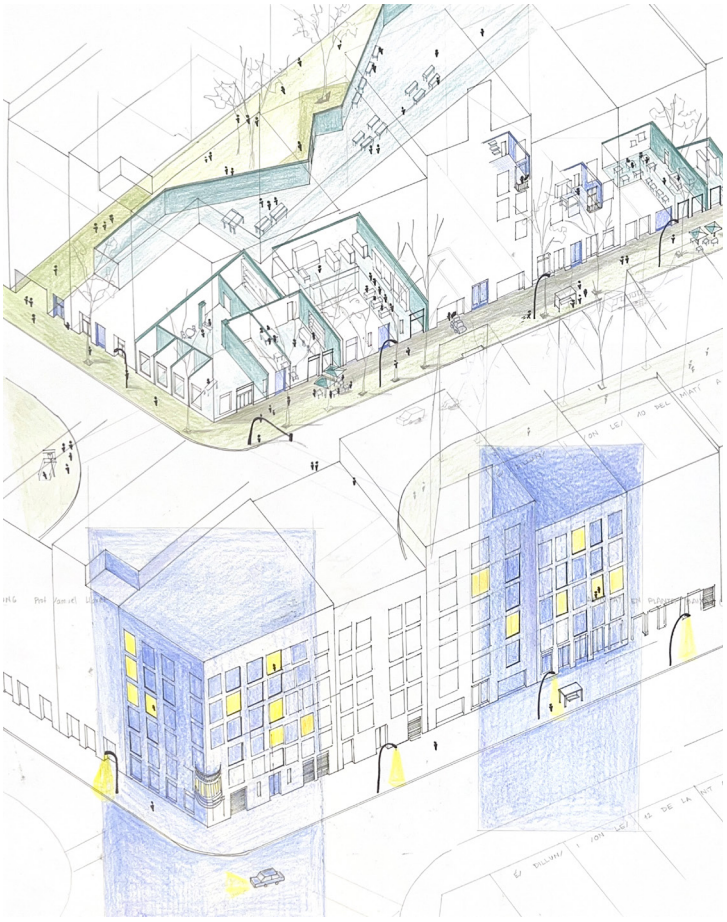
Alegria Garrofé



Urban Design I
Urbanística I



Urban Design I / Morning Group
Gisela Quezada + Helena Pujol



Urban Design I / Morning Group
Yihan Dong

The first subject of Urbanism begins with the reasoning about the city and progressively introduces the understanding of the complexity of the processes of urban formation and evolution.

The course has Barcelona as the object and reference for lessons and exercises, structured in four large blocks: water and light; land; raise; activity.

Each block approaches, on the one hand, to the basic elements that make up the city: streets, squares, buildings and blocks; and, on the other hand, to intrinsic concepts of the urban discipline: plot, layout, plan, ordinance, regulations.
The course, fundamentally analytical, induces the critical and exploratory application of the knowledge acquired, and introduces the urban intervention triggered by the historical, morphological and sensory reading of the site.

Lectures:

The lessons deal with issues related to the reasons that have motivated the formation and transformation of cities over time, while providing an introduction to the history of Barcelona's urban form. A look at other cities around the world complements the critical approach to urban planning in this introductory course.

Tools:

In parallel to the theory lessons, the course proposes three instrumental sessions in which the representation of the city will be addressed. The sessions will have a seminar format in which specific aspects of the exercise developed in the workshop will be worked on.

1. Drawing a street
2. Modelling the city
3. Drawing the activity

Visiting Barcelona:

Three visits to the city related to the lessons and exercises are proposed: Ciutat Vella. The origins of Barcelona; Gràcia. Plots and squares; Eixample. Blocks and exceptions: passages and interiors.

Exercises:

The exercises pose precise questions about the topics discussed in class, to establish a connection between theory and practical work. To solve the exercises, various representation and analysis techniques will be explored: sketches, diagrams, literal and critical representation in plan, section and elevation, photography, models, texts.

Exercise 1: Water, air and light

The first exercise of the semester consists of analysing a street in Ciutat Vella in Barcelona whose layout responds to natural water runoff. Water, air and light are the three natural elements with which the layout, orientation and measurement of the streets condition the adjacent urban fabric.

Exercise 2: Land

The second exercise will study a street in Gràcia in Barcelona, a neighbourhood whose layout responds to a project of precise geometric division of the ground. Attention to alignments, corners, bays, sections, and plots will trigger an understanding of street geometry, resulting building types, and compositional elements related to property division.

Exercise 3: Volumes and activity

The third exercise will work on a block in Barcelona's Eixample – a project that accurately balances street layout and property management – based on a four-layered reading: the formation of the block over time; the attention to the complexity of the block, based on its cross section and the mix of uses that characterize it; the introduction to some basic urban parameters; and the intervention on an urban scale related to the previous analytical understanding of the site.

The course has a synthetic character and will be developed in a short time. It proposes an analytical look at the activities that take place in different squares in Barcelona in order, through a small intervention, to modify the dynamics of use of the space studied. Attention to vegetation, people and the timing of the actions will guide the development of the exercise.

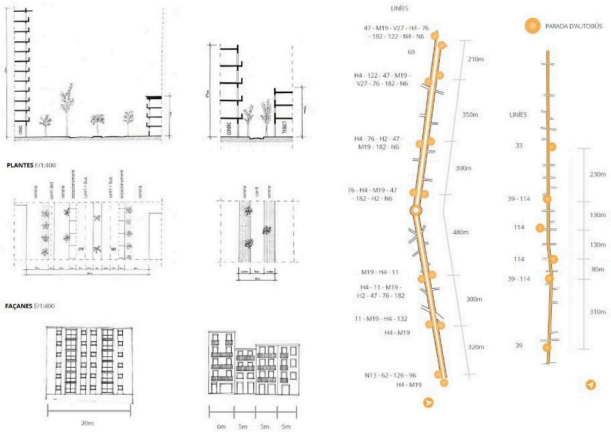
Assessment:

5% Questionnaires (individual).
15% Exercise 1 (in pairs).
30% Exercise 2 (individual).
30% Exercise 3 (15% common part, 15% individual part).
20% Exercise 4 (10% common part, 10% individual part).
To pass the course by continuous evaluation it is necessary to have handed in all the exercises and have answered all the questionnaires.

Faculty:

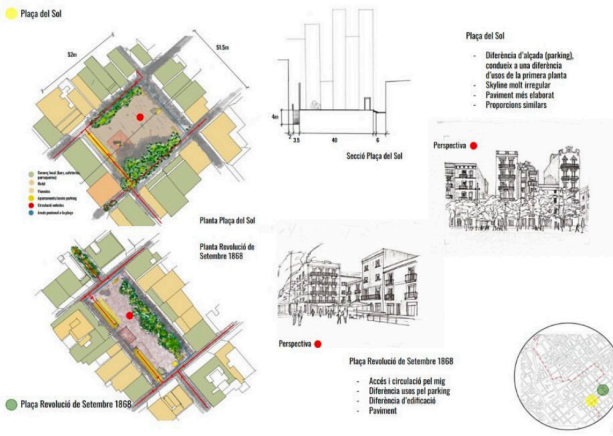
Morning group
Eulàlia Gómez-Escoda, course coordinator.
Teresa Garcia Alcaraz, course coordinator.
Samuel Llovet Montardit
Laia Alemany Pérez
Albert Valero Cabre
Marina Cervera Alonso de Medina (English Group)

Afternoon group
Jordi Franquesa Sanchez, course coordinator.
Francesc Peremiquel Lluch, course coordinator.
Purificación Diaz Ameneiro
Anna Majoral Pelfort
Antonio Moro Domingo
Montserrat Torras Genis



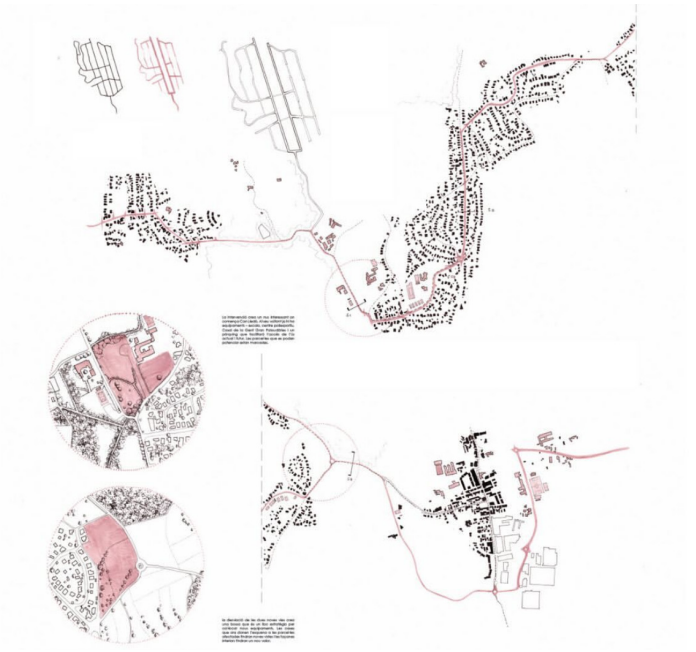
Urban Studio I / Afternoon Group
Rubén Moliner + Martina López

Urban Studio I / Afternoon Group
Diego Morel + Clàudia Mortes

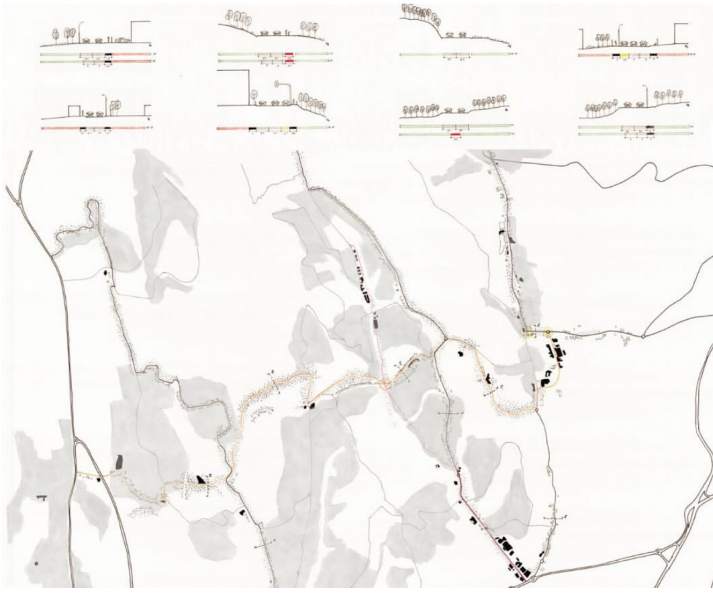


Urban Studio I / Afternoon Group
Amina Dzhigkaeva

Urban Design III
Urbanística III



Urban Design III / Morning Group
Irene Pijoan + Klementina Pramatarova



Urban Design III / Morning Group
Raquel Planas + Anna Prat

Urban Design III / Morning Group
Anna Arnó + Candela Bofill

The structure of the city. The road system, among others

Every city has a fundamental structure that allows its functioning, that is to say, makes possible its daily viability. A city can be understood as the aggregation of different parts, as we have learned to distinguish in the past course.

Now, however, we take a step forward; we focus on the fact that the parts of a city have an internal structure and are structured among themselves and within the territory according to certain specific interactions. In this way it becomes possible for each city to be a unit of meaning and use. The course is dedicated to understand these interconnections, discovering the shortcomings and proposing their best improvements.

The backbone of the city is the road system. The course presents the main concepts of street structure through lessons and conceptual exercises applied to *Une Cité Industrielle* that architect Tony Garnier imagined in the Rhone valleys at the dawn of electrification.

The prodigious development of mobility since then and to date has turned the road system into a field of urbanistic, theoretical and applied discussion, which has brought about changes, traumas and opportunities in all cities. The second part of the course will be devoted to the realization of an urban planning intervention project in two nearby cities, for the improvement of their structure and functioning.

Lectures:

1. Une Cité Industrielle (1903-1917) by Tony Garnier
2. Ludwig Hilberseimer in Chicago.
3. Network and tree, two general models of structure. Accessibility vs connectivity.
4. Le Corbusier, Chandigarh and the seven ways.
5. Why Geographic Information Systems work and how they work.
6. How to calibrate the deficits of the urban structure
7. The Buchanan report and environmental areas
8. Principles and precepts of public transport in cities
9. From Gordon Cullen to Jan Gehl

Learning Objectives:

- / To introduce students to the basic techniques for designing street layouts and public spaces.
- / To present the morphological, spatial, and physical interrelations of different design options.
- / To understand the various elements that make up the whole project and the role each of them plays.
- / To showcase a set of partial or complete solutions that are representative and/or of high design value, serving as references or models.
- / To carry out a project as a means of testing the synthesis of the knowledge acquired.
- / To equip students with the necessary graphic skills.
- / To ensure that the tasks assigned, based on the basic guidelines provided by the teaching staff, are carried out by deciding independently the time needed for each task.
- / To enable students to plan and use the information required for academic work through critical reflection on the information resources employed.
- / To develop critical reasoning, spatial vision, and numerical understanding in students.
- / To raise students' awareness of issues related to urban art and aesthetics.
- / To raise students' awareness of environmental issues.
- / To raise students' awareness of the need to develop projects that are consistent with human development and sustainability.

Exercise 1: Tony Garnier's way

The architect Tony Garnier draws a characteristic system of streets and blocks in the *Cité Industrielle*.

The exercise consists of extending 15% of the existing residential area following the same form he established. If you respect his idiosyncrasies, you can demonstrate that you have understood his way of imagining the urban structure that would suit a new city.

On a general plan 1:10,000 on paper, the exercise consists of drawing on a transparent sheet the road structure proposed by TG, interpreting the sense of its layouts in relation to the joint planning. It calculates the impact of the extension on 15% of the residential fabrics and proposes its best layout.

Exercise 2: Applying Ludwig Hilberseimer / Chicago

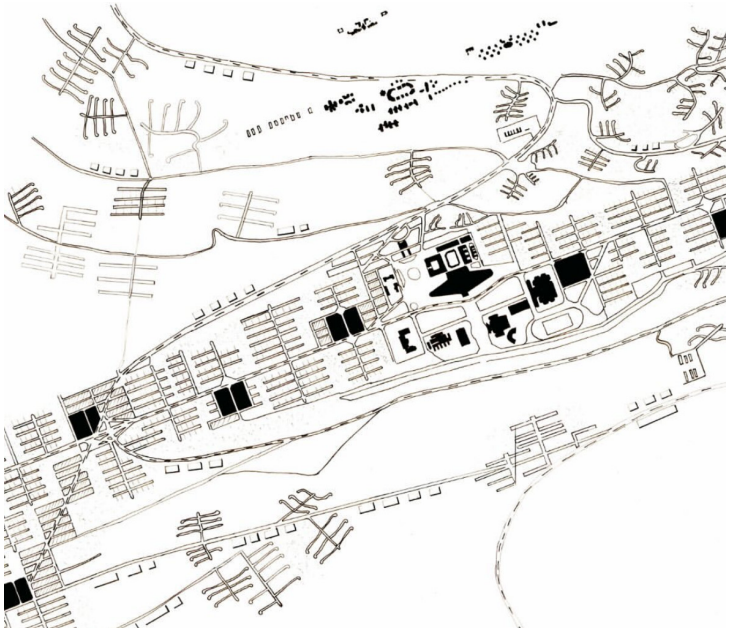
As a matrix for the extension of the American city, LH developed an idea of a radically arboreal urban structure. He imagined it as an indifferent procedure, applicable to diverse geographies. He even tried to apply it to the city of Chicago by de-constructing the grids that make up the existing urban fabrics around the Loop.

We propose you to do with the *Cité Industrielle* the same exercise that LH did in Chicago. How would it be more convenient to intervene on the existing fabric in order to obtain a new tree-like structure? Notice that the result will surely be a combination where Tony Garnier's original matrix will still be very present.

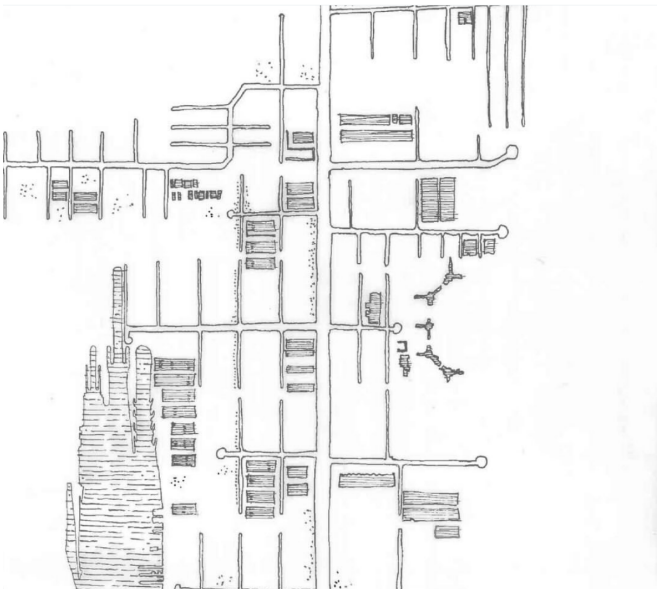
In what way do you think that the tree model could increase the residential area by 15% with respect to the original size proposed by Tony Garnier?

Faculty:

Alejandro Gimenez Imirizaldu, course coordinator. (English Group)
Josep Parcerisa Buno, course coordinator.
Daniel Navas Lorenzo
Aleix Saura Vallverdú
Helena Trias Prats
Enric Villavieja Martinez



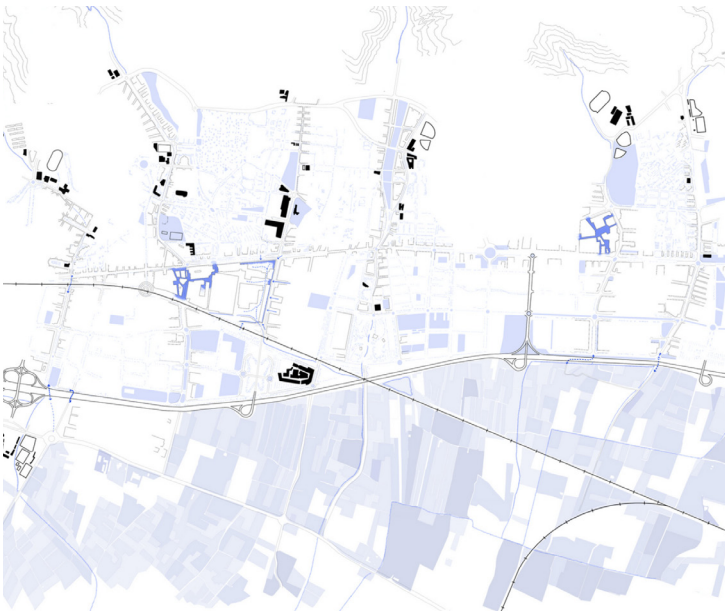
Urban Design III / Afternoon Group
Verónica Miranda



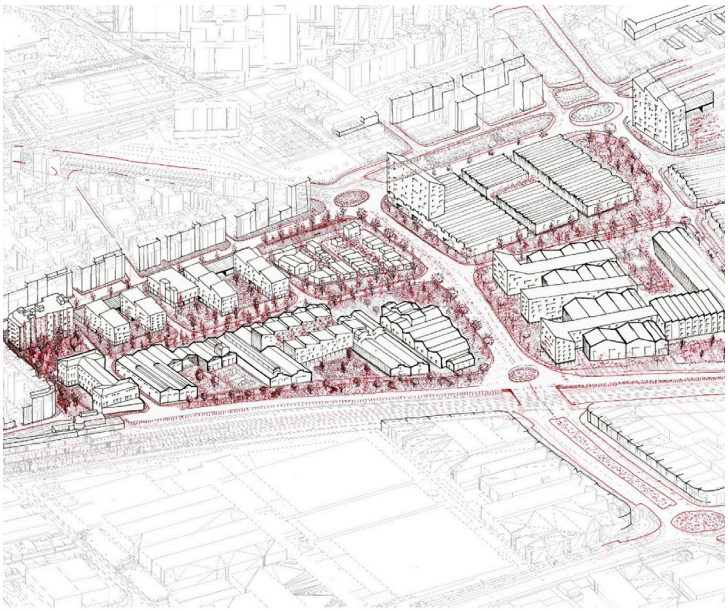
Urban Design III / Afternoon Group
Adrian Meunier

Urban Design III / Afternoon Group
Laura Arias + Dana Pamies

Urban Design V
Urbanística V



Urban Design V / Morning Group
Pol Bernardo + Clara-Jonia Olivera



Urban Design V / Morning Group
Catalina M. Ginard + Marina Gomà

Urban Design V / Morning Group
Catalina M. Ginard + Marina Gomà

‘Urbanistica 5’ is a design-oriented course that deals with mid-scale urban projects of transformation. Following the ‘lessons’ of the so-called ‘Urban Project’ (Manuel de Solà Morales, late 1980s) we will discuss and propose specific regenerative interventions in some urban tissues that have potential and challenges of particular interest.

Using the Urban Design tools and counting on the capacity of understanding the anatomy and physiology of every specific site, new strategic actions will be discussed and tested in order to improve the environmental, social, ecological and functional: that means, ‘urban’ conditions of the sites.

The main goal is to learn concepts and tools for implementing urban projects in partially occupied areas without doing ‘tabula rasa’.

Here, the value of each pre-existing element has to be balanced with its scope for modernization via diverse and flexible programmes that combine housing, production, tertiary and leisure, etc. with facilities and public spaces. The urbanistic layout will be configured with planning tools (parameters, canons, regulations) as well as with the architectonic prefiguration of the main elements.

Two key aspects in this discussion are:
A) the interrelation between complementary scales of design, from buildings to city;

B) the proposed programming over a period of time taking into consideration changing requirements and stakeholders. The transformation of the existing city is almost as ancestral as the city itself. The contribution of the architect in this field is quite substantial and will continue to be so in the future because of their disciplinary capacity to integrate a number of urban variables into a coherent proposal.

This is the main challenge: to learn how to build meaningful urban projects, sensitive to their social and natural ecosystem, which evoke a certain idea of progress through their intensity, dynamism and mixed use.

Structure:

The course combines sessions of conceptual discussion with two design exercises, carried out in plenary sessions as well as in atelier groups.

Every Thursday, concepts, projects and tools related to the main topic are introduced, alternating general lessons with smaller group seminars.

On Fridays, each professor organizes the atelier dynamics based on two different exercises and three deadlines equally distributed over the 15 weeks.

Exercise 1: Regeneration and intensification of an urban fragment. Urban composition and functional mixture

The first exercise of the semester suggests an immersion into the urban regeneration project via the urban design of a city fragment made up of mix-use buildings. In a brief period of time (4 weeks) it will be discussed the composition of a mix-use urban fabric in a non-contextualized area, learning how to integrate an array of programs and buildings through variations in form and function.
The selected site has a total surface area of about 8.4 ha and corresponds to the space of a former industrial site in a privileged location, adjacent to a regional railway station. Its boundaries are clearly defined: on the north side, a park; on the south, the railway station and its esplanade; and to the east and west, the course of the river and the elevated railway tracks, respectively. The project needs to

fit new buildings and programs following predetermined proportions for housing and office buildings, workshops, retail and public facilities, etc. This also has to be done by including assertively the preexisting buildings.

Exercise 2. From peripheral neighbourhood to new fabric of innovation. Terrassa - 20th century

This autumn, Terrassa City Council has approved the Urban Agenda that defines the axes to position itself "as a capital of innovation and production, in the context of a green and sustainable, educational and creative city (...) that preserves the features of identity that defines the city: solidarity, inclusive and diverse, cultural and sportive, with fundamental values of social equity, human rights and democratic quality". With more than 220.000 inhabitants, it is the third largest city in Catalonia and, together with Sabadell and other municipalities in the Vallès plain, form a first-rate metropolitan conglomerate, with a population that exceeds 1.3 million inhabitants and a large concentration of productive, leisure and service spaces on a regional scale. On this basis, it is not surprising that this space has asked for years to have its own metropolitan area that should not depend on the Barcelona capital.

In this space of more than 70 hectares - which defines the Rambla del Pare Alegre to the west, the Montcada road to the north, the Rubí road and the splendid stream of Vallparadís to the east and the Avinguda and the N-150 to the south – the city aims to transform an old peripheral district into a new "innovative southern district", where the coexistence of more technological and clean industrial uses is allowed, together with residential and tertiary spaces.

A series of questions will guide the development of the exercise:

What needs should be maintained and what needs should be preserved from the 20th century neighbourhood for the new innovative district of the 21st century?

What models of working, of producing, of communicating is it possible to consider taking into account the strength of the metropolis from El Vallès region?

What housing demands of the city can be accommodated there?

What kind of mobility should the neighbourhood have and what infrastructures should serve it?

How to prepare the neighbourhood for the energy transition in order to make the cycle of water and materials and waste more optimal?

Which urban strategies, which urban programs, which processes and which phases?

Which projects in which spaces?

Assessment:

The evaluation is ongoing and takes into account the two design projects and the active participation in seminars and classes.

First practice (20%), Seminar (15%) and Second practice (65%). Assignments will be elaborated in pairs but individual contribution in the atelier will also be evaluated.

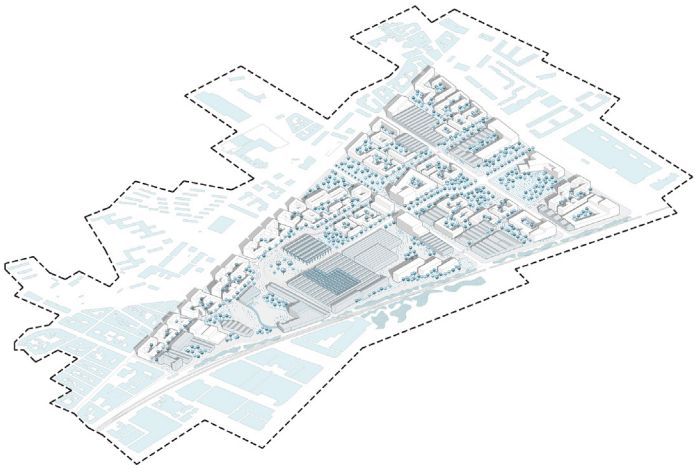
Faculty:

Morning group
Julian Galindo Gonzalez, course coordinator.
Rosina Vinyes Ballbe, course coordinator.
Adrià Guardiet Llotge
Sebastià Andreu Jornet Forner
Manuel Ruisanchez Capelastegui
Robert De Paaw Solé (English Group)

Afternoon group
Miquel Marti Casanovas, course coordinator.
Joan Batlle Blay
Antonio Font Ferrer
Juan Galondo Gonzalez
Aurora Lopez Corduente
Miguel Jorge Perea Solano

Urban Design V / Afternoon Group
Mireia Garijo + Rubén García

Urban Design V / Afternoon Group
Lara Arias + Dana Pàmies



Urban Design V / Afternoon Group
Martí Fernández + Laia Juárez

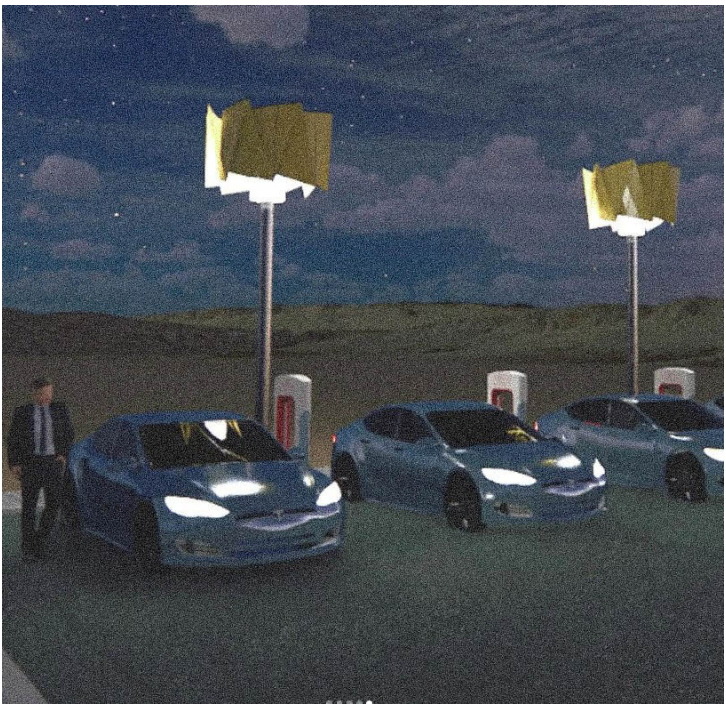
Estrella Cañero González, Urban background with a cloth, 1991 Fragment.

Elective Courses
Fall Semester

Adaptative Architecture, Furniture and Design

Arquitectura, Mobiliari i Disseny Adaptatiu

Pol Cuartero + Helena Gómez + Yağmuray Sari



Teodora Dumitrasc + Antonio Llena + Liyouchen Jiang

The objectives of the course focus on learning to analyse, detect and develop opportunities for improvement and innovation through Design related to the built environment, with proposals based on the observation of reality. The approach assumes the mutable and variable nature of both architecture, as a context, and the needs of users who, with changes in activity, require constant adaptation of the space and the objects they use.
The course focuses on the ADAPTABILITY of architecture, furnishings and objects to changing human needs, in different situations and in different situations and at different scales.

Theory and practice are developed in parallel. General thematic areas covered in theoretical sessions:
01- Social, cultural and economic context. The Mediterranean
02- Multidisciplinary design and modernity. Bauhaus School
03- Industry, product and market. Styling. Raymond Loewy
04- New materials and communication. Eames Office
05- Technology, passion and symbology. Carlo Mollino
06- Rupture with the norms. 60'-70'. POP & Design 1
07- From the City to the Object. POP & Design 2
08- Matter, Image and Information. POP & Design 3
09- Comfort, Sensuality and Functionality. Miguel Milà & family
10- Irony, Object and Situation. Achile Castiglioni
11- Personal experience. Some of our own designs

Theoretical sessions provide general cultural references on the subject and guidelines for application to the project exercises carried out by the work teams.

Exercise:

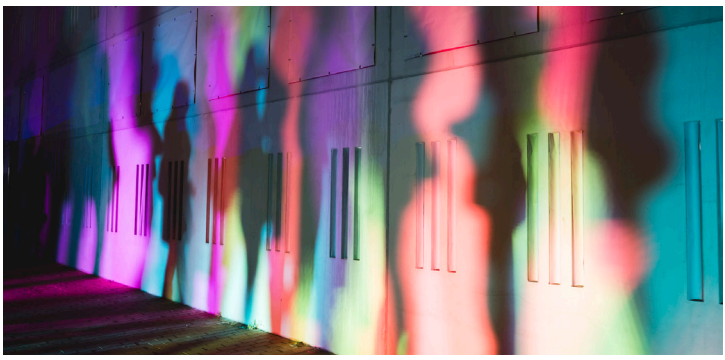
Design proposals by the work teams:

- Transversal themes, centred on the human scale (object, furniture, system, personal space, urban space) as a point of intersection between disciplines.
- Proposal and theme of the work chosen by the students.
- Work in teams of three people (in general, 2 ETSAB + 1 exchange student).
- Presentation to the class in three levels of development
  1- Context and definition of the design objective.
  2- Formal / conceptual design proposal
  3- Application/development in other cases and contexts.

Faculty:

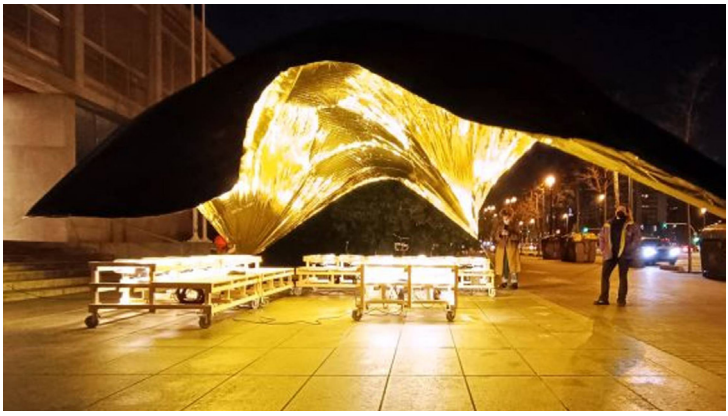
Josep Maria Fort Mir, course coordinator.

Barcelona Light Festival
Festival Llum Barcelona



Barcelona Light Festival 2025

Barcelona Light Festival 2024



Barcelona Light Festival 2022

Barcelona Light Festival 2020

ETSAB participates every year in the festival *Llum BCN* in the Poblenou neighbourhood of Barcelona.

The school is represented in this event by a team of students, who will design and build with their own hands a light installation for the festival, which will take place in February.

LlumBCN started in 2012 as a small urban lighting festival with the aim of highlighting the beauty of the city's buildings.

Through the experience of the 2012 and 2013 editions, the need arose to dynamize the idea of monument and the urgency to involve the public by offering them an experience of the city and a new nocturnal landscape.

To trace a route through the city to propose to the visitor known scenarios but as a new experience. To offer a part of these spaces to students from schools of Architecture, Art and Design to make and execute light proposals (each school is assigned a different space and an equal budget and also a deadline to present a project at the festival).

Poblenou is a neighbourhood with a low population density, with an industrial past that has generated large empty spaces, many of which are currently inhabited by young people, universities, cooperatives, etc.

During four-months, team work sessions are planned: from concept, to experimentation, debate and project. According to the calendar established by the Institute of Culture of the Barcelona City Council (ICUB) it will be necessary to complete the two project deliveries until its executive development and definition. During the intensive week it will be necessary to carry out the assembly, the whole team, of the proposed installation and take it to its realization, which will later be installed in situ for the festival, in Poblenou, Barcelona.

Assessment:

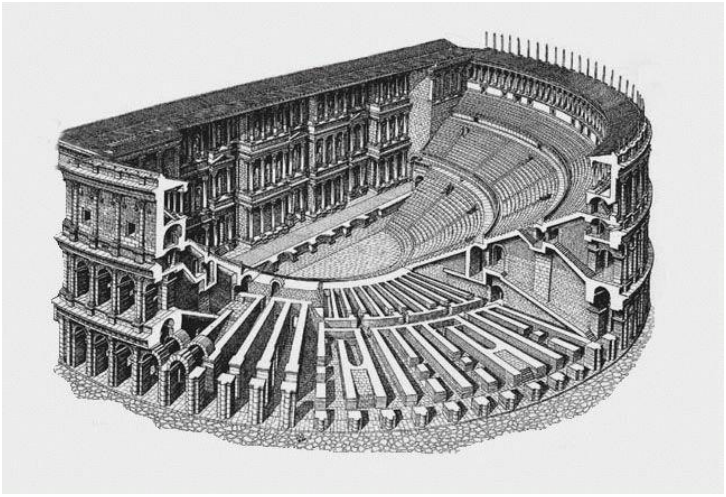
The continuous evaluation will be based on the work that the student will develop during the course, by means of the delivery of work or written and/or oral tests, according to the criteria and calendar established. written and/or oral tests, according to the criteria and calendar established.

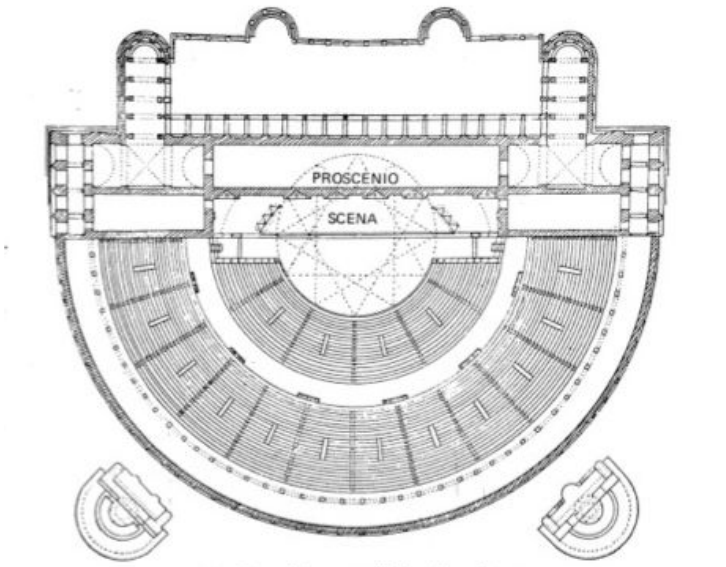
Faculty:

Félix Solaguren-Beascoa de Corral, course coordinator.

History of architectural recycling: heritage; adaptability; symbolism

Història del Reciclatge Arquitectònic: Patrimoni; Adaptabilitat; Simbolisme





40. Pianta del teatro di Marcello a Roma.

The course delves into the history of architectural recycling, a practice that has shaped cities and landscapes for millennia. We'll explore how societies have repurposed existing buildings and materials, not merely as an act of conservation, but as a dynamic process reflecting cultural values, economic realities, and symbolic meaning.

The course begins by examining the concept of heritage as an evolving entity. We'll analyze historical case studies from antiquity to the present day, such as the Roman reuse of older monuments in new constructions and the medieval spolia incorporated into churches. Students will learn how these practices preserved tangible connections to the past while imbuing new structures, sometime with a sense of authority and continuity.

Next, we'll focus on the theme of adaptability. We will study how buildings, from public works to domestic structures, have been reconfigured to serve new functions. We will consider the conversion of industrial warehouses into residential lofts, the transformation of religious buildings into secular spaces, and the adaptive reuse of military forts. Through these examples, we'll discuss the technical and aesthetic challenges of reusing old elements into the new ones, examining how architects and designers navigate structural constraints while creating functional and symbolic environments.

Finally, the course will explore the symbolism embedded in architectural recycling. We'll investigate how repurposed buildings become powerful symbols of memory, resilience, and transformation. The conversion of a prison into a museum can symbolize a society's journey from oppression to enlightenment. The reuse of a factory can represent the shift from an industrial economy to a post-industrial one. We will analyze how these acts of "re-creation" communicate collective narratives and shape urban identity.

Through lectures, site visits (virtual or in-person), and hands-on design projects, students will gain a deep appreciation for the historical and contemporary significance of architectural recycling. They will develop a critical understanding of how the past informs the present and how the thoughtful reuse of buildings can contribute to a more sustainable, meaningful, and historically rich built environment.

Faculty:

Alessandro Scarnato, course coordinator.

Walking Barcelona
Caminar Barcelona

Josephine Berger

Claire Deygout

Walking the neighbourhoods of Barcelona is a teaching experience that, beyond the physical limits of the classroom, aims to develop the perception of urban space and its transformation through guided tours through the metropolis. The aim is to bring us closer to the history, the social landscape and the construction of the urban heritage of the different neighbourhoods. An attitude close to the analytical look of the explorer or the "surveyor" that seeks to integrate documentary knowledge and direct experience of the places. Also to the more personal approach of the drift of the passer-by, "flâneur" or "wanderer", to take advantage of the urban planning workshop that is Barcelona, and to incorporate new images and urban experiences to the baggage of the architecture student. It is proposed a work of interpretation of the city from building a "Map" of each itinerary.

It is important to experience the tangible and perceptible reality of the city, not to forget the instrumental condition of the multiple analogue or digital media at hand. A recurrent challenge of architecture and its learning.

Structure:

1. Presentation
2. Ciutat vella / carrer Ferran and plaça Real / Sta. Catarina market
3. Port vell / Barceloneta / Moll de la Fusta
4. Raval / MACBA and CCCB / Hospital / St. Antoni
5. Barcelona litoral / Vila Olímpica / parc de les Dunes / Fòrum / Besós
6. Eixample central / Fort Pienc / Editorial GG
7. Districte 22@ / Glòries / La Escocesa
8. Seminar
9. Gràcia / Turó de la Rovira / Park Güell
10. Vall d'Hebron / St. Genís dels Agudells / Montbau
11. Rec Comtal / Montcada / Vallbona
12. Montjuïc / MNAC / Fundació Miró
13. Seminar

Faculty:

Pablo José Martín Barrera, course coordinator.
Josep Parcerisa Bundo, course coordinator.
Isidre Santacreu Tudo, course coordinator.
Teresa Garcia Alcaraz


P. Forés

Spring Semester

Core Courses

	M A	1 2	1 2 3 4 5
Architectural Representation I**	●○	●●	○●○○○
Architectural Representation II**	●○	●●	○○●○○
Architectural Representation III**	●●	●●	○○○●○
Architectural Representation IV**	○●	●●	○○○●○
Design Studio II	●●	○●	○●○○○
Design Studio IV	●●	○●	○○●○○
Design Studio VI	●●	○●	○○○●○
Thematic Studio/LAC	●○	○●	○○○○●
Thematic Studio/Visiting Studio*	●○	○●	○○○○●
Urban Design II	●●	○●	○●○○○
Urban Design IV	●●	○●	○○●○○
Urban Design VI	●●	○●	○○○●○

Elective Courses

	M A	1 2	1 2 3 4 5
Climate and data in architecture	●○	○●	○○●●●
Form finding	●○	○●	○○●●●
Intensive Design Workshop**	●○	○●	○○○●●
Visiting Studio Seminar*	●○	○●	○○○○●
Walking Barcelona	○●	●●	○○●●●

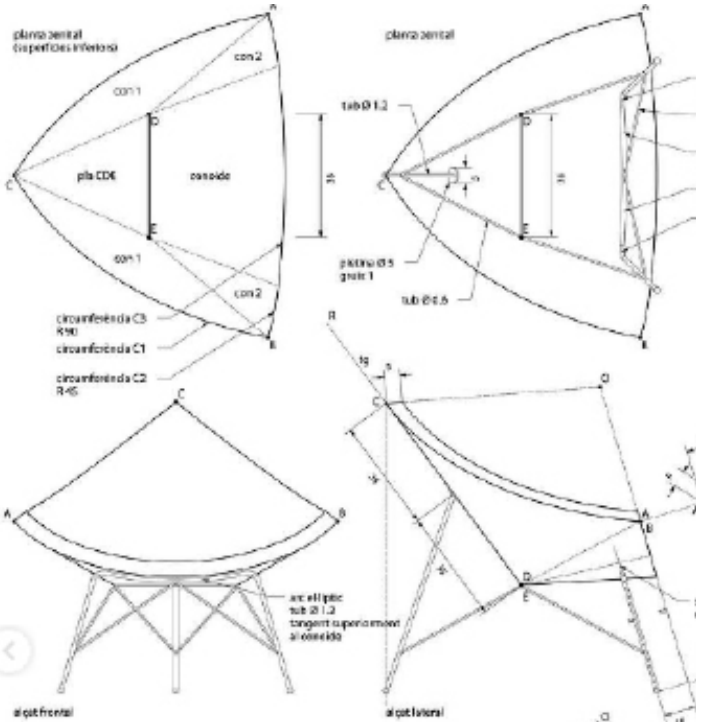
* both subjects require joint enrolment
** semi intensive course
*** intensive course: mornings and afternoons

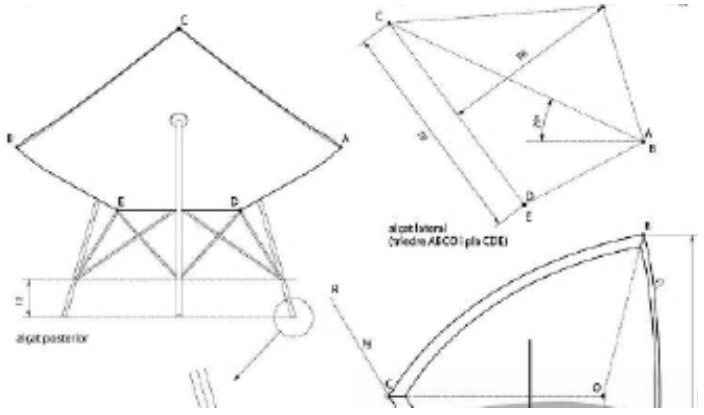
P. Forés, Angle of the Doge's Palace (Venice), ca. 1900 Fragment

Roof of Tortosa Cathedral. Damaged glass plate, 1901. Fragment

Core Courses
Spring Semester

Architectural Representation I
Representació Arquitectònica I





Course Learning Objectives

Main objectives

- Master the basic principles and methods of descriptive geometry and its application in architectural design.
- Be competent in the use of computer aided design (CAD) software(s) for the creation of geometric and architectural models.

Specific objectives

- Develop the ability to visualise and represent three-dimensional objects in two dimensions using projection and perspective techniques.
- Correctly apply orthogonal, axonometric and perspective projection techniques to represent architectural objects and structures.
- Create accurate and detailed three-dimensional models using 3D modelling software.
- Interpret and analyse plans and technical drawings and identify constructive and geometric details.
- Solve complex geometric problems by applying principles of descriptive geometry and manual and digital tools.

Analysis and Creativity

- Analyse and solve complex spatial problems through the application of geometric concepts and the use of manual representation and digital media.
- Apply descriptive geometry concepts to explore and develop innovative and creative design solutions.
- Communicate design ideas effectively through accurate and clear graphic representations.

Communication

- Present design projects using digital models and graphic documentation, demonstrating the ability to explain geometric concepts and processes.
- Apply acquired knowledge in real or simulated architectural projects, from conceptualisation to final presentation.

Content:

- Basic concepts Architectural Geometry: points, lines, construction plans, metric control.
- Coordinate systems and conic projections and perspectives, auxiliary views.
- Geometric relations: Tangencies, angles, scale, symmetries, proportions, intersections.
- Representation of multiple views, Sections and cuts, Analysis of multiple views, Creation of working planes.
- Solids, intersections, matrices, repetitions, Boolean operations, Transformations
- Conic perspective and types, Vanishing points, Horizon lines, Axonometries, Creating views.
- Conic curves, Surfaces, NURBS, Splines, Roof surfaces, Architectural volumes.
- Assoleig, sun path, orientations, shadows, lighting.
- Image processing - Composition - Visualisation
- Final project documentation, Layouts, Presentations.

Dedication: 125h

Large group/Theory: 11h
Small group/Laboratory: 32h
Directed activities: 12h
Autonomous learning: 70h

Assessment:

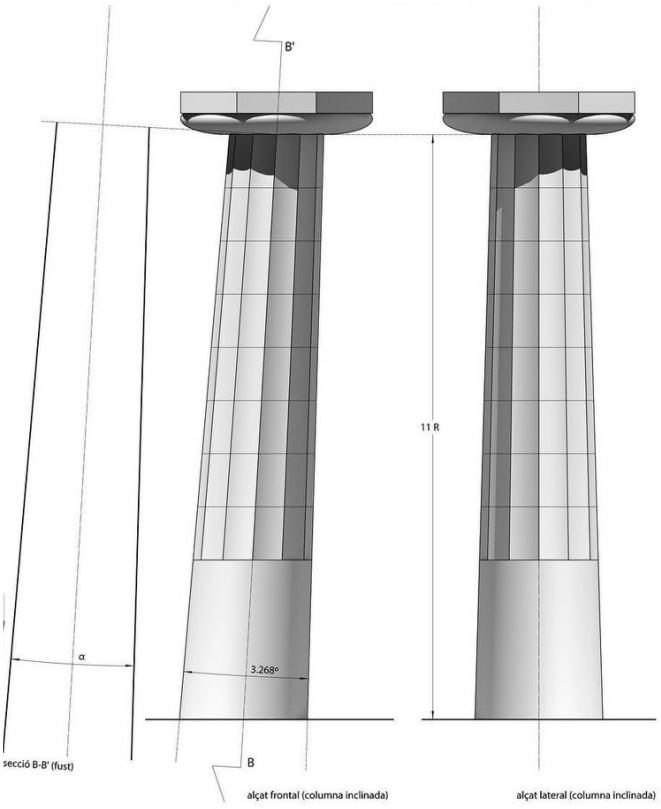
Group work and exercises 100%
Continuous assessment will be based on the work that students will carry out during the course, by means of the delivery of assignments or written and/or oral tests, according to the criteria and timetable established.
written and/or oral tests, according to the criteria and timetable established.

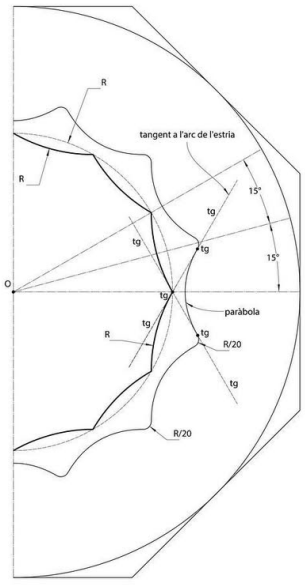
Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the following format
the format established in accordance with the criteria of the teacher in charge (written or oral test and/or submission of work).

Faculty:
Omar Fabrisio Avellaneda Lopez, course coordinator

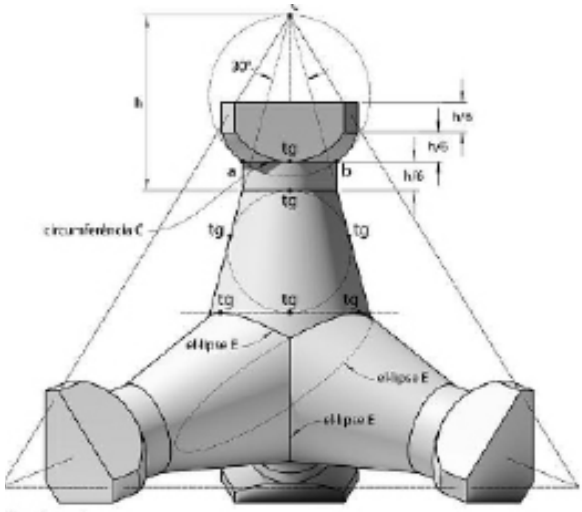
First Semester:
Omar Fabrisio Avellaneda Lopez (English Group)
Jose Ramon Domingo Magaña
Lucia Gutierrez Gonzalez
Guillem Haro Barcelo

Second Semester:
Omar Fabrisio Avellaneda Lopez (English Group)
Guillem Haro Barcelo
Jordi Subiros Brunet
Hector Zapata Cebrian



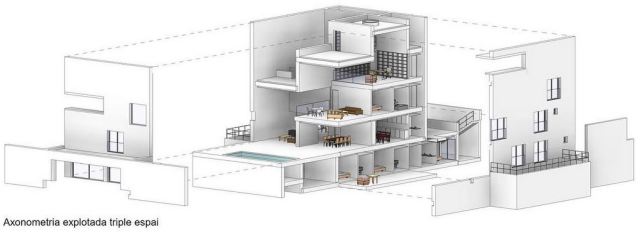


detall secció A-A' (projecció zenital del capitell)



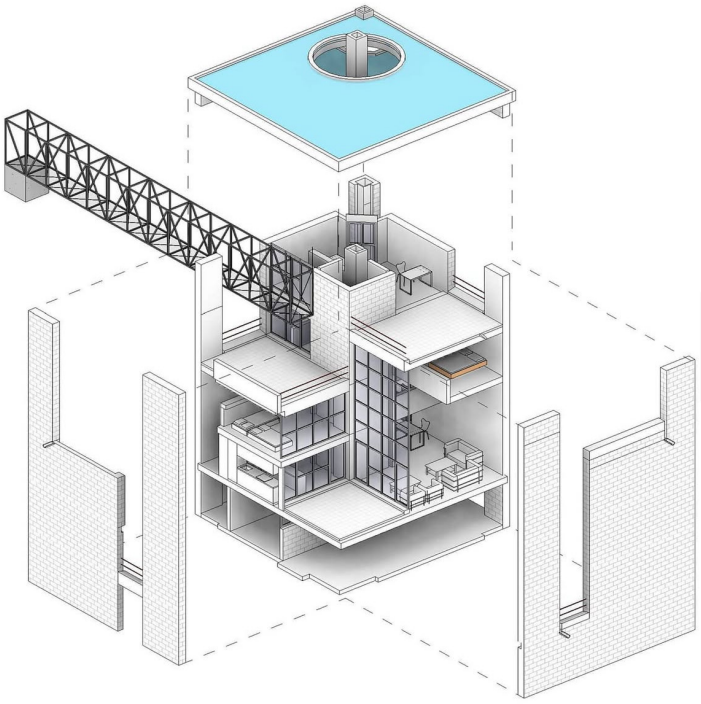
Alçat lateral

Architectural Representation II
Representació Arquitectònica II

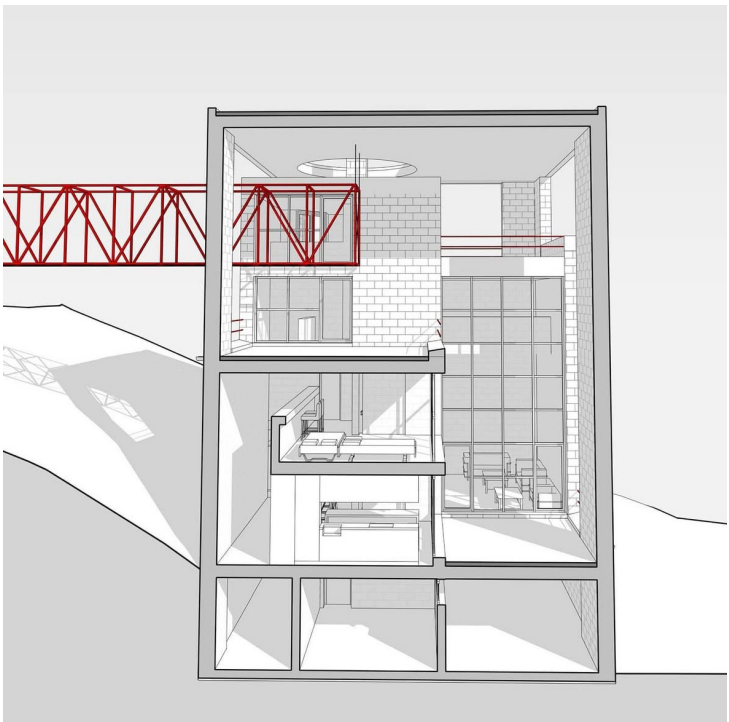


Axonometria explotada triple espai

Simó Bonaventura



Laura Barrera



Júlia Cánovas

Learning Objectives:

The subject will be organised through Project-Based Learning -which we will call action-research process-, that is to say, learning to draw by projecting. With the aim of continuing to introduce students to architectural representation through six themes:

/ TOPOGRAPHY/FORM. Aspects relating to form, geometry and geo-localisation. Knowledge, use and manipulation of geometrically defined and situated in the territory/context.

/ SCALE: HUMAN/SPATIAL/TERRITORIAL. Aspects relating to people, in two areas:
1- physical area (ergonomic, dimensional)
2- sensory (perception, senses, movement). Explicitly relate elements at different scales (between 5:1 and 1:50.000).

/ CULTURE/HISTORY/SOCIETY. Social and cultural significance of architecture. Representation and culture of object and place.

/ CONSTRUCTION/TECHNOLOGY. Relationship between the parts and the whole. Exploding and addition. Deconstruction-Identification-Reconstruction. Processes, stages and sequences. Generative processes, transformations.

/ PHYSICAL REALITY AND ABSTRACT REPRESENTATION. Ability to interrelate and work together from physical reality (direct observation and personal extraction of data) and representations or data that explain or describe unvisited or non-visited realities.(direct observation and personal extraction of data) and representations or data that explain or describe unvisited or non-physically existing realities.

/ SUSTAINABILITY CRITERIA. Triple bottom line: Economic/Ecological/Social. Transversal and explicit application of environmental and social as a factor for the assessment of proposals/interventions.

Specific learning objectives:
O1.- Understand and apply the fundamental principles of descriptive geometry in order to represent three-dimensional objects in two.
O2.- Develop spatial visualisation skills to interpret and modify complex geometric designs, with an appropriate and personal style.
O3.- Use geometric tools and techniques to solve practical problems related to architecture, with control of the architectural vocabulary and precision.

Programme:

In the subject of Architectural Representation II, the aim is to provide students with the tools and techniques necessary to solve problems in descriptive geometry, focusing also on the different systems of geometric representation. First, the course will continue with the dihedral system, where students will represent the architectural object in orthogonal projections, including plan, elevation and profile, and to solve problems of intersection of geometric bodies. Next, axonometric projections will be explored, allowing students to draw in axonometric projections, in order to better visualise and communicate the project. In the conical system, special emphasis will be placed on the creation of photomontages, using photographs of the real environment to integrate the design in a realistic way. This will include calculating the focal length and adjusting the angle of view to ensure an accurate representation. Students will also tackle the design of ramps and stairs, applying geometric and normative principles to guarantee the functionality and safety of the design. Finally, they will work with the topography of the site, interpreting and modifying topographical plans to adapt the project and condition it to the shape of the terrain, using geometric tools

and techniques to make the necessary adjustments.
This integrated approach will allow students to develop skills in spatial visualisation, technical communication and practical application of descriptive geometry knowledge in real architectural projects.

Assessment:
Long-answer tests 80%
Group work and exercises 20%

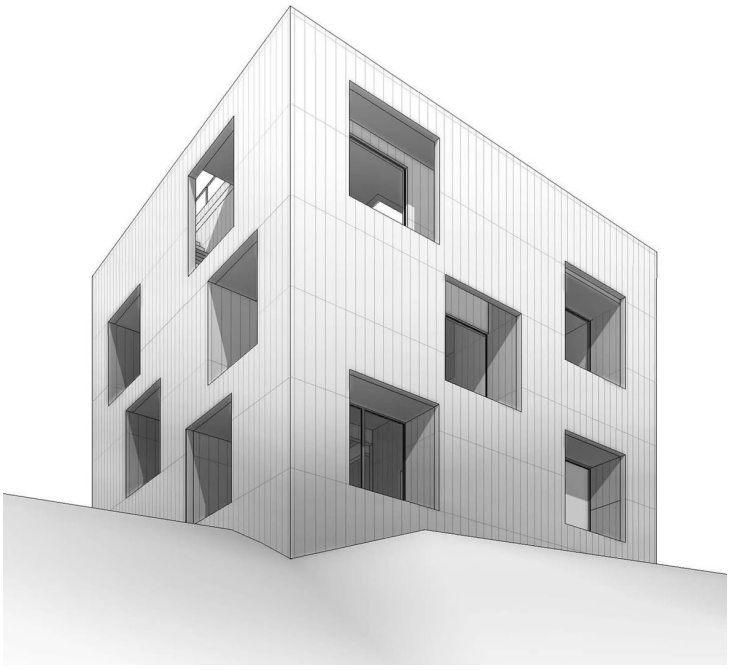
Continuous assessment
The continuous assessment will be based on the work that students will carry out during the course, by means of the delivery of assignments or
written and/or oral tests, according to the criteria and timetable established.

Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the format established in accordance with the criteria of the lecturers responsible (written or oral test and/or submission of assignments).

Faculty:
Francisco Javier González Pérez, course coordinator

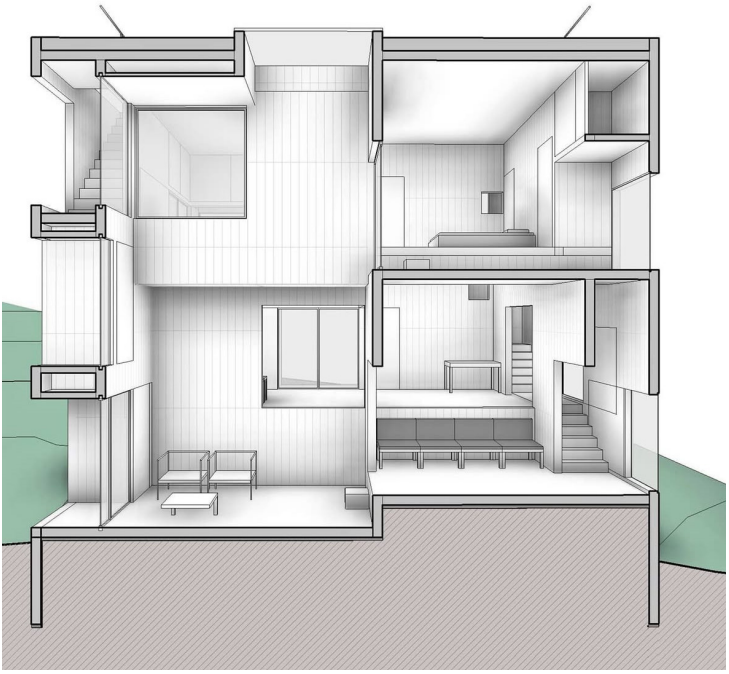
First Semester:
Francisco Javier González Pérez
Manuela Ianni
Jordi Subirós Brunet
Hector Zapata Cebrian (English Group)

Second Semester
Francisco Javier González Pérez
Jose Ramon Domingo Magaña
Jordi Subirós Brunet
Sebastian Francis Harris (English Group)



Raul Pérez

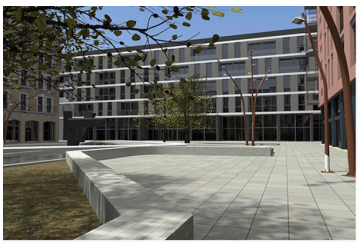
Judit Parreu

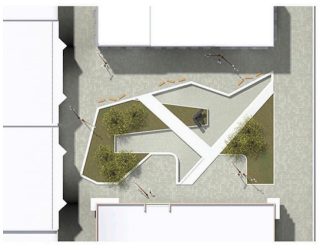


Maria Piedrafita

Architectural Representation III
Representació Arquitectònica III

Exercise 1 / Photomontage





Exercise 2 / Public Space

Architectural Representation III focuses on the visual simulation of models and urban and architectural designs. Because of the quick evolution of architectural rendering software, fuelled by the progress in both software and hardware through the innovations from the videogame industry, during the course multiple software is employed in the different groups: non-real time renderers (V-Ray, Corona, Blender), real time renderers (TwinMotion, Enscape, D5), and modelers (3DS Max, SketchUp, Blender). This variety of software has the objective of illustrating the strengths and weaknesses of the different options, and encourages learning multiple alternatives to adapt to different and changing circumstances.

The course is structured in three thematic blocks of roughly the same duration of one month, depending on the specific available dates during the academic year. While the three blocks are independent and focus on different aspects of the curriculum, they are related because they share the same urban setting around which the course is structured.

At the beginning of each block the task statement of the exercise to be developed is provided, along with supplementary material that may be required. During the development of each of the block the required concepts are introduced and explained, following examples that are developed in the classroom and projected onto the screen. These lessons are also supported by material in PDF format and recorded videos. As each block is developed, the format of the classes gradually phases to an eminently practical and applied format, where the students develop their proposals with the support of the instructors.

First block:

The first and initial block focuses on the visual simulation of an urban proposal consisting in the articulation of modular dwellings within its urban context, in coordination with the urban design course of the same year. The objective is learning the basic operation of the software that will be used during the course: management of digital models; lighting simulation in daylight and night-time situations; inclusion of vegetation, urban furniture, and virtual characters; topographic manipulation; production of model cut-outs and elevations; and presentation of the results. In this block only (near) real-time render engines are used, and the complexity of colour and texturing is not yet introduced, generating only monochrome volumetric studies.

Second block:

The second block focuses on a photomontage, and consists of integrating a virtual digital model within a photograph of an urban context. The objective is understanding the capture of a snapshot of reality and replicating the process digitally: matching the perspective and point of view from the vanishing points of orthogonal pairs of parallel lines in space; learning the operation of a physical camera and its virtual counterpart; estimating and matching the sun position; replicating the sun and sky contribution to lighting; integrating the virtual model using simulated shadows, reflections and indirect lighting; post production and layering to achieve the final composition.

Third block:

The third and last block focuses on the realistic simulation of an interior or interior/exterior space, achieving the maximum quality that modern render engines are capable of. The students are provided a model of an architectural space where they must define realistic materials and accurate lighting, placing objects according to the intended use and establishing the point of view of the image to explain the architectural or urban proposal. In this block the students can also produce a rendered image of the project that is developing in the project design course in the current academic year.

Additional exercise:

Finally, there is a complementary exercise that is not compulsory to deliver to receive a passing grade but contributes a small amount to increasing the final grade, which consists of a video animation of the proposal, taking advantage of the increased speed in modern rendering engines to produce video content in a short amount of time. The video can include camera movement, changes in sun position, whether effects, animated persons and vehicles, moving architectural elements like opening doors or revolving fans, and even contextual audio.

Assessment:

During the last week at the end of each of the blocks, the work developed by the students is delivered electronically in the Atenea platform, and a practical exam is conducted focusing on the most crucial aspects explained in each of the blocks.

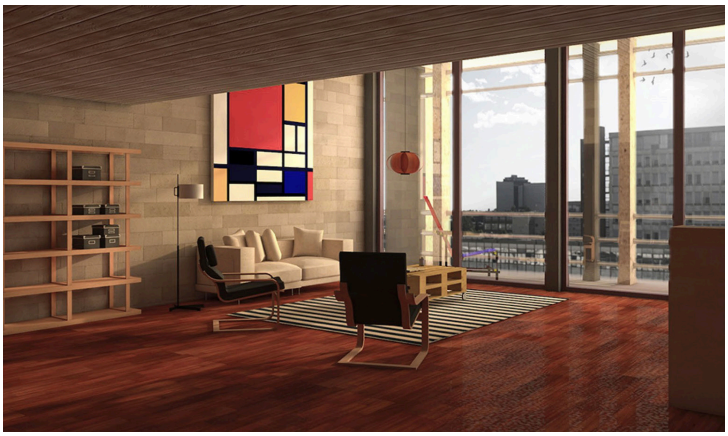
In addition, the deliverables of the first and second blocks can be improved and re-submitted for evaluation until the end of the course. If all the blocks are passed, the students attain a passing grade for the course (continuous assessment). After this evaluation, there is a final exam that the students that have not obtained a passing grade or have not been able to follow the course can conduct. Furthermore, the students with a passing grade can also opt to increase their grades in this exam, and their final grade will never be lower than the one attained by continuous assessment.

Faculty:

Francesc Valls Dalmau, course coordinator

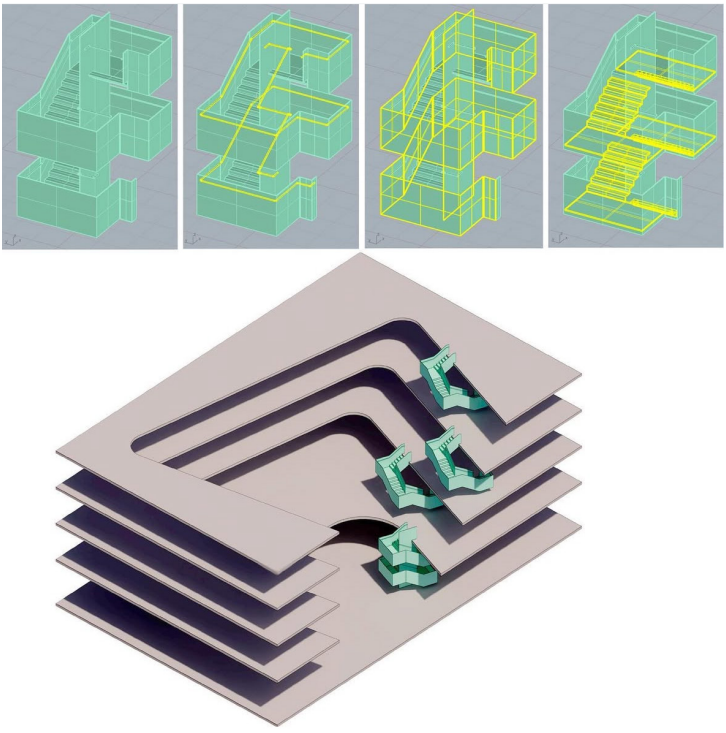
First Semester:
Francesc Valls Dalmau (English Group)
Juan Ignacio Valgañon Alvarez

Second Semester:
Francesc Valls Dalmau (English Group)
Anna Mañosa Tarruella
Alberto Marin Navarro
Alberto Sanchez Riera
Juan Ignacio Valgañon Alvarez

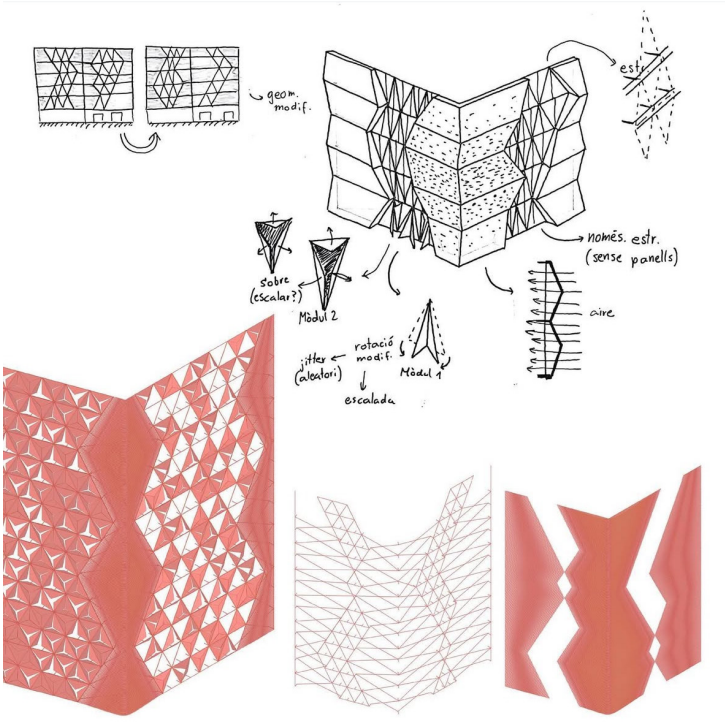


Exercise 3 / Interior Spaces

Architectural Representation IV
Representació Arquitectònica IV



Laia Oriol Sàbat



Yujie Liu

Contents:
Architectural Representation IV focuses on parametric modeling and environmental simulation applied to architectural design. The course introduces students to visual programming methodologies using parametric software such as Grasshopper, enabling the development of constructive solutions for façades, roofs, and structures. It also incorporates digital simulation tools to analyze the environmental performance of architectural proposals, combining parametric logic with structural and environmental behavior. The course is oriented toward applied design processes, where students progressively integrate knowledge into practical exercises and a final project.

- / Knowledge of the tools necessary for the application of work with objects in the development of the architectural project.
- / Control of architectural elements in global building information systems.
- / Generation of architectural application components through integration in metric and constructive control systems.
- / Resolution of the implantation of the building in the natural space. Graphic control of the topography of the terrain.
- / Introduction to parametric systems of free geometry forms in the application of architectural projects. Application of parametric tools for the resolution of architectural forms.
- / Interaction of parametric tools in order to give versatility and modification possibilities in the elaboration of building processes.
- / Basic knowledge in the management and research of construction processes.
- / Knowledge of the possibilities of exchanging graphic and alphanumeric information for its application to the technical processes of calculation and the representation of shapes and forms.

The course is structured in four main thematic blocks, each addressing specific aspects of parametric modeling, geometry generation, simulation, and project integration.

First block: Basic principles and fundamental geometries

- / Introduction to Grasshopper
- / Concepts of point, plane, vector
- / Components and basic data management
- / NURBS curves and parameterization

Second block: Generation and manipulation of geometries

- / Complex representations: Data Tree and ordering strategies
- / Control of complex geometries through lists and hierarchical structures
- / Mesh subdivision: use of Weaverbird
- / Introduction to smoothed surfaces and polygonal meshes

Third block: Digital simulation and environmental performance

- / Structural simulation using Kangaroo (cables, membranes, catenaries)
- / Concepts of elastic behavior and simulated physics (Hooke, shells)
- / Environmental analysis with Ladybug (sun, radiation, shading)

Fourth block: Final project

- / Development of a self-directed architectural project in pairs
- / Integrated application of modeling, data, and simulation
- / Production of graphic documentation and final presentation

Assessment:

Long-answer tests 70%
Multiple-choice tests 20%
Individual work and exercises

Continuous assessment
Continuous assessment will be based on the work carried out by the students during the course, by means of the delivery of assignments or
written and/or oral tests, according to the criteria and timetable established.

Final assessment
If the continuous assessment is not positive, a second assessment may be carried out, which will consist of a final overall test in the following format
the format established in accordance with the criteria of the teacher in charge (written or oral test and/or submission of work).

Rules for Taking Tests:

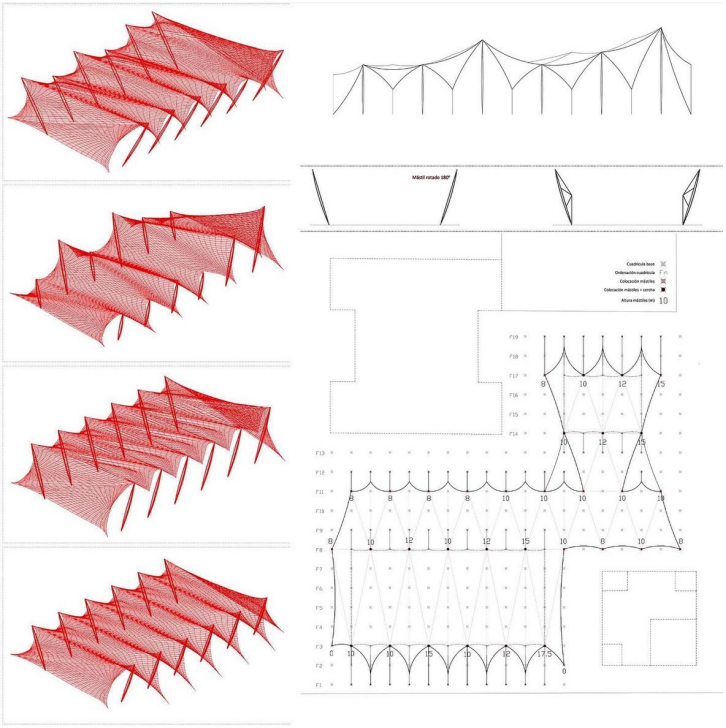
In order to carry out the assessment tests, it will be necessary to use a portable personal computer, with a network connection, capable of working with computer graphics programmes.

Faculty:

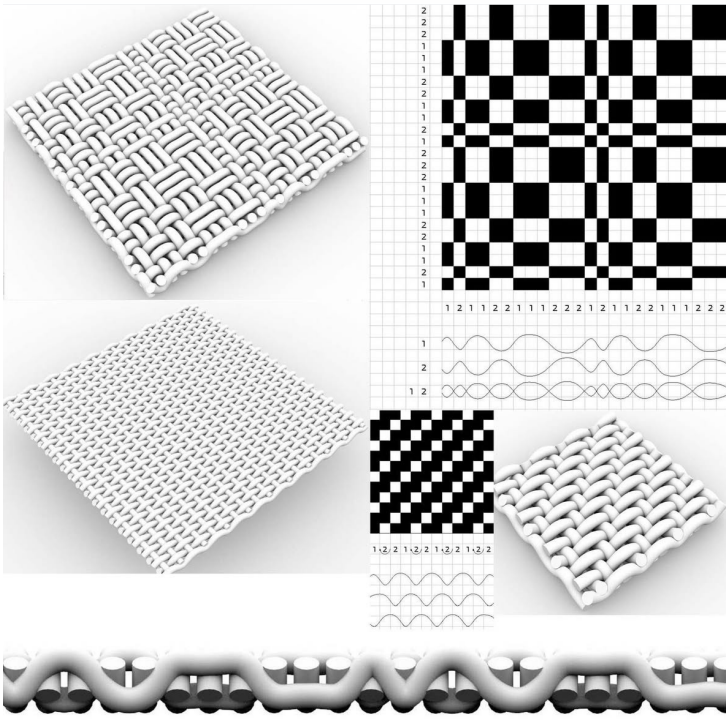
Isidro Navarro Delgado, course coordinator

First Semester:
Isidro Navarro Delgado (English Group)
Omar Fabrisio Avellaneda Lopez
Joaquim Narcís Moya Sala
Galdric Santana Roma

Second Semester:
Isidro Navarro Delgado (English Group)
Luis Gimenez Mateu
Joaquim Narcís Moya Sala
Galdric Santana Roma



Caio Gonçalves Ferreira



Lucia Pardos Arias

Design Studio II
Projectes II

Design Studio II / Morning Group
Elena Rivera

Design Studio II / Morning Group
Noemí Gual

Design Studio II aims to approach architectural design as a task focused on spatially organizing and formalizing life in a place through technical resources. Students begin their work with objective constructive systems, spatial elements, and specific uses, using these as the foundation for the design process.

The purpose of the course is to achieve a coherent architectural form, one that is capable of resolving conflicts between the technical systems employed, endowed with its own meaning, and actively contributing to the construction of place. Through this process, students gain an understanding of the relationships between building and inhabiting as revealed through the specific forms of architecture.

The studio is structured around exercises of approximately monthly cadence, each requiring the integration of different structural and constructive systems with distinct types of sites. Emphasis is placed on the conception and realization of projects that analyze and synthesize the relationships between building and inhabiting in both public and private domains. Special focus is given to the exploration of architectural types and the search for the most appropriate architectural form in each circumstance.

Ultimately, the course develops students' ability to select the most suitable building type for each case, reinforcing a critical and contextual approach to architectural design.

Learning objectives:

- To understand the genuine usefulness of architecture and the relationships that its specific forms establish with ways of living, sites, and techniques. To view this knowledge with a historical perspective in order to apply it critically in architectural design.
- To cultivate analytical capacity and concrete imagination, using graphic knowledge and representational skills, in order to develop the capacity for abstraction that allows the practice of design to be grounded in the conception and formalization of reality.
- To design architecture through the conscious use of spatial matrices and basic technical systems of a strictly formal nature, which, when put into relation with life and place, acquire anthropological meaning and value.
- To practice oral and written communication on architectural topics, both in public presentations and evaluations of learning outcomes, as well as in collective debates on the theoretical assumptions employed and the values on which they are based.
- To begin acquiring the ability to conceive and develop architectural projects in all their standardized formats: preliminary design, basic design, and execution project.

Assessment:

- Short-answer tests 0–100%
- Oral presentations 0–100%
- Individual assignments and exercises 0–100%
- Group assignments and exercises 0–100%
- Project evaluation 0–100% (continuous assessment and final assessment)

Continuous assessment
Continuous assessment will be based on the work developed by students throughout the course, through the submission of assignments or the completion of written and/or oral tests, according to the criteria and schedule established.

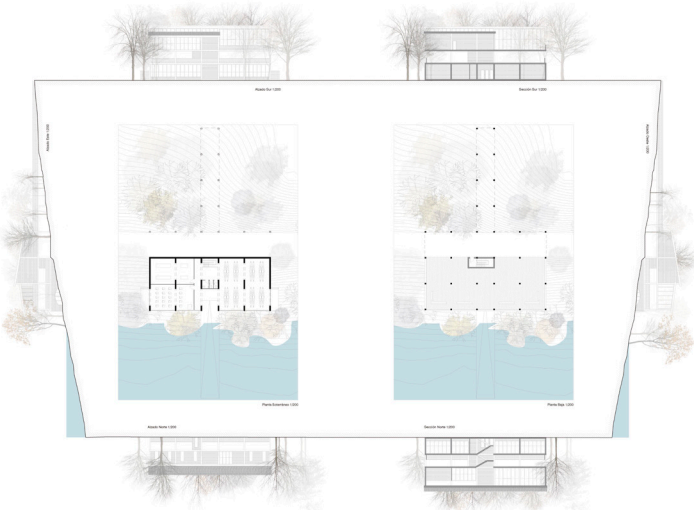
Final assessment

If the continuous assessment is not satisfactory, students may take a second evaluation consisting of a comprehensive final exam, in the format determined by the responsible faculty (written test, oral test, and/or submission of assignments).

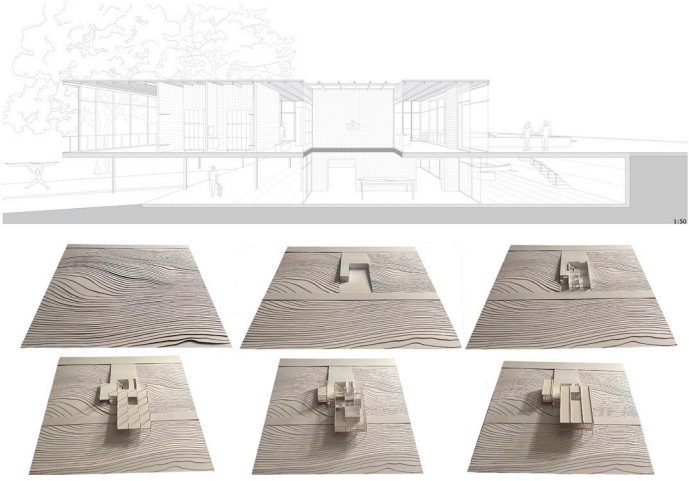
Faculty:

Morning group
Cristina Gaston Guirao, course coordinator.
Andreu Arriola Madorell
Laura Bonell Mas
Maria Carmen Domingo Domingo
Jan Güell Rotllan (English Group)
Eva Maria Jiménez Gómez
Eduardo Miralles Millon
Estel Ortega Vázquez

Afternoon group
Jaime Jose Ferrer Fores, course coordinator.
Lluís Àngel Dominguez Moreno
Ignacio Martinez Molina
Yolanda Ortega Sanz
Jofre Roca Calaf
Jorge Roig Navarro
Sergi Serra Casals



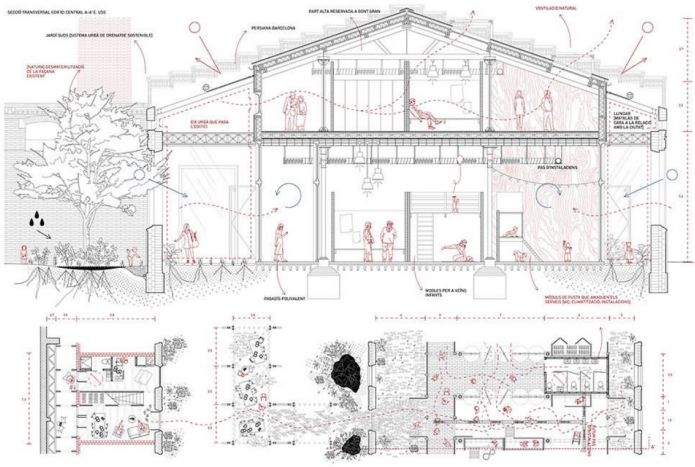
Design Studio II / Afternoon Group
Jaume Villaró Marimon



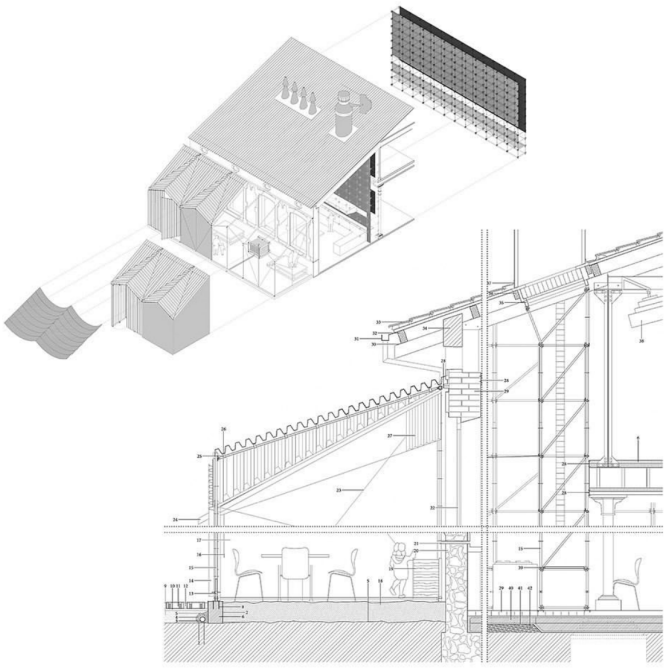
Design Studio II / Afternoon Group
Hugo Ramírez Gorgoso

Design Studio II / Afternoon Group
Final Delivery

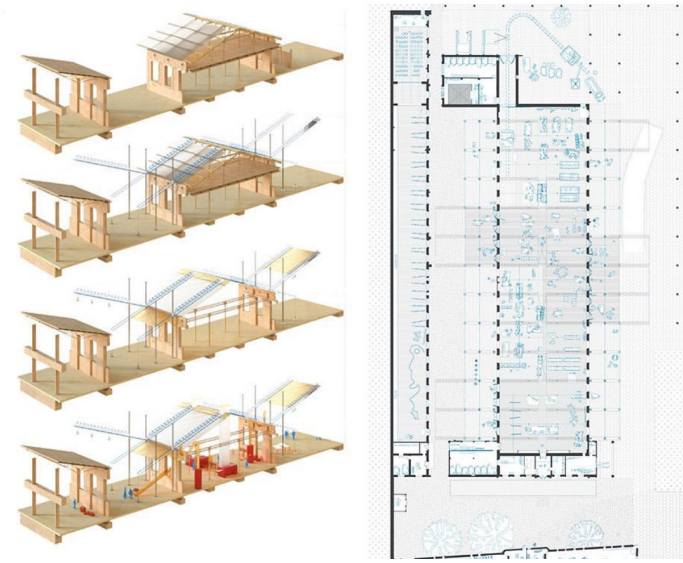
Design Studio IV
Projectes IV



Design Studio IV / Morning Group
Alejandro Cáceres



Design Studio IV / Morning Group
Guillaume Dondaine



Design Studio IV / Morning Group
Guillem Fernández

Design Studio IV continues and complements the course Design Studio III, which worked on HOUSING FROM INSIDE (starting with 25 case studies, moving on to prototypes, and exploring the activity within the dwelling); and then progressed to the study of HOUSING FROM PLACE. Design Studio IV reverses this process and starts with the PLACE, studying the site and its relationship with the URBAN (the built environment), the SOCIAL (public space, the commons), and the NATURAL (landscape, topography, and environmental conditions), before moving on to the development of the program and typologies.

Learning objectives:

To consolidate the design knowledge from previous courses by beginning to understand the project in all its complexity. To synthesize in the project the specificities of other subjects, a synthesis work that occurs for the first time in this course in architecture studies.

This course is dedicated to the relationships between Housing and the City. The relationship of the project with its surroundings, or the complementarity between building and public space, are, from this perspective, fundamental issues. This approach to the project aims to facilitate work at different scales and give meaning to a continuous process of reflection. The public–private duality is, in the case of housing, a fundamental aspect, and the transitional spaces derived from this issue are especially important.

The objective of this course is to know and analyze different residential aggregation systems. This involves understanding both the aggregation mechanisms and the consequences of their application in terms of density, organization, and urban form or natural environment.

To understand housing as the axis of social life for cities and people, assimilating the basic requirements of habitability and fundamental housing programs. Specific attention must be given to programmatic and dimensional issues that the project is required to resolve in a reasonable and sound manner. This deliberate proximity to real circumstances should not be understood as a limitation; on the contrary, it is within the world of real-life conditions that the project can fully develop.

To understand the project through the disciplinary tools of the profession, particularly by focusing on the site in its broadest sense, the social organization of a program, considering new forms of living, and the proposal of a spatial container through the implementation of geometry, construction systems, material, and light. In this sense, experience is understood as an important ingredient for the intellectual formation of future architects.

To practice communicating the architectural project in all its forms: oral, written, graphic, and through representation models. Its scope includes presentations and public evaluations as well as collective debate sessions.

New ways of living:

The last two crises, the economic crisis in 2008 and the health crisis in 2020 have brought a change in habits: a new culture of sharing (car, home exchange, crowd-funding), demographic changes (the traditional family is no longer the only form of cohabitation), and a return to urban life (as opposed to suburbia) and vice versa.

This change has provoked a search for new typologies and programmes in contemporary domestic architecture, which can be defined as a search for an architecture of the collective that develops on three levels: [1] the dwelling, with “cluster” apartments, where a number of them share living spaces; [2]

the building sharing services, recovering the circulation spaces as social spaces and, above all, the roofs as ecological leisure spaces; [3] the relationship of the environment, whether natural or urban, with the neighbourhood, absorbing certain uses or public facilities (passages, commerce, work spaces).

Syllabus:

The course proposes the development of a residential project through successive phases, with particular attention to site analysis in the most unique settings, encouraging this analysis to translate into design incentives. Regarding the program, the course encourages reflection on the activities within the dwelling, the current significance of certain communal spaces, and the relationship between public and private realms.

The aim is to advance the definition and complexity of programs by introducing the requirement to include a small facility in collective housing projects or communal spaces in individual housing projects. In the same sense, the development of technical and environmental factors should progressively become more intensive, promoting interdisciplinary integration within a comprehensive and complex project.

Assessment:

If the course has been followed (minimum 80% attendance), participated in it and all the deliveries have been handled, the course will be evaluated in the tutorials of the last week of the term, assessing the 3 deliveries made.

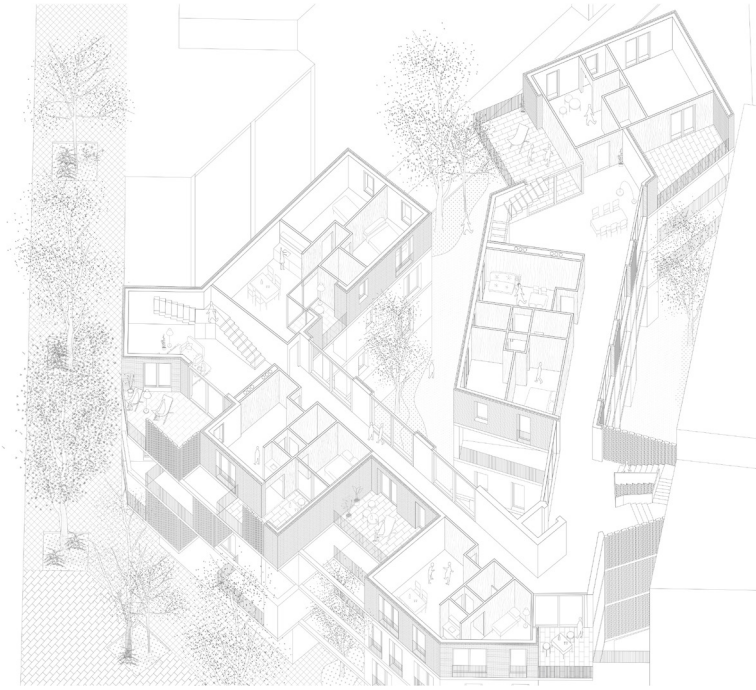
Physical class attendance (min 80%), punctuality and partial deliveries are fundamental and compulsory, as the topics treated are not repeated from one session to the next. from one session to the next. All the documents produced are assessable.

Final evaluation.
GROUP 1. Those who have followed the course and completed all the partial deliveries and their grade is higher than 4.0: All the partial deliveries must be uploaded to Atenea.
GROUP 2. Those who not reach 80% attendance, they have not done some partial deliveries or the grade is lower than 4.0. They must follow the “Final Delivery” list.

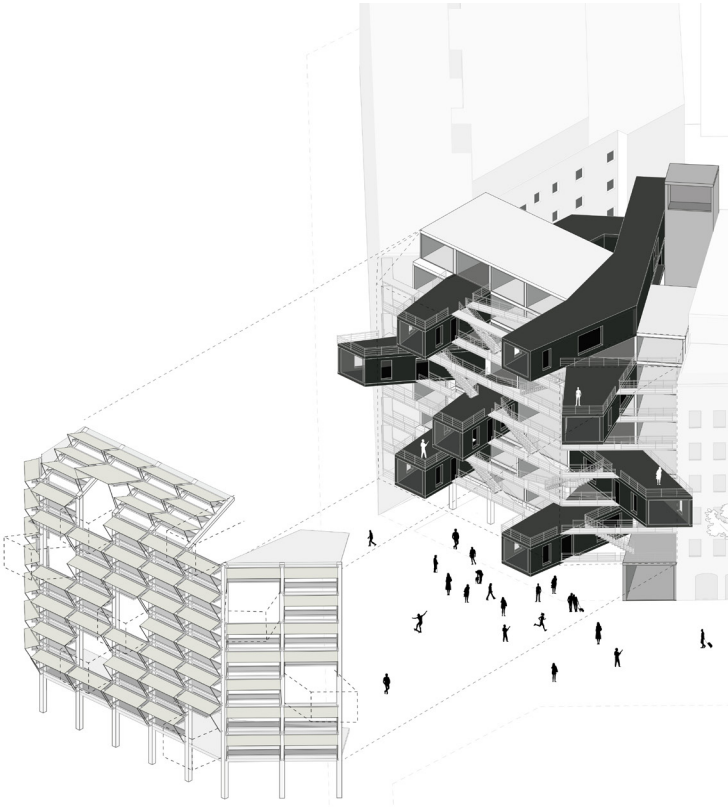
Faculty:

Morning group
Jaime Coll Lopez, course coordinator. (English Group)
Estefania de Arrate Abaigar Villota
Eduard Callís Freixas
Cristina Gamboa Masdevall
Ariadna Perich Capdeferro
Arnau Sastre Cuadri
Marc Subirana Ribera
Roger Such Sanmartín
Pablo Villalonga Munar (English Group)

Afternoon group
Marta Peris Eugenio, course coordinator.
Pedro Juan Ravetllat Mira, course coordinator.
Concepcion Balcells Blesa
Jordi Badia Rodriguez
Pau Genis Bajet Mena (English Group)
Carles Enrich Giménez
Jaime Coll Lopez
Miquel Mariné Núñez
Pablo Roel Herranz
Xavier Ros Majo
Aleix Salazar Aloy
Roger Such Sanmartín

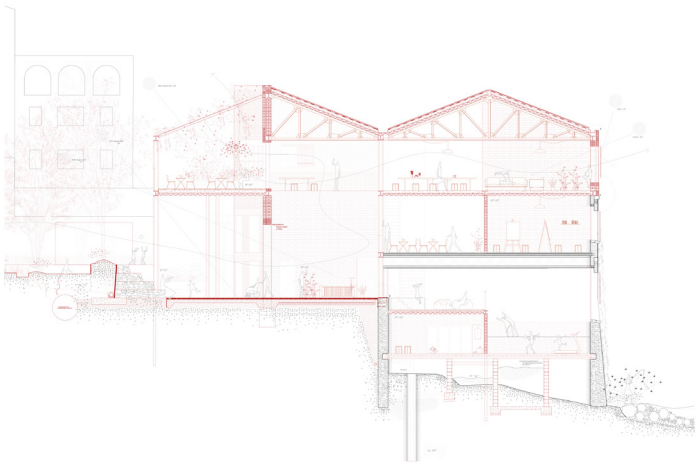


Design Studio IV / Afternoon Group
Carmen Socías + Pol Solans

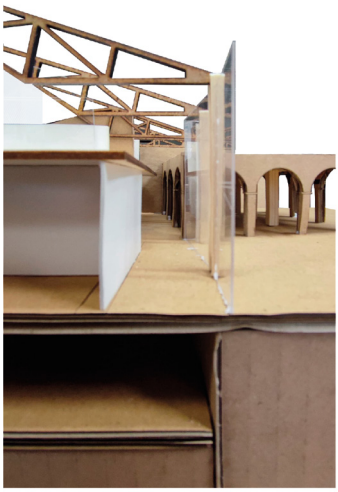


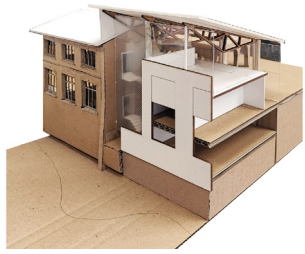
Design Studio IV / Afternoon Group
Lucía Almeida i Xiang Chen

Design Studio VI
Projectes VI

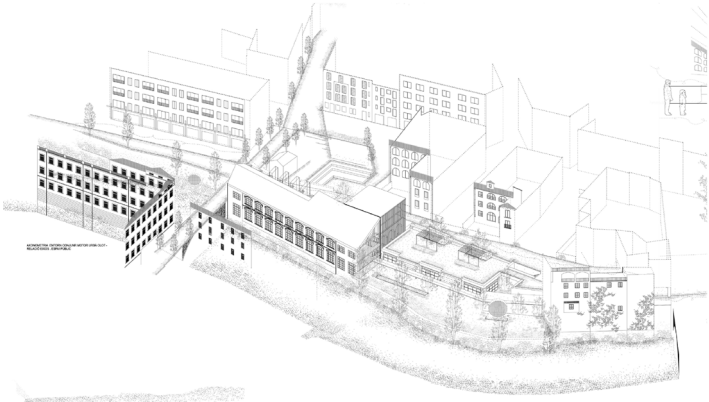


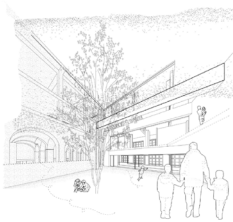
Design Studio VI / Morning Group
Carlota Baldoví





Design Studio VI / Morning Group
Santiago Brualla





Design Studio VI / Morning Group
Catalina Maria Ginard

This course proposes the development of building and public space projects. It complements the previous course and emphasizes equivalent parameters. The objective is the integration and consolidation of technical requirements (structural, constructional, energy-related, historical, and referential) as fundamental tools to achieve the definition that the project demands. This course is approached as a design tool from the very beginning.

Public buildings (either single-function or multi-function) have varying degrees of complexity. One aspect is their urban insertion, acting as a unifying element of activity. A second aspect comes from the complex specificity of the program(s), beyond the concept of typology. Added to this are the inherent aspects of structure and construction process. In this course, these topics are treated with a higher degree of complexity than in the previous course, as it builds on knowledge and tools already initiated to address them.

Learning objectives:

The Design Studio course is fundamentally a studio-based discipline. It is its natural field of development. However, as such, it necessarily draws on other subjects to achieve its main goal: the completion of an architectural project. It is therefore transversal, as it brings together knowledge acquired in other areas of study. Students must apply and combine skills and concepts learned in Architectural History, Construction, Structures, Urban Planning, and others. The process and evolution of the exercise must establish a balanced relationship among all these areas.

The course focuses on buildings and public spaces. Their relationship is necessary and essential, allowing the project to be considered at different scales, from its urban positioning to its reality:

- / Urban planning
- / Historical awareness
- / Analysis and study of reference projects
- / The program as a requirement, and structural and constructional awareness as determining aspects of the project
- / Incorporation and optimization of energy resources and sustainability

Working on briefs encompassed within the concept of “building and public space” prioritizes the study of structural, constructional, and energy-related issues, which are essential aspects the project must consider from the outset.

The public building as a place for social activity. Its location in the city. The requirements and demands of its functional program. The role of architectural techniques as design tools in determining form.

It is necessary to address the real complexity of programs and understand their architectural dimension. A vision of economy should be promoted, incorporating criteria to optimize energy resources.

The project is intimately connected to intellectual activity, with a consequent balance between theory and practice. The relationship between theory and practice must be based on mutual reciprocity. Practice offers multiple facets and responds to numerous needs. Theory does not have an independent method of work or knowledge; it largely depends on other disciplines, although it is the work of architecture that truly supports it.

Assessment:

Preliminary Analysis: 10%
Intermediate Proposal: 30%
Final Submission: 45%
Total: 100%
Model: 15%

Continuous Assessment
Continuous assessment will be based on the work developed by students during the course, through the submission of assignments or the completion of written and/or oral tests, according to the criteria and schedule established in the specific course syllabus. There are two requirements to qualify for this type of assessment:

- A minimum of 80% attendance in face-to-face classes
- All partial submissions defined in Atenea must have been completed

Final Assessment
If continuous assessment is not satisfactory, a second assessment may be carried out. This will consist of a comprehensive final exam in the format established at the discretion of the responsible instructors (written or oral test and/or submission of assignments).

Faculty:

Morning group
Maria Elena Fernandez Salas, course coordinator.
Jordi Adell Roig
Oriol Cusido Gari
Marta Domènech Rodríguez
Ignacio López Alonso (English Group)
Martí Sanz Ausàs

Afternoon group
Felix Solaguren-Beascoa de Corral, course coordinator. (English Group)
Antoni Barcelo Baeza
Maria Pilar Calderon Martinez
Cristobal Fernandez Zapata
Mónica Tárrega Klein
Carlos Vinardell Puig

El proyecto se sitúa en un enclave rural, donde la agricultura moldea no solo el paisaje, sino también la escala y el ritmo de vida. Rodeado de campos cultivados y una topografía característica, el pueblo de Santa Cecília de Voltregà aparece como una constelación discreta en medio de lo natural. Frente a este contexto, la intervención se inscribe con respeto, reconectando fragmentos olvidados y recuperando la rectoría como pieza clave de memoria colectiva
y potencial latente.
Se apuesta así por una arquitectura que no impone, sino que escucha y reinterpreta el lugar.

Design Studio VI / Afternoon Group
Ruben Carmona Garcia

Design Studio VI / Afternoon Group
Carmen Sanz Gonzalez

Thematic Studio / LAC
Thematic Studio / LAC

Esteban Aimara + Yue Xu + Joan Nieto + Kasparas Visockas

Ismael Belhadj + Marilyn Hinojosa + Angi Moreira + Szabolcs Koch

LAC is presented as an annual course, divided into two terms, where the first term will focus on Computational Design and the second on Digital Fabrication, without neglecting the evident and necessary relationship and transition between one and the other. In any case, the approach and the programme will ensure that students who choose to take either of the two terms independently will be able to do so. Each four-month period will place students on the same starting line, while guaranteeing the achievement of specific objectives in each four-month period. In the same way, those students who so wish may take the two terms as a single course with programmatic continuity: LAC I - Computational Design (1Q) and LAC II - Digital Fabrication (2Q).

The ETSAB's Computational Architecture Laboratory (LAC) is a cross-thematic Design Studio between the Department of Projects (DPA), the Department of Technology (DTA) and the Department of Representation (DRA), which explores architectural design from the computation of information, through mathematical and geometric definitions, in order to generate efficient, sustainable and innovative responses.

Material information is essential, in an assay-error method where speculation and experimentation are confronted in favour of innovation in architecture. LAC relies on technique and technology to design architecture, from computation and generative design to digital fabrication tools for the prototyping of new architectural solutions with full awareness of climate emergence.

Introduction:

Antoni Gaudí, Buckminster Fuller and Frei Otto, three different architects belonging to three consecutive generations, explain very well how we can acquire knowledge and apply it to architecture by observing the optimisation systems that nature itself uses, both in living beings and in the real world.

Architecture is not a linear or deterministic process, but must be understood from the integration of design, form or material with structural, construction and manufacturing systems, with the consideration that the creative process presents emergent situations and gives way to new solutions. The work and experiments of these three architects (study of pure compressive traction with inverted models of catenaries, analysis of minimum surfaces with tile models, discretisation of the spherical surface in a geodesic geometry...) were the precursors of computation (non-computer computation) as a way of analysing and discovering shape.

The computation that we now have at our disposal is therefore a very powerful tool that allows us to integrate all the phases of design into one, and to open up scenarios for new models of adapted and sustainable production. It is in this spirit of laboratory research, and under the new paradigm that computation and digital fabrication raise, that LAC opens this space at ETSAB in the form of a Thematic Workshop for experimentation and emergence of new forms and systems of design and construction in architecture.

LAC is a laboratory, the aim of which is, in the first instance, to identify specific and precise information, collect it, manage it and process it. Through technology it is necessary to establish systems, processes and networks that allow us to visualise the information, while providing multiple appropriate responses, thanks to algorithmic, mathematical and geometric programming in an approach to generative and parametric design. The design has to be subjected to digitally simulated but also analogue simulations, in a disciplined and systematic way, accompanied by adequate documentation in order to be able to speculate, experiment and conclude with optimal solutions. Through project-oriented computational design, LAC explores

from specific information (also in real time) and Big Data, to offer architectural solutions based on light structures, aggregated systems (components and unions), complex but optimised geometries and logic based on mathematics and physics.

LAC looks at traditional materials from a new perspective, and considers the cycles of materials to be used (recycled and recyclable), organic materials (wood, cellulose-based materials...) and new materials; understanding them from their mechanical behaviour and programming them in new ways to respond to stress, through analysis and design. LAC wants to establish an integrated, fluid and agile dialogue between computational design and digital manufacturing, through prototyping, with full confidence in the new manufacturing techniques, both additive (3D printing) and subtractive (numerical control CNC cutting systems), or training techniques (thermoforming, folding...), to offer full confidence in the new manufacturing techniques.), in order to offer full efficiency in the construction process, and adapt it to the context without harming the environment, on the contrary. The final objective of the LAC is to deliver a space built on a scale of 1:1, within the ETSAB, as a coherent format of the Thematic Workshop.

Workshop: 'Make to Make'

The course begins with a short three-session workshop, which explores the design and digital fabrication from the process of making a container or container through a technique, a stri or a tool. This piece, which can be found all over the world, in all times and cultures, allows us to deal with the dual interior-exterior condition, at the same time as it allows us to consider the mechanical and manufacturing properties.

The result therefore emerges as a response to a material, a technique and a manufacturing process, where the design of manufacture, where design and manufacture go hand in hand.

Design: 'In-form'.

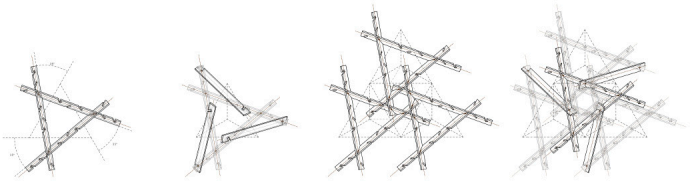
The exercise starts from the opportunities of the material, the technique and the manufacturing process. The student speculates on new manufacturing systems and new construction solutions to propose an architectural space.

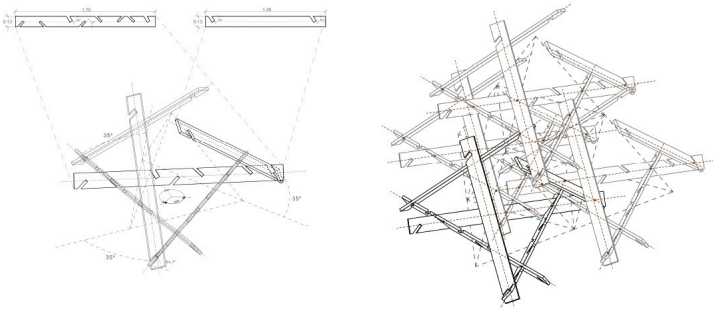
The design process starts from the properties of the material and its capabilities, once it has undergone a process of manufacture and manipulation. Experimentation with the material and the technique opens the way to new the way to new scenery and architecture in an environment of climatic of climatic emergency.

For information on Results, Deliverables and Assessment, see in this guide Thematic Studio I - LAC I Laboratory of Architecture & Computation I

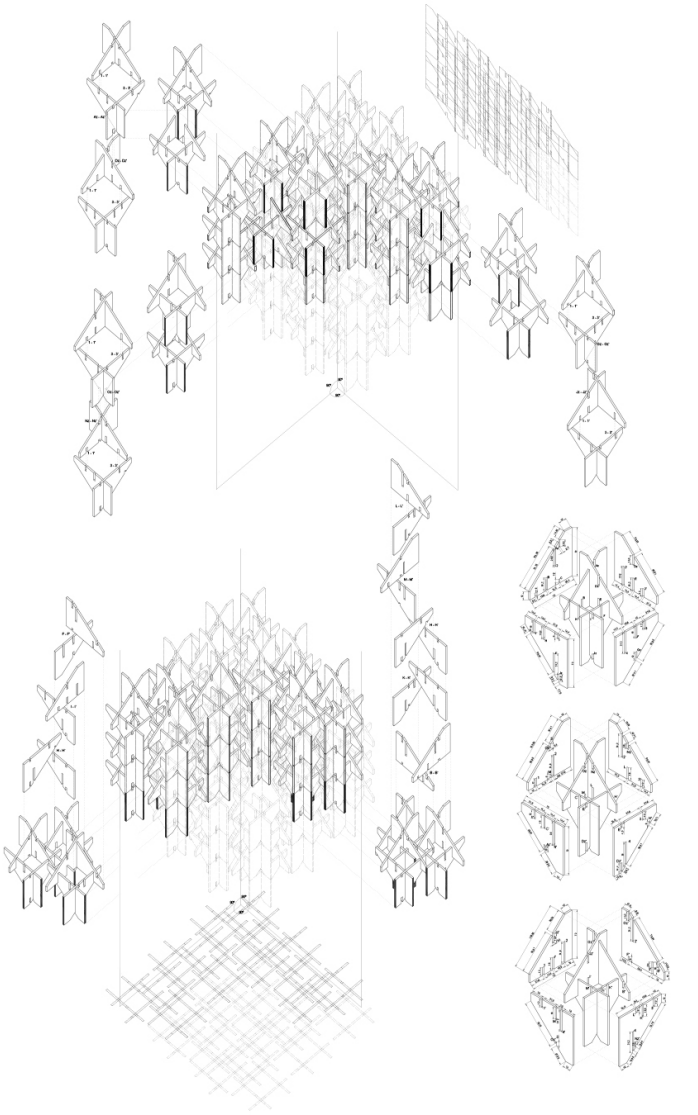
Faculty:

Relja Ferusic Manusev, course coordinator.
Carles Sala Roig, course coordinator.
Salvador Gilabert Sanz, course coordinator.
Omar Fabrisio Avellaneda Lopez





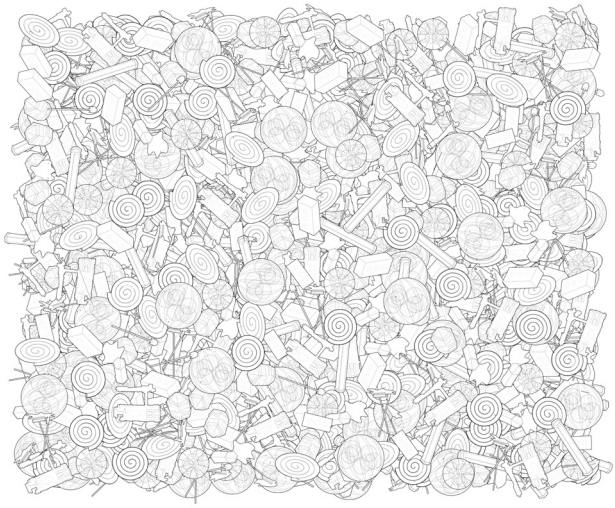
Cristina Beltran + Andrea Díaz + Gemma Olivera + Bruna Riera

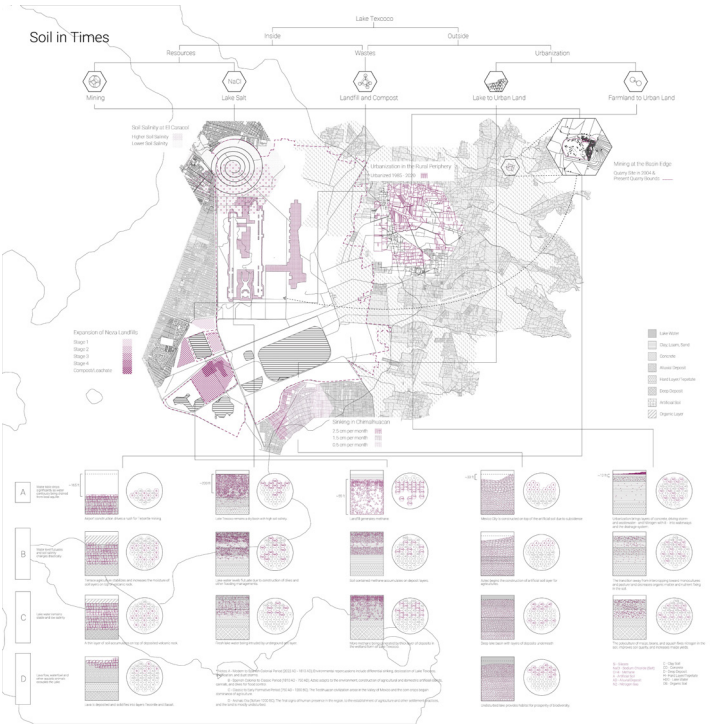


Ismael Belhadj + Marilyn Hinojosa + Angi Moreira + Szabolcs Koch

Thematic Studio / Visiting Studio

Thematic Studio / Visiting Studio





Jingyuan Zhu + Kevin Robishaw

To think through soil is to engage deeply with numerous critical issues of our time. Beyond its essential role in agriculture—feeding a global population of eight billion—soil has emerged as a key agent in carbon storage within climate models. Additionally, it plays a vital role in promoting biodiversity, managing flood risks, and safeguarding freshwater resources. No other material is tasked with serving so extensively in the preservation and enhancement of the human environment, yet our understanding of soil's nature and functions remains remarkably inadequate.

In urban settings, soil exists in a nebulous domain, with its boundaries often empirically ambiguous and politically disputed. Soil acts as a nexus for crucial environmental processes, facilitating the planet's most fundamental material transformations. Understanding what soil truly is can help reframe our approaches to environmental thought, design processes, and urban and regional planning, ultimately guiding us toward a healthier, more ethical, and sustainable future.

This concept becomes even more poignant when examined through an in-depth analysis of the delta del Llobregat, where urban, agricultural, infrastructural, and ecological issues collide. The visiting studio will explore the possibilities of urban metabolic processes as a way of soil formation, and it will interrogate the anthropogenic processes crucial to soil production and transformation.

Studio Research Methodology:

Through a series of research-based assignments, students will develop a personal thesis and find topics of interest within the Llobregat delta area. The Llobregat Delta, like all deltas, has clearly identifiable boundaries and plays a key role in the functional structure of the Barcelona metropolitan area. It is a particularly complex territory, defined by the coexistence of four systems—aeronautical, agricultural, wetlands and dunes, and urban—whose dynamics often naturally lead to conflict. The central objective of this studio is to identify alternatives for coexistence and even promote synergies among these systems through a deep understanding of their structures and the processes that govern them, paying special attention to the soil-forming processes that are important to the ecological, agricultural, and infrastructural areas.

Exploration 1: Before + After

Every design proposal begins with a simple yet profound temporal framework: before and after. A common misunderstanding of this framework assumes that the primary preoccupation of designers is with imagining the "after" condition, as if the "before" condition is immutable, and architectural design disciplines can only ever participate in the production of the near future. In practice, design always requires the invention of the "before" condition as well. What we should do in the future depends on our analysis of the past.

Some of the earliest roots of landscape architecture date to the realization of this basic structure of work. Humphry Repton's (1752-1818) "Red Books" invented an ingenious graphic device for simultaneously describing the "before" and "after" condition of a site. A typical Red Book contains his observations on the present state of a client's property and his recommendations on how it might be improved. The Red Book compiles a number of watercolor illustrations along with a text, some of them furnished with hinged or sliding overlays, making it possible to compare before and after views of the same scene. Crucially, both of these scenes were highly constructed. In the "before" scene, something would look wrong, out of place, messy, or asymmetrical. Then the "after" scene would correct a problem that he had invented for himself to fix. This technique was powerful, persuasive, and is still at the center of the structure of our discipline today.

During the first few weeks, we will be asking you to become the 'Humphry Repton' of The Llobregat Delta. These scenes should implicitly answer two fundamental questions: What is the origin? What are the manipulations through time? What is its potential?

Exploration 2: Landscapes of Assemblage

All landscapes are the result of labor. Humans and non-humans maintain and shape all landscapes that we see—from the most urban to the wildest—which are all shaped by agent-based processes of transformation and the labor implicit in them. Machines and processes are drawing explorations revealing the labor needed to support dynamic landscapes of the Llobregat Delta. A full understanding of selected programs will be needed to both have an idea of changes on site and interdependencies outside of it and to discover which of those activities have transformed the current site in ways that are almost impossible to avoid.

For this assignment, students will be asked to draw all processes and operations taking place in their selected areas in detail.

Exploration 3: Soil Profile

Landscapes in space are the result of processes through time. Processes can differ in nature—the result of natural processes or the result of anthropogenic processes—but when we look at those landscapes, we see the combination of both. Each landscape at the delta is more than the spatial configuration and final landscape that we see today. All of them are deeply linked to their site to the point that they have changed the configuration of the soil they are on. For this reason, the third research exploration will be the configuration of a soil profile.

To start, students will be asked to build a small library of soil characters that reveal the metabolic history of the chosen site. So, what is a 'soil character'? Soil characters are agents in the selected sites' milieu. We could also say that they are 'agents in your site's environments.' However, there is something misleading about the term 'environment,' which always seems to imply a set of conditions that are the same for everyone (and everything) all the time. Milieu, by contrast, is a relational term that is generated from the specific point of view of an organism, which includes the set of all organic and inorganic relations that an organism has in the world.

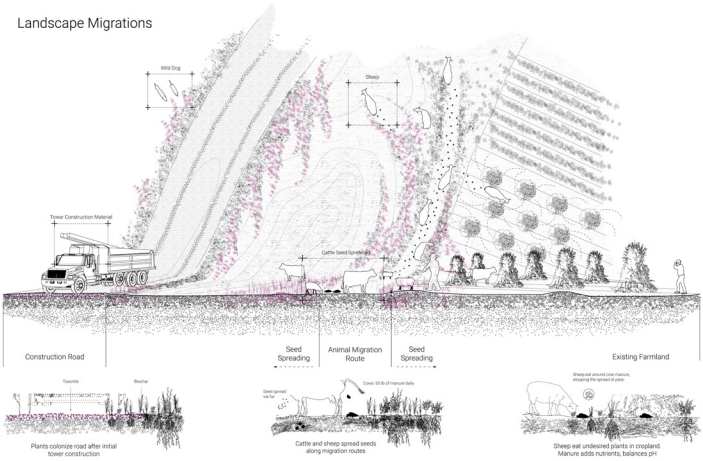
The culmination of these assignments will be the development of a final thesis and design proposal, where students will apply their in-depth exploration and understanding of soil. This will provide a robust foundation for their final projects. The process aims not just to enhance knowledge but to transform our approaches to environmental thought and urban planning, guiding us toward a healthier, more ethical, and sustainable future. By embracing the complexity and importance of soil, we can redefine how we interact with and design for our environment.

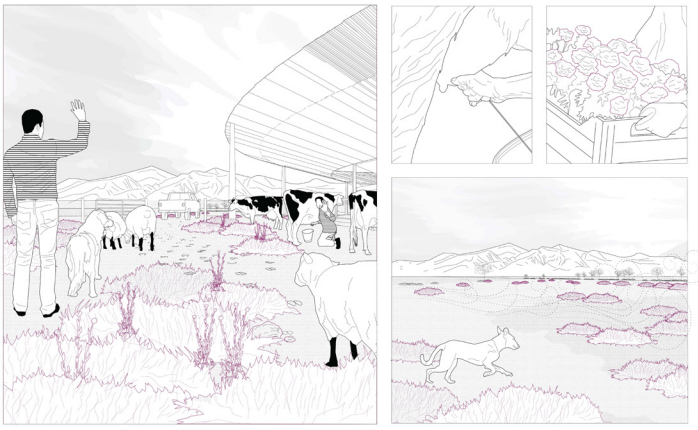
Faculty:

Tat Bonvehí
Ana Zubelzu Viarje

Bird Eye View_East Side

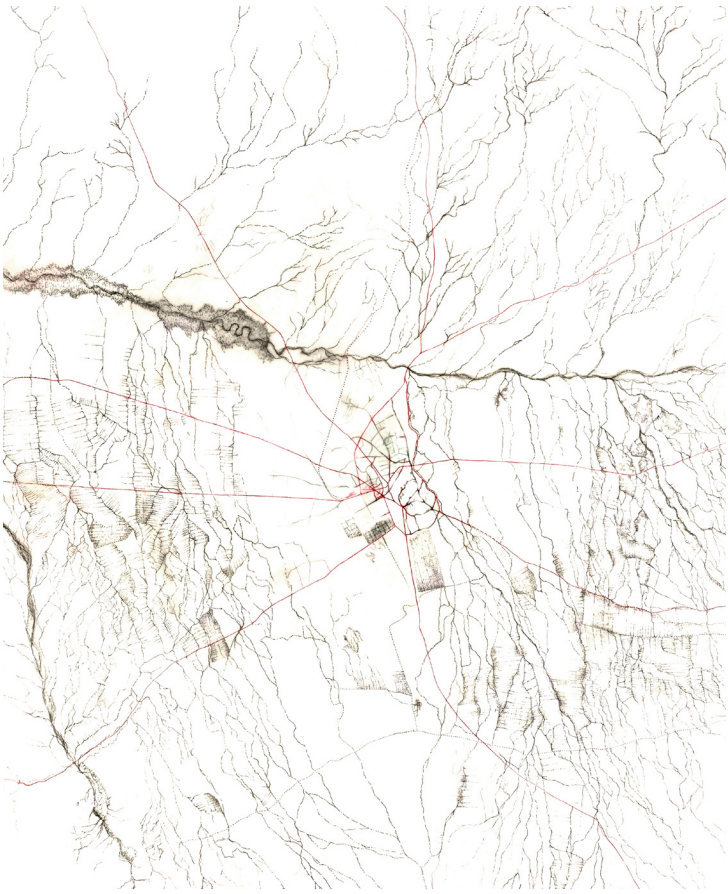
Landscape Migrations





Jingyuan Zhu + Kevin Robishaw

Urban Design II
Urbanística II



Urban Design II / Morning Group
Àlex Escofet + Angel Fernández

Urban Design II / Morning Group
Lena Carles + Berta Claramunt

The second year of Urbanism at ETSAB focuses on the study of the city and its parts. First, it looks at the physical form determined by geography, major infrastructure, singular fragments and the different fabrics that make it up that pays attention to the history, demography, activities and flows that explain the immaterial phenomena that characterise the city. Second, it carries out an urban design analysis based on The forms of urban growth, a work by Manuel de Solà-Morales, the founder of the Barcelona Urbanism Laboratory, in which he discusses a theory he developed in the early 1970s according to which the way in which land division, urbanisation and buildings are linked over time gives rise to diverse urban fragments.
The lectures present several projects of city growth up to the 20th century and interventions of urban regeneration, densification and degrowth carried out during the 21st century. The lectures are presented in video format and are available for a week; every Thursday the topics of the lectures are discussed for 30 minutes in small groups. Students prepare a notebook composed of their notes on the lectures and debates and other materials collected during the semester on the topics that they hand in every week.
However, the course is fundamentally practical and involves two exercises that are carried out during the semester: the first, on the understanding and representation of different cities around the world; the second, on analysis and urban intervention in an urban fragment near Barcelona.

Lectures

1. Introduction to the course. Representation of the city.
2. The city by parts. Plots / Buildings / Urbanisation. Urban growth and decay.
3. The regular city: extensions, grids and foundations.
4. Self-production of habitat.
5. The Garden City. Ebenezer Howard and the English experience.
6. The Garden City. The American second round.
7. Mass housing and the open city. Barcelona's industrial estates.
8. Mass housing and the open city. Hoffs, siedlungs and grands ensembles.
9. Utopias and ideal cities.

Exercise 1: Representation of a city

The map of a city is a conventional and codified representation, the synthetic expression of its materiality and the reflection of its dynamics, conflicts and longings. Each city is presented as a particular and unique scenario in which the following materials are combined in an autonomous and original way:

- / Geography. Orography, coastlines, ridges, hollows and plains give shape and physical support to the urban fact. It represents the biophysical matrix of urbanity, the city before the city.
- / The great infrastructure. Port, airport, train, motorways, superimpose on the geography traces that characterise the main features of the shape of the city.
- / The basic urban structure. The main avenues and layouts stand out among the network of streets and households. Large buildings, open spaces and other symbolic pieces complete the ensemble of unique spaces in the city and support urban activities.
- / Parts of the city. Neighbourhoods and districts are grouped together and fit the material conglomerate of the city. Distinct pieces that draw a puzzle in which one can distinguish the remains of the previous city and the current sediments. Each piece is characterised by the dimensions of the fabric, the density of inhabitants, the activities carried out and the connections with the rest of the parts.

Exercise 2: Scan Barcelona

The second exercise of the course deepens the analysis of the city by parts and initiates the urban intervention. The analysis is approached from the knowledge and direct experience of the site; the intervention from the speculation and abstraction of the concrete case study.

SENSITIVE APPROACH ON SITE: The exercise begins with a field visit that should trigger observation of the site. Looking, listening and asking questions will give you tools that will refine your look at urban form and composition.

URBAN FABRICS: The exercise consists on analysing four fragments of 5 ha (approximately) of the fragment of metropolis, corresponding to four different types of urban fabric and including at least one fragment of low-density city (garden or self-produced) and one fragment of open city.

The first practice of this part consists of understanding the layouts by analysing, drawing and measuring them; the second consists of intervening in one of the fragments by varying the rules of composition of the urban form.

Assessment:

In order to pass the subject in the continuous evaluation it is necessary to have handed in all exercises and notes in relation to the theoretical lessons and discussions. 30% Exercise 1 + 60% Exercise 2 (15% part I, 30% part II, 15% part III) + 10% notebook A5 theoretical lessons.

Faculty:

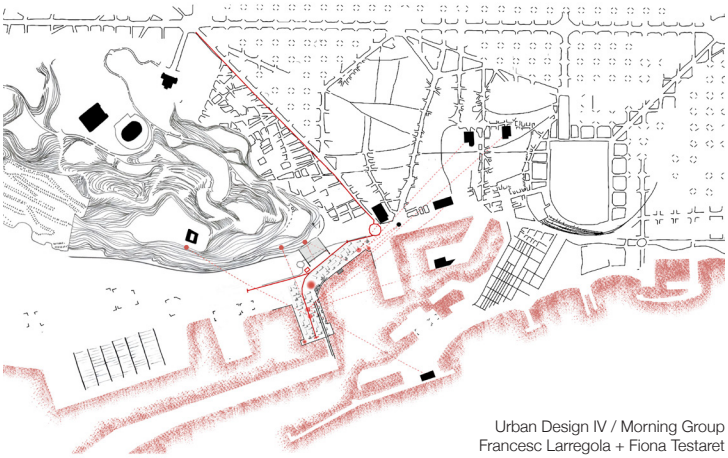
Morning group
Eulàlia Gómez-Escoda, course coordinator.
Joan Florit Femenias, course coordinator.
Laia Alemany Perez
Samuel Llovet Montardit
Daniel Navas Lorenzo
Helena Trias Prats
Eduardo Cadaval Narezo (English Group)

Afternoon group
Melisa Pesoa Marcilla, course coordinator.
Alvaro Rodrigo Cuellar Jaramillo
Aurora Lopez Corduente
Anna Majoral Pelfort
Antonio Moro Domingo

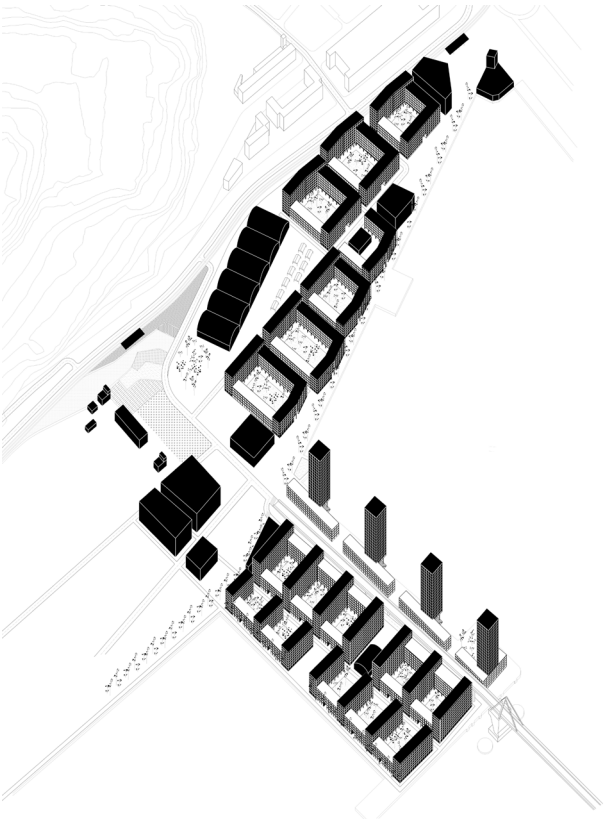
Urban Design II / Afternoon Group
Hugo Ramírez + Aina Soldevila

Urban Design II / Afternoon Group
Gala Cuesta + Judit Pujol

Urban Design IV
Urbanística IV



Urban Design IV / Morning Group
Francesc Larregola + Fiona Testaret



Urban Design IV / Morning Group
Martí Hereu + Sakura Gámez

Urban Design IV / Morning Group
Albert Zulueta + Joan Mira

Course objectives

The primary objective of the course is to introduce students to the design and planning of urban growth. The rational anticipation of the city's form, codified through legal frameworks such as land use regulations, ultimately aims to achieve the optimal distribution of people, goods, and services within a given territory. This goal is expressed through city projects based on models that synthesize different approaches to building, road networks, public and private open spaces, and urban activities. These projects engage with the existing city and its specific characteristics, and are applied to urban extensions with predominantly residential uses in small- to medium-scale sectors that can be planned and implemented in stages within reasonable timeframes.

The course seeks to provide students with the fundamental concepts and tools necessary to intervene in the territory and transform it into a residential city. By analyzing different models tested and consolidated during the 20th century, students will also develop the complementary ability to understand and interpret the relationship between plans/projects and the actual city.

Specifically, the course aims to:

- Enable students to understand the context in which their proposals must be developed.
- Provide basic techniques of urban design, layout, and composition, as well as an understanding of their historical evolution.
- Familiarize students with a wide repertoire of experiences, cultural references, and case studies relevant to the design of residential neighborhoods.
- Foster an understanding of the nature of the residential urban project and its constituent elements.
- Introduce students to methodologies of urban design and planning.
- Develop knowledge of appropriate design instruments (sketches, drawings, models, and graphic representations).
- Encourage students to produce an initial synthesis of the diverse material elements that make up the city and to recognize the intrinsic and unavoidable relationship between architecture, the city, and the territory.
- Introduce students to the use of bibliographic resources and specialized documentary databases.

Contents

The urban project of the residential fragment focuses on the construction of an urban fabric where housing plays a central role. The morphological configuration (structure, composition, and layout) of a small residential fragment—its metric and geometric definition—constitutes the main topic of discussion. Attention is given both to the definition of the whole and to the individualized urban elements and their interrelations, with particular emphasis on the generation of identities. The integration of the fragment within its broader context is one of the key challenges of the reflection. The project or proposal serves as the fundamental tool for discussion, training, and experimentation.

1. Ordinary Urban Fabrics and Project Exploration
   - Orthogonal regular grids: street networks and urban blocks.
   - Urban heterogeneity: the urban fabrics of Amsterdam, New York, and Barcelona.
   - Prototypes of residential architecture and urban commitments: linear blocks, towers, and organic buildings.
   - Urban housing and public space.
   - The urban conception of activities associated with housing: retail commerce and city form.
   - Building codes and ordinances as instruments of city-making.

2. Project Exercises: Residential Growth and Urban Transformation

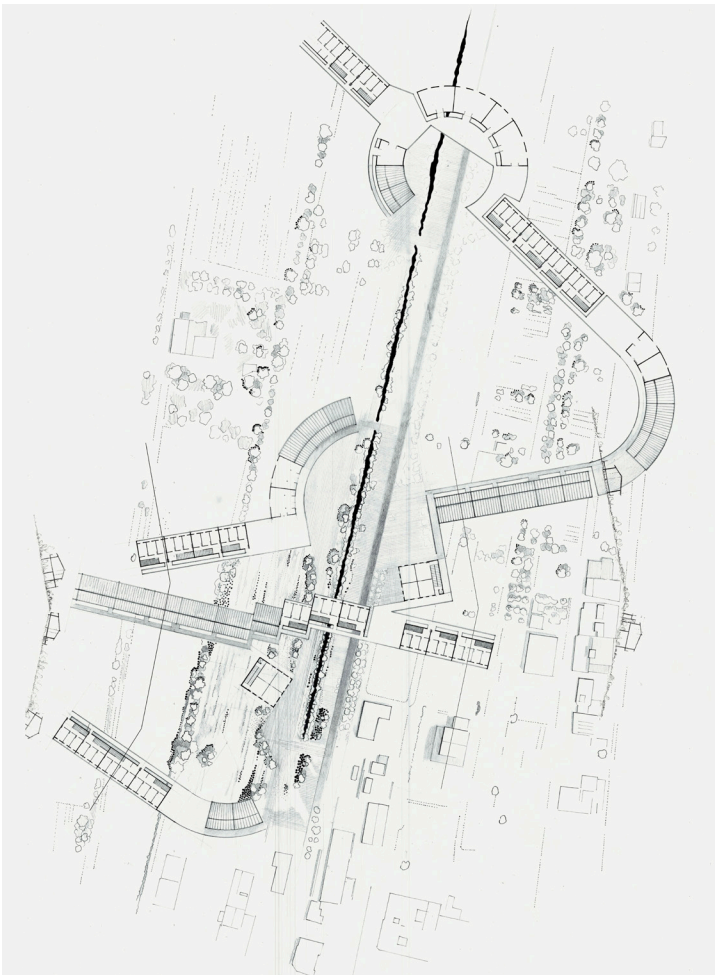
- / Transformation of topography.
- / Street layouts and patterns in relation to mobility.
- / Subdivision of land: plots, densities, and occupation.
- / Urban composition of residential building typologies.
- / Arrangement and form of activities within residential fabrics.
- / Design and sizing of the public open space system.
- / Integration of the proposal into the urban and territorial system of reference.
- / Form and distribution of public facilities.
- / Content of building ordinances.
- / Evolution of urban codes.

Faculty:

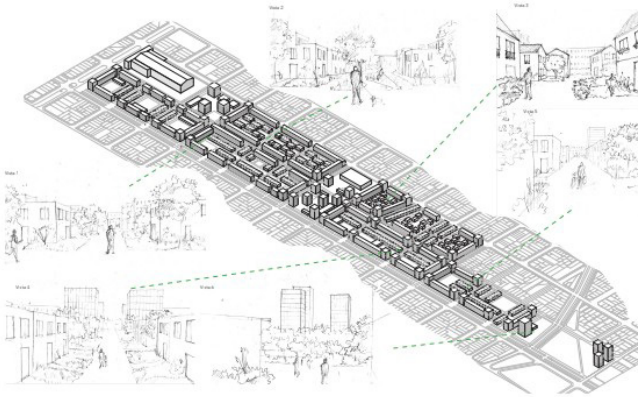
Morning group
Stefano Cortellaro Castagnone Prati, course coordinator.
Joan Moreno Sanz, course coordinator.
Francesc Baque Ramis
Adrià Guardiet Llotge
Joan Maria Martí Elías
Joan Moreno Sanz
Miguel Jorge Perea Solano
Albert Valero Cabre
Sara Mas ibañez (English Group)

Afternoon group
Francesc Peremiquel Lluch, course coordinator. (English Group)
Rosina Vinyes Ballbe, course coordinator. (English Group)
Eduardo Cadaval Narezo
Purificación Diaz Ameneiro
Antonio Font Ferrer
Francisco Puig Esteban
Montserrat Torras Genis
Francisca Vilches Valenzuela

Urban Design IV / Afternoon Group
Martín Hurtado + Pilar Matas

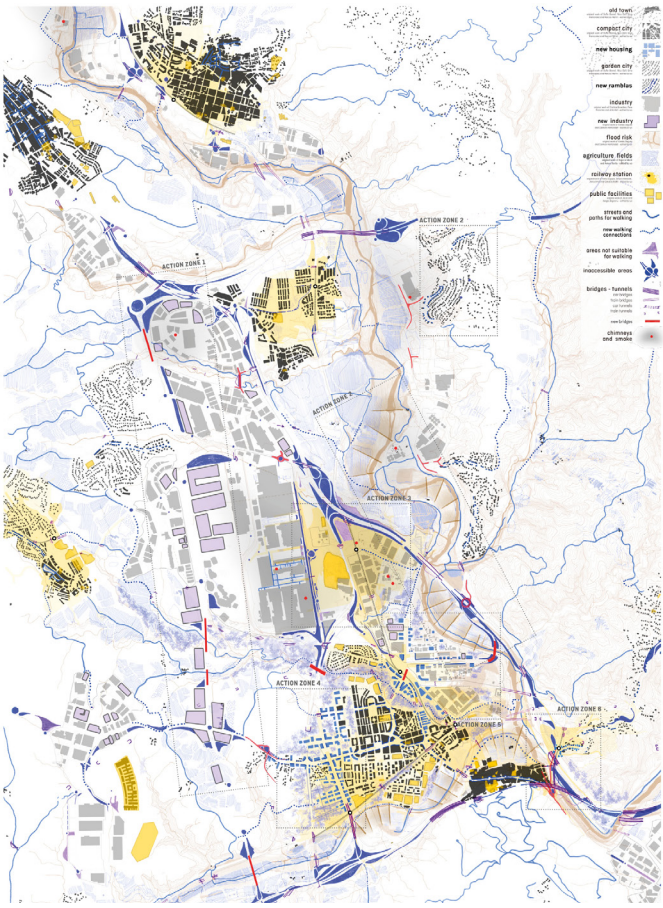


Urban Design IV / Afternoon Group
Martín Hurtado + Pilar Matas

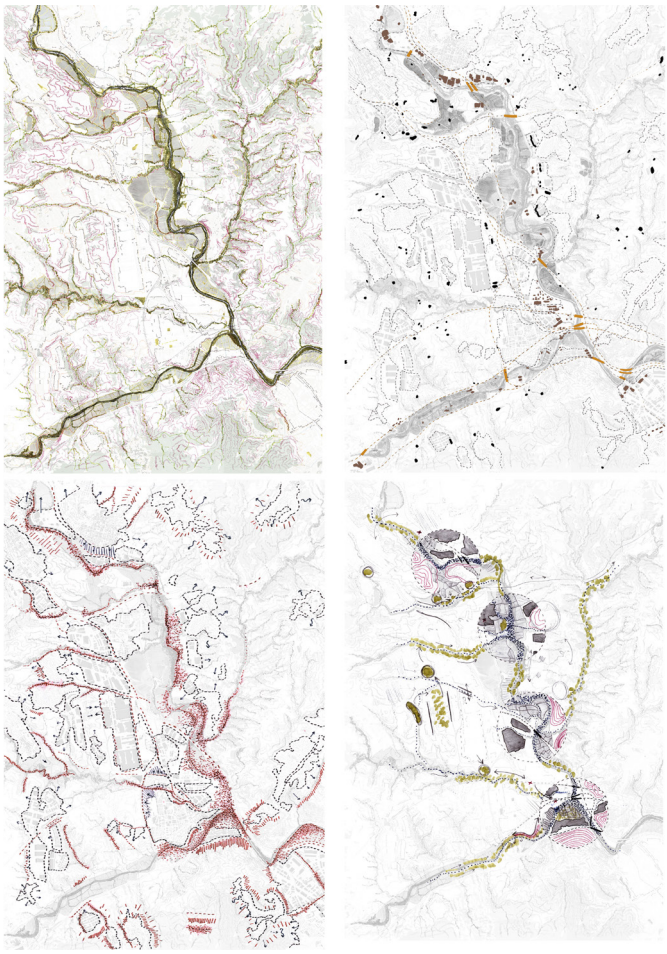


Urban Design IV / Afternoon Group
Sofia Albareda + Adriel Delacruz

Urban Design VI
Urbanística VI



Urban Design VI / Morning Group
Alexandra Serdeliuc + Biel Graset



Urban Design VI / Morning Group
Catalina Maria Ginard + Marina Gomà

The development of cities and territories requires addressing both processes of growth and those of internal recomposition. In current debates, strategic importance is given to the attention paid to large areas or territories where the major discontinuities of metropolitan regions are manifested.

The course explores approaches to latent or fragile situations, identifies sites and programs for recycling or intensification, and enables the development of a range of projects. Students learn from these processes: they visualize analyses, identify key issues, and propose solutions derived from this framework.

/ The geography of the city and the territory
/ The elements of the city and the territory
/ Infrastructure, city, and territory
/ Activities
/ City, territory, and environment
/ Landscape
/ Heritage elements
/ Urban and territorial projects
/ The recovery of obsolete spaces

Intermediate cities

One of the responses of cities to contemporary environmental, social and economic urgencies is to rethink their relationship with the territory in which they are located. It is of the utmost importance to reconnect with the geographical support and its ecosystemic dynamics. It is necessary to establish new synergies between the city and its surroundings.

These challenges are latent throughout the territory, but they are especially so in those places that have historically functioned as capitals of a given territorial or landscape unit.

In Catalonia, most of these capitals are today intermediate cities, i.e., between 20,000 and 120,000 inhabitants, a dimension that not only allows an agile understanding of the whole, but also makes them especially attractive because of their relationship with the rural environment.

Intermediate cities are currently home to 40% of the population of Catalonia, and are cities that act as interchange spaces for other small nearby nuclei, establishing complex network relationships of centralities distributed throughout the territory. The population of rural or dispersed urbanization nuclei usually find in these cities the opportunity to access basic facilities (such as schools, hospitals, administration, markets) and also services (jobs, technology, transport). This type of city has often been the first step in the transition from the rural to the urban world.

Learning Objectives

/ To learn how to explore, read, and understand the city and the territory, their forms and uses.
/ To develop precise techniques for representing the city and the territory.
/ To understand the scope of intervention at different scales.
/ To cultivate sensitivity for recognizing the environmental and landscape values of the city and the territory, and to understand the urban and territorial conditions of the project.
/ To acquire the ability to define an intervention program.
/ To be able to integrate the different activities of the program.
/ To develop the capacity to design for the city and the territory, and to evaluate the outcomes of the intervention.

Exercise 1: Exploration of the territory

Getting to know a territory is the action that must precede any project. To do so, it is necessary to approach it with a double attitude: with a desire to be surprised by the reality itself and, at the same time, with an intentional look, that is to say, with previous intuitions. As architects interested in the improvement

of the environments, it is advisable that the urban analysis is not aseptic, that is to say, it must be directed to critical action. What is there in this space that could be or work better?
In pairs, select 1 theme and construct 1 interpretive map (drawings, diagrams, press clippings, photographs, etc.) to help answer the question.

Exercise 2: Strategy

Remember the question of the course. How to approach the city as an open territory that surrounds it? How to give quality to the urban area of Igualada? What uses, strategies and actions could give meaning to this space?
Once the polyhedric vision of Igualada and its relationship with the County of Òdena and the Green Belt has been built, it is the moment to point out points in this area where things could be different, it is the moment to start projects. To package proposals means to assume that they are not finished; that they are seen and understood, that they are clearly drawn, but they are not complete and we have not gone into the details.
To do this we will approach the drafting of a master/strategic project for Igualada and its surroundings. This project has to build a new image or urban model, introducing a single narrative line that responds to a theme or themes.

Exercise 3: Urban Project

Urbanism must not only address the discussion on the large scale of the city and the territory but must also be able to offer a detailed definition of the character of each space. It is necessary, therefore, to approach to validate the general hypotheses and to
raise specific proposals. This is the moment to put into practice the urban project tools that you have worked on in previous courses as a 'test' to assess the validity and strength of the general intentions of the previous exercise.
1. Project. Criteria for the arrangement and placement of uses.
2. Agents. Who are the agents involved in the project?
3. Phases. In which phases will the project be developed?
4. Planning. What does the planning say and how is it modified because of the project?
5. Territory. How will the territorial scale improve as a result of the project?

Assessment:

The continuous assessment is the result of the both the exercises and the design. The relative weighting is explained in each statement.

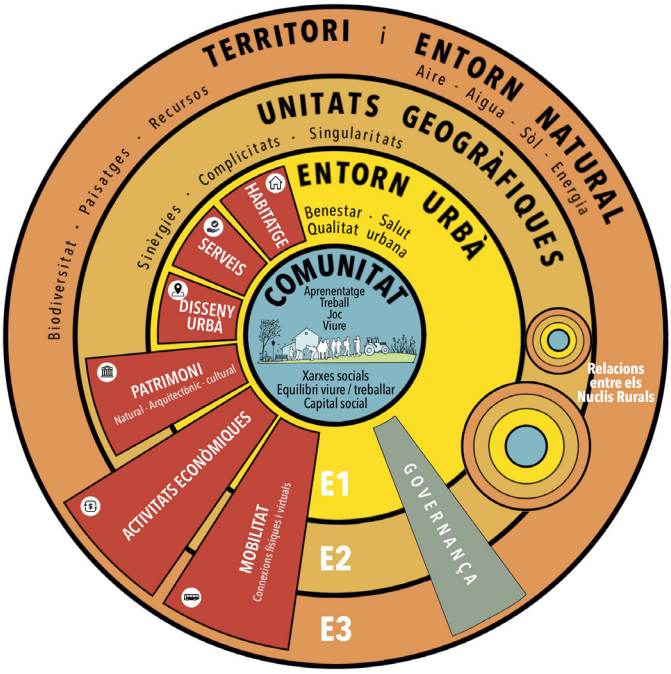
In order to pass the subject in the continuous assessment it is necessary to have handed in all exercises and notes in relation to the theoretical lessons and discussions.

30% Exercise 1 + 60% Exercise 2 (15% part I, 30% part II, 15% part III) + 10% notebook A5 theoretical lessons.

Faculty:

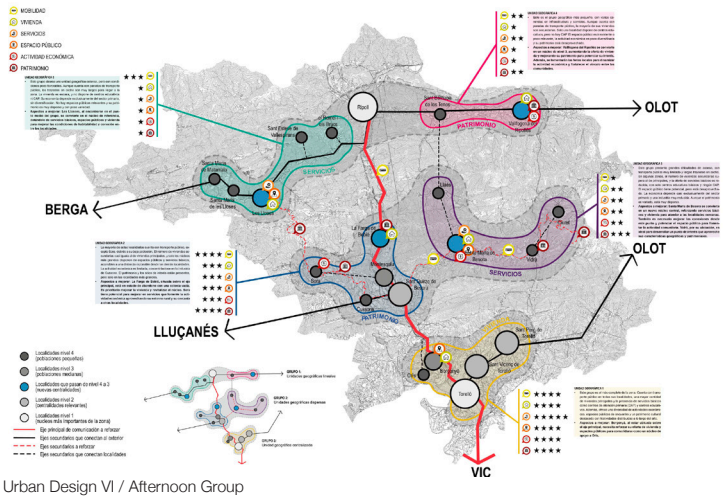
Morning group
Álvaro Clúa Uceda, course coordinator.
Jordi Franquesa Sanchez, course coordinator.
Alejandro Giménez Imirizaldu (English Group)
Sebastià Andreu Jornet Forner
Robert de Paauw Solé
Manuel Ruisánchez Capelástegui

Afternoon group
Melisa Pesoa Marcilla, course coordinator.
Jordi Franquesa Sanchez
Manuel Julia Verdaguer
Miquel Marti Casanovas
Maria Teresa Morao Iglesias
Victor Tenez Ybern

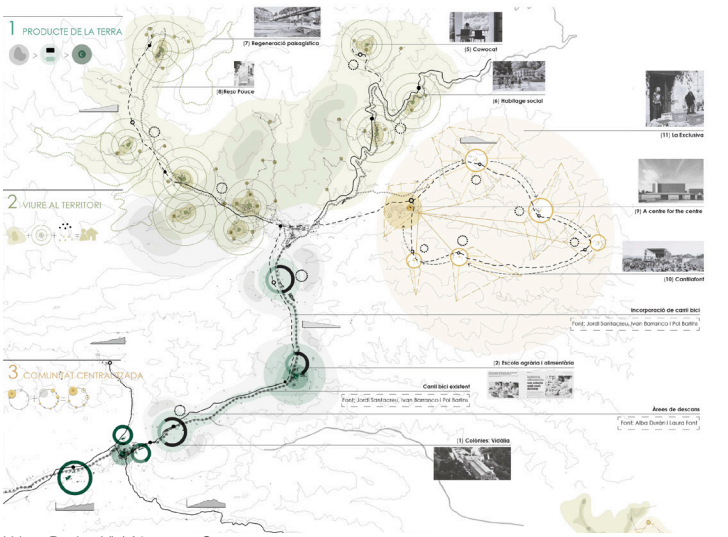


Ecosistema Rural

Urban Design VI / Afternoon Group
Rural ecosystems diagram by Jordi Franquesa



Urban Design VI / Afternoon Group
Alejandra Maldonado + Marina Martínez

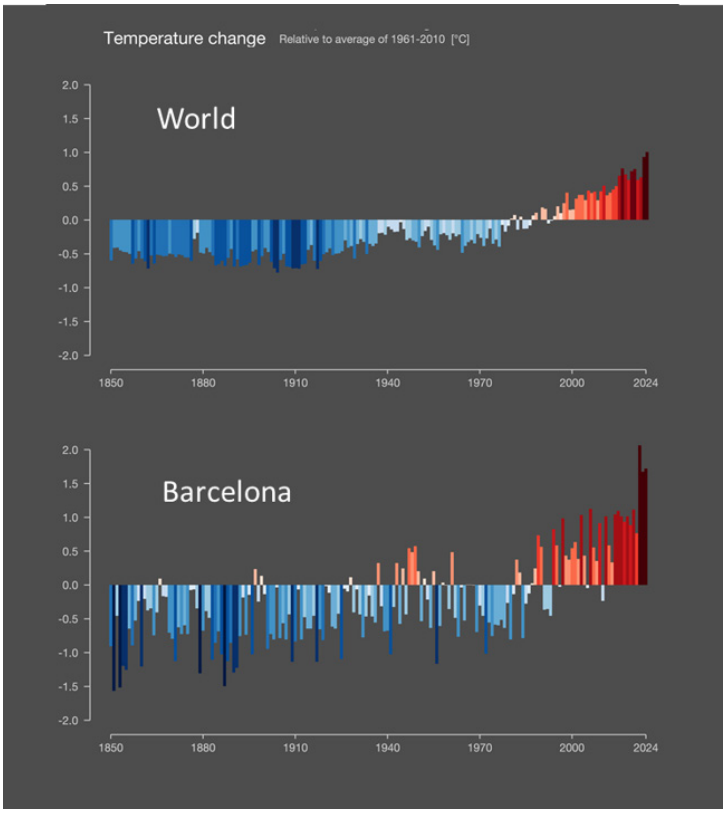


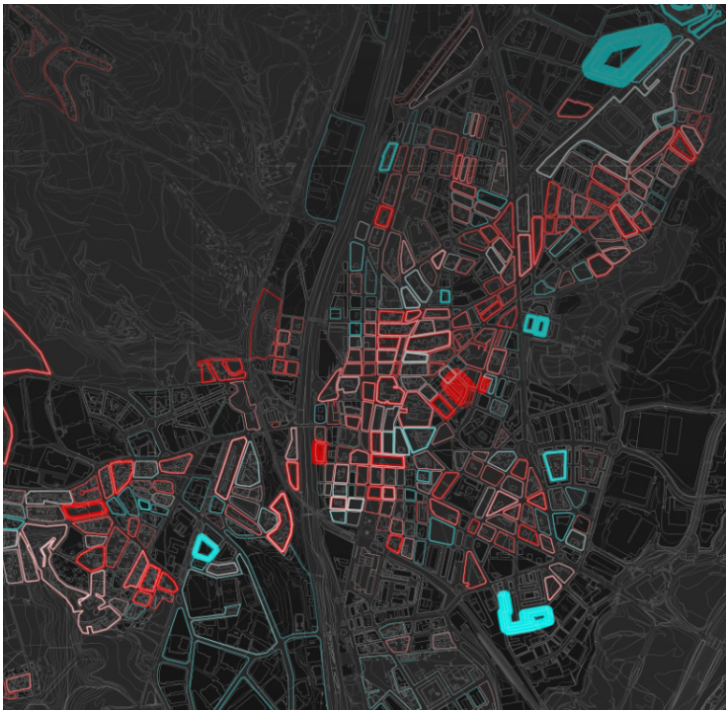
Urban Design VI / Afternoon Group
Amaia Arrieta + Inés de Domingo

Maria del Mar Mureu, Rambla dels Estudis, 111-119. Fragment.

Elective Courses
Spring Semester

Climate and Data in Architecture
Clima i Dades a l'Arquitectura





This hands-on introductory course examines the climate crisis and the key role that architecture plays—both as a contributor and as part of the solution. Students will gain essential tools to understand how architecture affects the environment and society at multiple scales.
The course introduces basic data analysis skills, including how to work with environmental databases, apply statistical reasoning, and interpret data using open-source tools. The aim is to promote evidence-based design and critical thinking, encouraging socially and environmentally just responses to the climate emergency.

The course is structured in three modules:

Module A: Climate Crisis Context and Architecture's Role
This first module gives students a broad overview of the climate crisis, focusing on its impact on cities and architecture. It explores key concepts every architect should understand—such as environmental vulnerability, urban heat islands, and strategies for climate adaptation and mitigation.

Module B: Understanding Scientific Methodology
In this module, students learn to engage with scientific methods and tools to analyse climate and environmental data. Through practical sessions, they explore open data sources like Open Data BCN and use programming tools (such as Python and SQL) to investigate real-world problems. Topics include data visualisation, time series analysis, and understanding risk and uncertainty.

Module C: Data-Driven Climate Interventions
The final module focuses on translating data into action. Students explore real architectural and urban case studies related to water use, energy, comfort, and local food production. The module introduces basic concepts of risk analysis and climate-adaptive design, while encouraging critical reflection on how design decisions affect vulnerable communities.

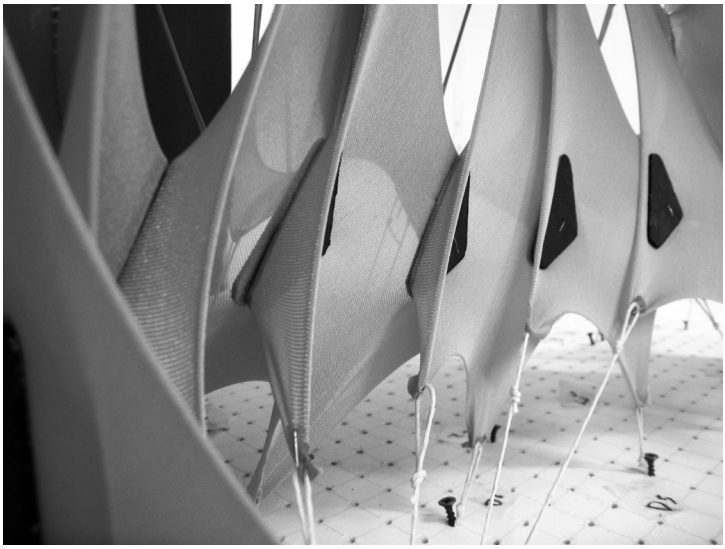
Throughout the course, students are encouraged to think critically, use data responsibly, and reflect on their role as future architects in a rapidly changing world.

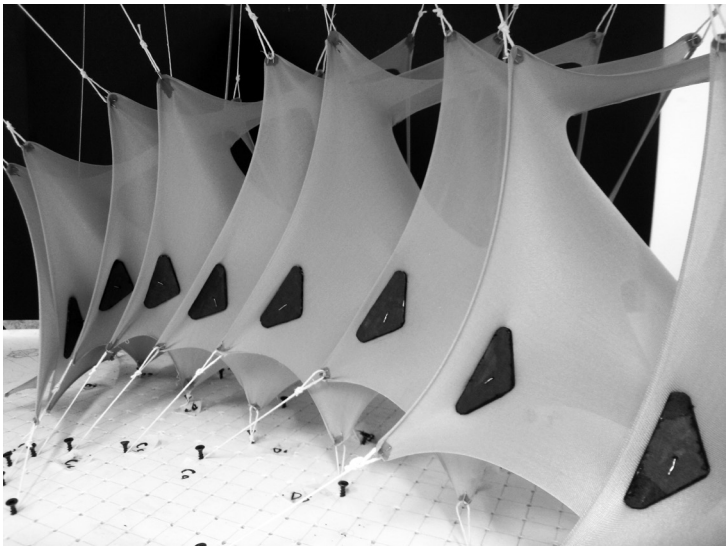
Activities and Assessment:
Students will engage in a combination of individual tasks and collaborative work in small groups (2–3 people). The course blends short, hands-on exercises—designed to build skills in data management and visualization—with a more in-depth course project, where students apply their acquired knowledge to a specific issue linking architecture and the climate crisis.

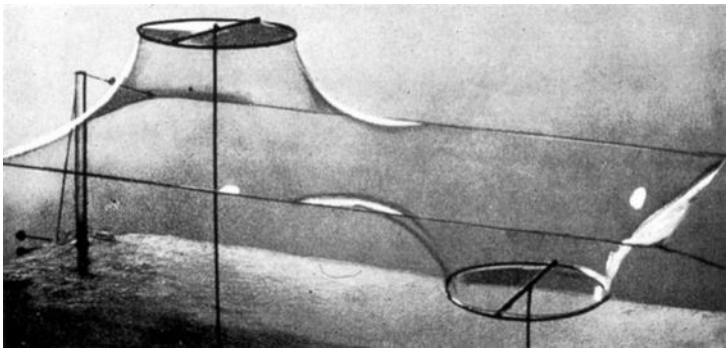
Assessment will be continuous and based on active participation in class, as well as the quality of the work submitted, following the criteria and deadlines established at the start of the course.

Faculty:
Aleix Álvarez Ciudad
Agnese Salvati
Elena García Nevado

Form Finding
Cerca de Formes







The course is divided into three phases. First, a workshop introduces the “form-finding” technique, which explores the self-organization of materials under external forces to generate structural and constructive forms. Simultaneously, students study references such as Otto, Nervi, Gaudí, and Musmeci, with a focus on examples like the Multihalle Mannheim. In the second phase, physical models are integrated into digital environments using Rhino. Finally, digital tools are applied to simulate and optimize forms, combining physical experimentation with computational design for a holistic approach.

Course Syllabus:

The course combines form-finding, digitalization, and parametric design to develop efficient and innovative forms. The first phase involves physical experiments using techniques such as minimal surfaces, pneumatics, and catenaries, where students explore the self-organization of materials under external forces. Suggested materials include lycra, balloons, and nets, with examples like soap bubbles or inverted catenary models to create optimal compression forms. These experiments will be documented with photographs to prepare for digitization.

Concurrently, students will carry out case studies to deepen their understanding of architectural works such as the Multihalle Mannheim, analyzing structural efficiency, fabrication methods, and sustainable impact. This research supports comprehension of principles applied in real-world projects.

In the second phase, students will transition their physical models into digital environments. They will learn to use Grasshopper (or a similar tool) to parameterize complex geometries and optimize forms through dynamic transformations. Exercises will include creating catenaries and minimal tension surfaces, while exploring mathematical functions and geometric relationships. Students will also digitize their models using scanning techniques and manual modeling, integrating computational tools to refine their designs.

The course culminates in a conceptual architectural proposal that applies the acquired knowledge. Students will visually present projects such as pavilions or façades, showcasing the efficiency of the developed systems. This final assignment integrates creativity, technical reasoning, and visual communication skills, preparing students for professional challenges in architecture and design.

Assessment:

The course follows a continuous assessment model, in which students are evaluated through their ongoing work across the three course phases. Assessment will be based on the timely submission of assignments, physical and digital models, and written and/or oral presentations, in accordance with the schedule and criteria defined by the teaching staff.

If a student does not achieve a positive result through continuous assessment, a final assessment may be offered. This will consist of a comprehensive evaluation (oral and/or written) and/or the submission of a final integrated assignment, as determined by the course instructors.

Participation, regular attendance, punctuality, and engagement in class discussions are evaluated and contribute to the final evaluation. The assessment criteria equally weigh conceptual development, technical process and communication, and attitude and involvement throughout the course.

Faculty:

Lluís Giménez-Mateu
Marilena Christodoulou

Intensive Design Workshop
Taller Intensiu de Projectes

The course is proposed in collaboration with a prestigious European architecture school (in the past it has collaborated with the ETH Zurich, TU Munich, or TU Graz, among others) or with the occasional participation of professors from various foreign schools.

The interest of the course does not lie in the specificity of the project that the students have developed (which will try to solve a real problem of the UPC in one of its campuses), but in the teaching methodology undertaken. The exchange and contrast of experiences, approaches, knowledge, etc... between schools is, without any doubt, enriching: it puts students and teachers in contact with other ways of approaching the project and understanding architecture.

The project to be developed by the students is not an end in itself, but it becomes the vehicle for this exchange that we find so enriching.

No travel is foreseen: the relationship between students and guest professors from abroad will take place by inviting them to the ETSAB or by videoconference.

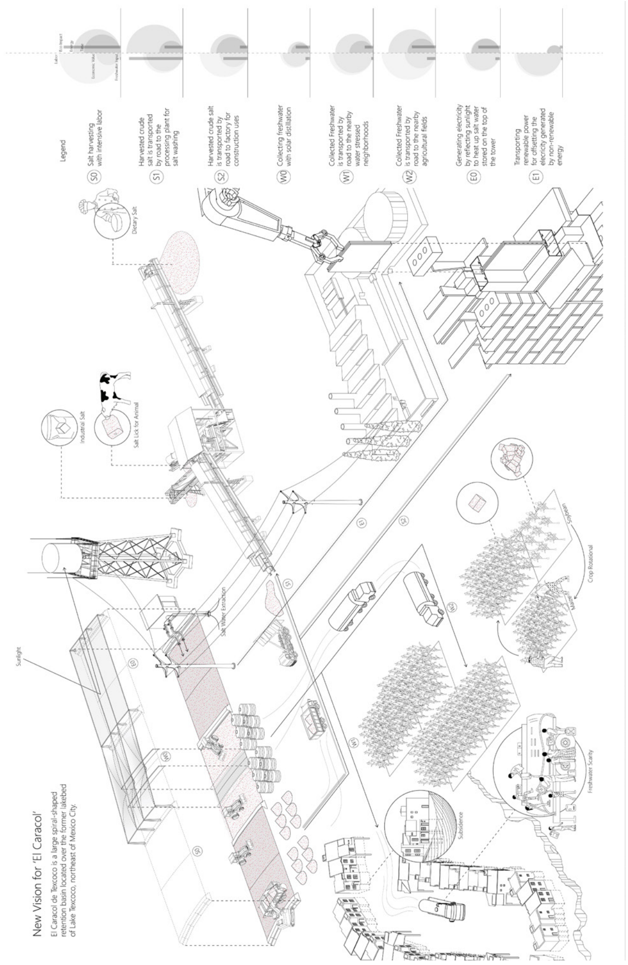
Assessment:

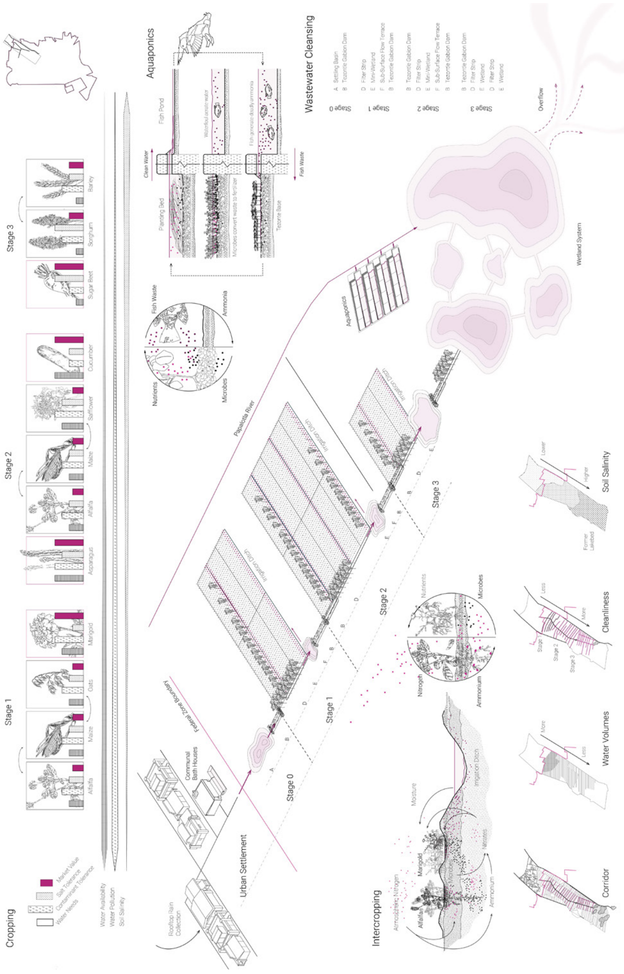
The continuous evaluation will be based on the work that the student will develop during the course, by means of the delivery of work or written and/or oral tests, according to the criteria and calendar established. written and/or oral tests, according to the criteria and calendar established.

Faculty:

Jaime Jose Ferrer Fores

Visiting Studio Seminar
Seminari Visiting Studio





Jingyuan Zhu + Kevin Robishaw

The seminar functions as a support and extension of the knowledge that will be necessary to develop the design work at Visiting Studio It will provide tools that will accompany the students in the process of developing the proposals.

Through a series of research-based assignments, students will develop a personal thesis and find topics of interest within the Llobregat delta area. The Llobregat Delta, like all deltas, has clearly identifiable boundaries and plays a key role in the functional structure of the Barcelona metropolitan area. It is a particularly complex territory, defined by the coexistence of four systems—aeronautical, agricultural, wetlands and dunes, and urban—whose dynamics often naturally lead to conflict. The central objective of this studio is to identify alternatives for coexistence and even promote synergies among these systems through a deep understanding of their structures and the processes that govern them, paying special attention to the soil-forming processes that are important to the ecological, agricultural, and infrastructural areas.

Descritption:

Part One: Work scenario
/ Critical approach to the architectural programme. Architecture for social innovation.
/ Recognition of the agents involved and particularities of the context.
/ Identification of architectural opportunities and challenges.

Part Two: Knowledge tools
/ Instruments for the critical evaluation of the architectural project.
/ Analysis tools. Cultural studies and gender perspective.
/ Exploration of the state of the art. Case studies and alternatives.

Part Three: Critical analysis of one's own work
/ Instruments for the study of users. User studies in architecture.
/ Representation and graphic communication of the analysis.
/ Narrative strategies. The project as storytelling.

Assessment:

Oral presentations: 25% continuous assessment.
Individual assignments and exercises: 75% continuous assessment.

Faculty:

Tat Bonvehí
Gustau Gili

Walking Barcelona
Caminar Barcelona

Elisenda

Irem Akgul

Carlos + Elisenda

Walking the neighbourhoods of Barcelona is a teaching experience that, beyond the physical limits of the classroom, aims to develop the perception of urban space and its transformation through guided tours through the metropolis. The aim is to bring us closer to the history, the social landscape and the construction of the urban heritage of the different neighbourhoods. An attitude close to the analytical look of the explorer or the "surveyor" that seeks to integrate documentary knowledge and direct experience of the places. Also to the more personal approach of the drift of the passer-by, "flâneur" or "wanderer", to take advantage of the urban planning workshop that is Barcelona, and to incorporate new images and urban experiences to the baggage of the architecture student. It is proposed a work of interpretation of the city from building a "Map" of each itinerary.

It is important to experience the tangible and perceptible reality of the city, not to forget the instrumental condition of the multiple analogue or digital media at hand. A recurrent challenge of architecture and its learning.

Structure:

1. Presentation
2. Ciutat vella / carrer Ferran and plaça Real / Sta. Catarina market
3. Port vell / Barceloneta / Moll de la Fusta
4. Raval / MACBA and CCCB / Hospital / St. Antoni
5. Barcelona litoral / Vila Olímpica / parc de les Dunes / Fòrum / Besós
6. Eixample central / Fort Pienc / Editorial GG
7. Districte 22@ / Glòries / La Escocesa
8. Seminar
9. Gràcia / Turó de la Rovira / Park Güell
10. Vall d'Hebron / St. Genís dels Agudells / Montbau
11. Rec Comtal / Montcada / Vallbona
12. Montjuïc / MNAC / Fundació Miró
13. Seminar

Faculty:

Pablo José Martín Barrera, course coordinator.
Josep Parcerisa Bundo, course coordinator.
Isidre Santacreu Tudo, course coordinator.

Josep Puig i Cadafalch, Monumental Bridge, longitudinal section, 1891; final exam. Fragment

Josep Puig i Cadafalch, Monumental Bridge, longitudinal section, 1891; final exam. Fragment

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